

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/273452696>

Optimality of Supermarket Inventory Policies Under Stochastic Demand in Uganda: A Case Study of Milk Powder Product

Conference Paper · October 2012

CITATIONS

2

READS

5,253

1 author:



[Kizito Mubiru](#)

Kyambogo University

56 PUBLICATIONS 23 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



MODELING AND OPTIMIZATION OF INVENTORY UNDER STOCHASTIC DEMAND IN UGANDA: A CASE STUDY OF MILK POWDER PRODUCT [View project](#)



sodium manufacture [View project](#)



PROCEEDING OF THE EIGHTH OPERATIONS RESEARCH SOCIETY FOR EASTERN AFRICA (ORSEA) INTERNATIONAL CONFERENCE

THEME
**THE ROLE OF OPERATIONS RESEARCH (OR) IN ADDRESSING SOCIO-
ECONOMIC CHALLENGES FOR EFFECTIVE REGIONAL INTEGRATION**

October 25TH – 26TH, 2012

Organized By:

**ORSEA - TANZANIA CHAPTER IN COLLABORATION WITH THE
UNIVERSITY OF DARE S SALAAM BUSINESS SCHOOL (UDBS) ON
BEHALF OF ORSEA**

Foreword

The application of operations research/management science in the emerging economies has met with uneven success. Social, cultural, and political factors have constrained the direct application of operation research (OR) technology in both industrialized and emerging economies. Successful application of OR is likely to be highly beneficial if operations researchers in the emerging economies can effectively deal with the challenges of cultural constraints, an uncertain decision environment, human resource management, and a bounded rationality unique to each emerging economy. As a scientific approach to decision making, OR focuses on the identification of management problems and then searching for their solutions. In view of the size and complexity of such problems and the diversity of the organizations' operations, which are compounded by the scarcity of financial and human resources, the application of systematic and rational problem-solving techniques is of crucial importance. OR professionals aim to provide rational bases for decision-making by understanding the complex situations and using this understanding to predict system behaviour and improve system performance. Much of this work is done using analytical and numerical techniques to develop and manipulate mathematical and computer models of organizational systems composed of people, machines, and procedures. In this view, the aim of the eighth Operations Research Society for Eastern Africa (ORSEA) conference was to put together specialists and practitioners of OR in order to share knowledge and experiences on matters relating to this field.

This edition therefore is the eighth volume of the proceedings of the conference organized by the ORSEA. These conference proceedings represent efforts to promote the discipline of OR and bring together resourceful persons in the area. ORSEA provides a platform for promoting OR activities. OR cannot be discussed in isolation, however, as it is very much interrelated with other disciplines. Its application stretches to private, business and public organizations. This volume contains the proceedings of the eighth ORSEA conference which was held in Dar es Salaam Tanzania in October, 2012. It includes papers on OR and its application in regional intergration and trade, tourism, logistics and transport, finance, marketing and other cross cutting issues. These presentations reflect a critical focus on the main theme of the conference which was the role of operations research (OR) in addressing socio-economic challenges for effective regional integration. The papers in this volume communicated knowledge to a wide audience, including specialists and practitioners in OR. The papers concentrate on contemporary issues. They provide good raw materials for the author to subject them to rigorous editing and styling for presentation to academic journals for consideration for peer reviewed publication. We highly congratulate the authors and wish them best of luck.

Editorial Committee

Preface

A total of 41 papers, authored by over 65 professionals from academe, business and government are published in these proceedings. As with all creative endeavours, the effort to produce these proceedings is the result of the hard work by many ORSEA members. The ORSEA chairperson, in his usual characteristic manner, works tirelessly to make sure that everything runs smoothly. He is also available for consultations.

I would like to thank everyone who contributed to the development of these proceedings, notably the conference track chairs and the manuscript reviewers. Many thanks, to the organizing committee members. Special thanks go to members of ORSEA Tanzania chapter for their warmly participation in the conference. I should not forget the paper writers because the conference would have not been successful without the papers presented.

TABLE OF CONTENTS

Factors Influencing the Outcome of Formal Credit Requests by Small-Scale Rice Farmers in Teso District, Kenya: <i>Millicent J.I. Ekasiba, Charles M. Rambo and Paul A. Odundo</i>	1
Micro Financing Credibility on SMEs Performance in Tanzania: Formulation of Conceptual Framework, Research Objectives and Hypotheses: <i>Mbowe R. Kabung'a and Dr. Muhsin Salim Masoud</i>	16
An Analysis of the Impact of the Use of Third Party Logistics Providers on Logistics Performance and Customer Satisfaction: The Case of Ugandan Firm: <i>Bonny Bagenda</i>	32
Strategic Responses by Commercial Bank of Africa to Changes in the Regional Business Operating Environment: <i>Nicholas Mwenda Limungi and Phyllis Kinanu Marete</i>	47
Top Management Team Diversity, Quality Decisions and Organizational Performance in the Service Industry: <i>Zachary B Awino</i>	61
Export Market Information Usage, Market Selection and Export Performance of Coffee Exporters in Uganda: <i>Aaron Ecel, Godwin Ahimbisibwe and Dennis Nuwagaba</i>	77
Psychic Distance, Firm Size, Perceived Risk and Export Market Choice of Exporting Firms in Uganda: <i>Dennis Nuwagaba</i>	88
Regional Conferencing - An Operations Research Approach to Optimize Socio-Economic Impact: <i>Dorothy Nduku Hodson</i>	107
Determining the Extent of Financial Integration in East Africa Using Beta Convergence and Co integration Analysis: <i>Erasmus S. Kaijage and Onesmus Mutunga Nzioka</i>	119
The Contribution of the Church to the development of Education in Kenya, Challenges and Opportunities: <i>Erick Nyakundi Onsongo</i>	132
The Impact of ICT investment on Tourism Export in Tanzania (1995-2010): <i>Gema Mwikoko and Tumsifu Elly</i>	140
Public Road Transport Performance and Travellers Satisfaction in Urban Areas: The Case of Public Bus Transport in Dar es Salaam: <i>Gerald Z. P. Tinali: and Severine S. A. Kessy</i>	158
Export Market Orientation, Innovation and Performance of Fruit Exporting Firms in Uganda: <i>Godwin. M. Ahimbisibwe</i> :	170
Management Accounting Change Systems and Practices Adopted by Large Manufacturing Companies in Nairobi, Kenya: <i>Josiah aduda and Bangara Samwel Ndaita</i>	185

Modeling the Demand for Money at a Micro Level: Estimation using Simple Sum and Divisia Approaches in Uganda: <i>Abaliwano Joyce</i>	210
The Influence of Airline Service Quality on Passenger Satisfaction and Loyalty: The Case of Uganda Airline Industry: <i>Juliet Namukasa</i>	220
Linking Travel Motivations and Willingness to Support Sustainable Tourism: A Case of Visitors to Tanzania: <i>Kanza Saliel Joseph, Mossberg Lena, Wineaster Anderson, and Andersson Tommy</i> , ...	235
Optimality of Supermarket Inventory Policies under Stochastic Demand in Uganda: A Case Study of Milk Powder Product: <i>Kizito Paul Mubiru, Bernard Kariko-Buhwezi and Peter Lating</i>	250
The Implementation of Economic Diplomacy and Its Impact on Trade in Tanzania: <i>Lisa E. T. Mwakisale and Petro S. Magai</i>	263
Managing Complaints in Services Sector: <i>Mabel Birungi Komunda</i>	274
Does the Effect of Government Ownership Affect Financial Performance? A Survey of Partially Privatized Firms Listed at the Nairobi Securities Exchange: <i>Martin K Odipo</i>	286
Analysing Monthly Bulk Electricity Sold By Uganda Electricity Transmission Company Limited Using Arima Model: <i>Mawanga Freddie Festo</i>	305
Factors Affecting the Pricing of Telecommunication Products and Services in Uganda: <i>Kituyi G. Mayoka and Moya Musa</i>	322
A Survey of the Factors Influencing Consumers' Choice of Edible Oils in Buruburu Area, Nairobi Kenya: <i>Chepkwony Kipkorir Sammy and Justus M Munyoki</i>	333
The Role of Social Networks in the Internationalization of Tanzanian SMEs: <i>Nancy Lazaro and Dev Jani</i>	346
Strategic Responses by Commercial Bank Of Africa to Changes in the Regional Business Operating Environment: <i>Nicholas Mwenda Limungi and Phyllis Kinanu Marete</i>	355
Transport Investment, Trade and Rural Household Welfare in Busia District: <i>Olyanga Anthony Moni, Nakamya Miria & Nkote Isaac Nabeta</i>	369
Logistics Outsourcing Drivers, Practice and Challenges Among Tea Processing Firms in Kenya (Perspectives from Kericho County): <i>Peterson Obara Magutu, Felix M. Maghanga and S.O. Nyamwange</i>	382
The Government Control and Performance of Uganda Prisons Industries: <i>Robinah Akodo and Aidati Nandudu</i>	394

Exchange Rates, Money Growth and the Inflation Process: Evidence from Uganda's recent inflation experiences: <i>Turyareeba Dickson & Abaliwano Joyce</i>	413
Uganda's Food and Livestock Export Potential in the EAC Region: <i>Benard Musekese Wabukala</i>	434
Determinants of Tax Effort: A Case Study of Uganda (1987 – 2009): <i>Will Kaberuka and Samuel Agaba Bakehena</i>	450
Adequate Mathematics For Developing Countries: <i>Christian Baruka Alphonse</i>	461
Towards Sustainable Ecotourism through Stakeholders' Collaboration Strategies: <i>L. Passape, W. Anderson and G. Lindi</i>	466
Content Analysis of Tourism Promotional Materials: A Focus on Tanzania Tourist Board (TTB): <i>Judith Michael Mtweve and Dev Jani</i>	490
Are Economic Crises Good for the Environment? Some Perspectives From the 2008 Economic Crisis: <i>Honest Prosper Ngowi</i>	497
An Evaluation of Community Based Information Communication and Technology for Development Projects: Case of Digital Villages in Kenya: <i>Salome W. Mwangi and Muranga Njihia</i>	512

Factors Influencing the Outcome of Formal Credit Requests by Small-Scale Rice Farmers in Teso District, Kenya

Millicent J.I. Ekasiba, Charles M. Rambo and Paul A. Odundo

Abstract

SSF plays a crucial role in poverty alleviation and hunger reduction in line with the first Millennium Development Goal (MDG). New rice technology was introduced in Kenya in 2003 to boost production, fill up the national rice deficit and improve food security. However, anecdotal evidence suggests that the adoption of the new rice technology remains below targets. The main reason cited by farmers for laxity is financial constraints, which impedes infrastructural development and acquisition of necessary inputs and equipment. However, no comprehensive study has ever focused on the relationship between farmers' profile and the outcome of formal credit requests. This study was conducted to identify and explain factors influencing the outcome of applications for formal credit by small-scale rice farmers in Chakol Division of Teso District. Farmers were identified through registers compiled and maintained by the Lake Basin Development Authority (LBDA) and traced to their homes. Both quantitative and qualitative analysis techniques were used to analyze the data. The study found that the outcome of applications for formal credit was significantly related to gender, marital status, education level, income, type of land tenure, land size, farming experience and number of previous credit requests. Furthermore, binary logistic regression models indicated that the outcome of formal credit requests was influenced by income level which accounted for the highest proportion of variance at 11.3%. This was followed by years of experience in rice farming (9.8%), education level (8.9%), land size (7.8%), gender (6.9%), land tenure (5.6%) and marital status (3.6%). The regression models explained up to 53.9% of variance in the outcome of credit requests by rice farmers. The study recommends the need: to inform farmers about existing credit products, interest rates and prequalification conditions, to help clear misconceptions associated with formal credit; develop innovative and flexible financing packages for small-scale rice farmers that are also gender-sensitive; initiate a comprehensive lending package that includes a training program, targeting farmers with information and skills on how to manage credit funds.

Key words: Small-scale farmers, formal credit, outcome of credit application and technology adoption

Introduction

Agriculture plays a key role in the Kenyan economy by contributing up to 25% of the national Gross Domestic Product (GDP) and provides employment opportunities to over 75% of the national workforce. Small-scale farming (SSF) accounts for about 75% of the total agricultural output and about 70% of marketed agricultural produce [Kibaara, 2006; Government of Kenya (GoK), 2010]. The Agricultural Sector Development Strategy (ASDS) 2010-2020 defines small-scale farmers as those producing in farms averaging 0.2 to 3 hectares, mainly for commercial purposes.

Various empirical studies, including Stamoulis (2007) and World Bank (2008) note that the growth of SSF is the primary remedy to poverty. The expansion of SSF has a great potential to reduce poverty by increasing incomes of farmers and reducing expenditure on food (Stamoulis, 2007; World Bank, 2008). According to Ravallion (2001) an increase in household income by 2% translates to a fall in poverty level by about 4% on average. Besides, the GDP growth

originating from agricultural sector is about four times more effective in reducing poverty than GDP growth of other sectors (World Bank, 2008). Thus, the growth of SSF has immense potential in alleviating poverty and reducing hunger in line with the Millennium Development Goal (MDG) number one.

Access to formal credit by small-scale farmers

The growth of SSF requires sustainable access to affordable formal credit to facilitate expansion and adoption of new technologies. In Kenya, SSF has not received adequate financial support from the financial sector (Kibaara, 2006). Access to formal credit stands out as one of the key impediments to the adoption of new technology by small-scale farmers in most parts of the country, including Teso District. As a result, Kenyan farmers rely on retained earnings and credit from informal sources, which are often unpredictable, unsecure and have a limited scope for risk-sharing. To cope with the growing demand for food, credit requirements of farmers become too complicated for informal credit sources, thus, the need to enhance access to formal credit (Kibaara, 2006; Odhiambo, 2007).

Formal credit facilities are important for technology adoption to improve production towards food security in the country (Odhiambo, 2007). As noted by Atieno (2001), access to affordable credit services is considered a good catalyst for the expansion of farming activities, adoption of new technology and economic development. Nevertheless, access to formal credit by farmers remains a key concern, due to unfavorable lending policies in terms of collateral requirement, minimum loan amounts, high cost of transaction and complicated loan application procedures (Atieno, 2001). Furthermore, financial institutions are often reluctant to lend to small-scale farmers due to the high risk of agricultural activities, resulting from erratic weather conditions; as well as lack of credible credit history and collateral (Odhiambo, 2007).

A study conducted by the United Nations' Food and Agricultural Organization (FAO) notes that that in Africa agriculture accounts for only 2% of the commercial credit, a situation that undermines agricultural sector's meaningful contribution to poverty eradication in the continent (FAO, 2004). Most farmers are by-passed by formal credit provided by financial institutions for lack of collateral and credit history (Pearce, 2004). A World Bank study also confirms that financial institutions have not been fully responsive to the financing needs of agricultural ventures due to perceived inherent risks. As a result, the share of credit provided to the sector by remains lower compared to the proportion that goes to manufacturing, trade and other service sectors (World Bank, 2008). Most farmers cope with funding constraints by depending on their savings from low incomes, while some farmers rely on micro-credits provided by friends, relatives and informal money lenders (Pearce, 2004; Kibaara, 2005).

Introduction of new rice varieties in Teso District

Rice is the second most important cereal crop after maize in terms of consumption, and is mainly grown by small-scale farmers as a commercial and food crop in Kenya. However, for the past decade rice production has been lagging behind the consumption trends, due to high population growth and urbanization rates. However, due to change in eating habits, rice consumption has increased to 12% as compared to 4% for wheat and 1% maize, between 2003 and 2008 [Ministry of Agriculture (MoA), 2008]. The national rice consumption is estimated at about 300,000 metric

tons against an annual production of between 45,000 and 80,000 metric tons, prompting the importation of about 180,000 metric tons annually (Kouko, 2005; Kega & Maingu, 2006).

The gap between the demand for rice and production is a challenge in many African countries, leading to cyclical famines in the continent. New rice varieties, dubbed “New Rice for Africa” (NERICA) were developed by the West African Rice Development Association (WARDA) in 2000, after several years of research. The NERICA varieties combine traits of the hardy African and Asian rice varieties (WARDA, 2001). These varieties have been bred and selected for high yields, short maturation periods, tolerance to abiotic stresses particularly moisture, salinity and high response to mineral fertilization. Owing to its success, the new varieties were distributed to various parts of the continent for pilot studies and adoption.

In Kenya, NERICA technology was introduced in 2003 by the Government for pilot studies, which were conducted in various parts of the country, including Coastal and Western and regions. In the Western region, pilot studies were conducted in the Lake Basin Development Authority (LBDA) Alupe Farms in Chakol Division of Teso District. The studies concluded that small-scale rice farmers would be better off if they changed from traditional upland rainfed rice variety to improved varieties due to high returns ranging from 148-303%. However, anecdotal information shows that adoption of the new varieties has been too low.

As noted by field reports compiled by Kenya Agricultural Research Institute (KARI), small-scale rice farmers in Chakol Division continue to grow traditional varieties, which are low-yielding (KARI, 2004). Although farmers cite various reasons for the slow adoption of new varieties, financial constraints emerge as the most critical factor, which in turn, impedes access to inputs and equipment. Similar findings were reported by Okech, Wawire, Kor, Okiya, Otieno and Onyango (2006) in their study which compared the traditional and improved rice varieties in terms of net returns. Secondary factors delaying the adoption of new rice varieties include high poverty levels, inadequate access to extension services, inadequate knowledge of crop husbandry practices, cultural beliefs associated with the traditional rice varieties and fear of change. Small-scale rice farmers require financial support to lay down necessary infrastructure, acquire farm inputs and equipment, access extension services and markets (Pearce, 2004; Odhiambo, 2007; Kandinate, 2007). However, most commercial banks shy away from financing small-scale farmers through prohibitive collateral requirements, high interest rates, as well as demand for credit track record, which most farmers don't have (Kibaara, 2006; Odhiambo, 2007; World Bank, 2008). This study was conducted to investigate and document factors influencing the outcome of credit applications by small-scale rice farmers in Chakol Division, Teso District.

Statement of the Problem

The role of SSF in the realization of the first MDG on poverty alleviation and hunger reduction by 2015 is well-documented (Ravallion, 2001; GoK, 2010; Kibaara, 2005; Stamoulis, 2007; World Bank, 2008). New rice technology was introduced in Kenya in 2003 to boost production to meet escalating consumption trends (Okech *et al.*, 2006). However, there are indications that the rate at which the new technology is being adopted is way below targets set by project implementers, including the MoA, KARI, LBDA and funding partners. As noted in periodical field reports, despite the introduction of new and more promising rice varieties, small-scale rice farmers continue to grow traditional varieties. The key reason cited by farmers for their

reluctance is financial constraints, which impedes the development of infrastructure as well as inputs and equipment (KARI, 2004; Okech *et al.*, 2006).

Farming requires sufficient capitation funding to facilitate infrastructural development, access to inputs, crop management and marketing (Odhiambo, 2007; Kandinate, 2007). Although commercial banks play a key role in supporting economic development, most of them shy away from financing small-scale farmers due to perceived high risk of failure, due to extreme weather conditions (Pearce, 2004; Kibaara, 2006; Odhiambo, 2007; World Bank, 2008). This situation suggests an eminent funding gap for small-scale rice farmers. Field reports indicate that some farmers are coping with the situation by obtaining credit from other sources, such as friends, relatives, shylocks and self-help groups; however, informal credit is barely enough to suffice their funding needs (Kibaara, 2006; Odhiambo, 2007; Kandinate, 2007).

In spite of this reality, no comprehensive study has been done to document factors influencing the outcome of applications for formal credit by small-scale rice farmers in Chakol Division. The information generated by the study will go a long way in supporting decisions of the Government and stakeholders to improve access to formal credit for such farmers. Besides, the information will enable lobby groups strengthen their advocacy for formal credit as a way of enhancing adoption of new rice varieties towards food security and economic development.

Purpose and Objectives

The broad objective of the study was to assess factors influencing the outcome of applications for formal credit by small-scale rice farmers. More specifically, the study investigated farmers' demographic, socio-economic and farm attributes influencing the decision of financial institutions to either award or fail to award credit.

Data And Methodology

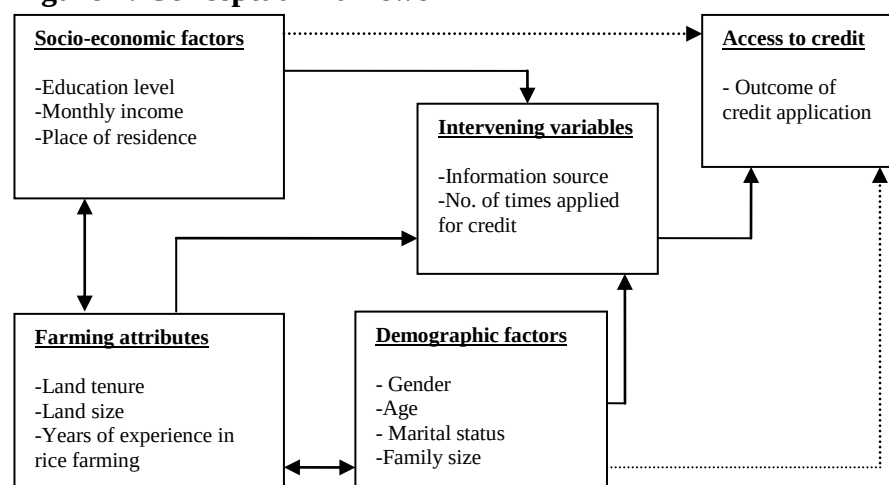
The cross-sectional survey design with both quantitative and qualitative approaches guided the research process. Primary data was collected from small-scale rice farmers between March and June 2011. The farmers were systematically identified through a register compiled and maintained by LBDA. The sampling process yielded a total of 375 farmers; however, only 322 were successfully interviewed by the end of June 2011. Selected farmers were traced to their homes from where they were interviewed. Both quantitative and qualitative analysis techniques were used in the study. Quantitative analysis generated cross-tabulations with chi-square and binary logistic regression. The dependent variable was the *outcome of credit request*, with only two possible values – *successful* or *unsuccessful*. The model is often expressed as indicated below: -

$$\text{Logit}[\theta(Y)] = \log \left[\frac{\theta(Y)}{1 - \theta(Y)} \right] = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \dots + \beta_i X_i + \varepsilon_i$$

Where: Y = the predicted variable *outcome of credit application*; $\theta(Y)$ = the probability that credit request was *successful*; $1-\theta(Y)$ = the probability that credit request was *unsuccessful*; α = the constant term of the equation; $\beta_1, \beta_2 \dots \beta_i$ = the regression co-efficients associated with independent variables; $X_1, X_2 \dots X_i$ = independent variables and ε = the error term. Although the model has several output parameters, this study was interested in the $\text{Exp}(\beta)$ or *odds ratios*. The Statistical Package for Social Sciences (SPSS) and Microsoft Excel packages facilitated quantitative analyses. Figure 1 below shows the conceptual framework used in the study, which

shows that access to formal credit was influenced by various factors, conceptually categorized as socio-economic, farm attributes and demographic factors.

Figure 1: Conceptual framework



Furthermore, qualitative data was processed and analyzed following three steps. In the first step, data was organized under each thematic area. Data was then summarized into daily briefs after each interviewing session. The second step involved description of daily briefs to produce interim reports, while in the third step, data was analyzed systematically for patterns, content and meaning to the study objectives (Best & Khan, 2004).

Study Findings

The findings have been organized under four key thematic headings, including farmers' demographic profile, socio-economic factors and farm attributes, in line with study objectives. Financial institutions referred to here, included commercial banks and microfinance institutions. Of the 322 small-scale rice farmers, 216 (67.1%) had ever applied for credit from financial institutions, while 106 (32.9%) farmers had never applied for credit. Furthermore, up to 77 (35.6%) farmers reported that their last application for credit was successful, the majority, 139 (64.4%) were unsuccessful.

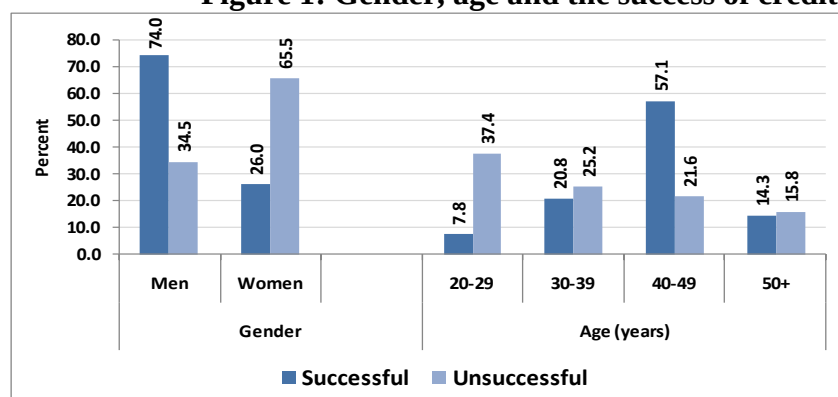
Farmers who had never applied for credit cited various reasons for their non-action. Out of 106 farmers, 61 (57.4%) cited the fear of default in repayment, particularly due a high risk of crop failure, low yields and poor marketing infrastructure. Up to 43 (40.6%) farmers believed that the process of credit access was too complicated and required people with education to understand. Another 24 (22.6%) farmers cited high interest rates charged as the main challenge, while 27 (25.5%) mentioned phobia associated with bank credit, based on negative experiences of their acquaintances who failed to service their credit due to poor yields and low returns.

Farmers' demographic profile and credit access

The study found that more than two-thirds of rice farmers who requested for credit from formal financial institutions were unsuccessful in their applications. As indicated in figure 1, out of the

77 successful applicants, 57 (74%) were men and 20 (26.0%) were women. This shows that the success of applications for credit favored men more than women.

Figure 1: Gender, age and the success of credit applications



The figure also shows that the majority of rice farmers who were unsuccessful in their applications were women (65.5%). The analysis obtained a calculated χ^2 of 26.782, with 1 degree of freedom and a p-value of 0.000, which is significant at 0.01 error margin. This implies up to 99% chance that the success of credit request by rice farmers in Chakol Division was significantly associated with gender. This confirms that access to credit services was skewed in favor of men, further implying that men were more likely to be in the frontline in the adoption of new rice varieties because of economic advantages.

Using logistic regression models, the analysis showed that credit requests by men were about 1.8 times more likely to be successful than applications made by women. In this regard, variation between members of the two groups regarding credit access was significant at 0.01 error margin, implying up to 99% chance that men had greater chances of accessing credit from formal financial institutions than women.

Farmers who participated in this study were aged between 20 and 61 years. The results presented in table 1 show that the majority of rice farmers whose applications for credit were successful (57.1%) were in the 40-49 years age bracket, followed by those aged 30 to 39 years (20.8%). Among those whose applications were unsuccessful, up to 37.4% were aged 20 to 29 years, followed by those in the 30-39 years age group. Based on this pattern, the analysis obtained a calculated χ^2 of 8.224, with 3 degrees of freedom and a p-value of 0.053, which is significant at 0.1 error margin. This suggests up to 90% chance that the success of credit application significantly associated with rice farmers' age.

Table 1: Demographic profile and success of credit applications

Demographic factors	Successful		Unsuccessful	
	Frequency	%	Frequency	%
<i>Marital status</i>				
Single	2	2.6	6	4.3
Married	58	75.3	98	70.5
Divorced/separated	13	16.9	11	7.9
Widowed	4	5.2	24	17.3
Total	77	100.0	139	100.0

<i>Family size</i>				
No children	1	1.3	5	3.6
1-4 children	23	29.9	45	32.4
5-9 children	48	62.3	79	56.8
10 children +	5	6.5	10	7.2
Total	77	100.0	139	100.0

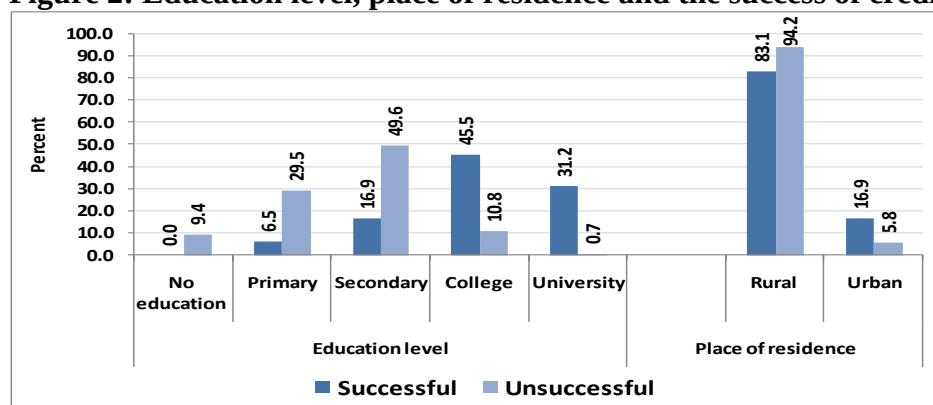
The results show that 75.3% of the farmers whose applications were successful were married at the time of the study, while 13 (16.9%) were either divorced or separated. Among those whose applications were unsuccessful, 98 (70.5%) were in marital unions at the time of the study. The analysis obtained calculated χ^2 of 17.551, with 3 degrees of freedom and a p-value of 0.010, which is significant at 0.05 error margin. This implies up to 95% chance that the success of credit application by rice farmers was associated with marital status. Besides, married farmers were about 2.1 times more likely to obtain successful outcomes in their credit applications than unmarried farmers and 1.4 times more likely to be successful than those widowed.

The results summarized in table 1 show that 62.3% of the rice farmers whose applications were successful had between 5 and 9 children, followed by 29.9% who reported having 1 to 4 children. Among those whose applications were unsuccessful, 56.8% had between 5 and 9 children, while those having 1 to 4 children were 45 (32.4%) rice farmers. Based on this pattern, the analysis obtained a calculated χ^2 value of 1.056, with 3 degrees of freedom and a p-value of 0.587, which is not significant. This suggests lack of relationship between family size and the success of application for credit by rice farmers in the study area. In other words, the success of credit applications had no link with applicants' family size.

Farmers' socio-economic profile and credit access

The results presented in figure 2 show that of the 77 successful credit applicants, 24 (31.2%) had attained university education, while 35 (45.5%) had college education. Among those who were unsuccessful, 69 (49.6%) reported having secondary education, while 15 (10.8%) had college education. However, more than a third (38.8%) of the farmers in this group, compared to 6.5% in the groups whose credit requests were successful had attained primary education or below.

Figure 2: Education level, place of residence and the success of credit applications



By virtue of being in a better position to access credit services provided by formal financial institutions, rice farmers with some secondary education upwards were more likely to adopt new rice varieties than those who were lowly educated. In this regard, the analysis obtained a calculated χ^2 of 26.991, with 4 degrees of freedom and a p-value of 0.000, which is significant at 0.01 error margin. This implies up to 99% chance that the success of credit requests was significantly linked to rice farmers' education level. Furthermore, binary logistic regression results show that credit requests by university graduates were about 3.7 times more likely to be successful than requests made by farmers with no formal education. In this regard, variation between the two groups is significant at 0.01 error margin. Hence, access to credit services provided by financial institutions significantly correlates with farmers' educational attainment.

In addition, figure 2 indicates that among the 77 successful credit applicants, up to 64 (83.1%) were rural dwellers. Similarly, most farmers whose credit requests were unsuccessful [131 (94.2%)] resided in rural areas. Bivariate analysis obtained a calculated χ^2 value of 2.641, with 1 degree of freedom and a p-value of 0.988, which is not significant. This implies that the success of credit applications was not significantly correlated to applicants' usual place of residence. In other words, the decision to award or not award loans to rice farmers was based on factors different from applicants' place of residence.

Regarding average income, the results in table 2 show that out of 77 successful credit applicants, up to 33.8% were in the KES 60,000-79,000 income bracket, while 19.5% were earning between KES 40,000 and 59,999. Among farmers whose applications were unsuccessful, 27.3% were in the KES 60,000-79,000 income bracket. Notable from the results, though, is that more than one-third of those whose applications were unsuccessful compared to only 11.7% of the successful applicants were earning below KES 40,000.

Table 2: Average income, land tenure and the success of credit requests

Variables	Successful		Unsuccessful	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
<i>Average income</i>				
<KES 20,000	2	2.6	22	15.8
KES 20,000-39,999	7	9.1	31	22.3
KES 40,000-59,000	15	19.5	26	18.7
KES 60,000-79,000	26	33.8	38	27.3
KES 80,000-99,999	12	15.6	18	12.9
KES 100,000-149,000	10	13.0	4	2.9
KES 150,000 +	5	6.5	0	0.0
Total	77	100.0	139	100.0
<i>Land tenure</i>				
Owens land singly	67	87.0	83	59.7
Owens land jointly with family	10	13.0	42	30.2
Owens land jointly with non-family	0	0.0	13	9.4
Rented land	0	0.0	1	0.7
Total	77	100.0	139	100.0

In this regard, the analysis yielded a calculated χ^2 value of 12.323, with 6 degrees of freedom and a p-value of 0.021, which is significant at 0.05 error margin. This means up to 95% chance that the success of credit requests was significantly tied to applicants' income level. Rice farmers whose average income was above KES 40,000 per month were considered more favorably than those whose incomes were below the stated amount. Multivariate analysis results indicated that rice farmers earning KES 150,000 or more were about twice more likely to have successful credit requests than farmers whose income was below KES 20,000 per month. Consequently, average income was one of the factors influencing access to credit services by rice farmers.

The study also found that up to 87.0% of the 77 successful credit applicants owned land singly, while 13.0% owned land jointly with family members. Sole ownership was also the most dominant mode of land ownership among rice farmers whose applications did not go through. However, up to 9.4% reported joint ownership of land with non-family members. Bivariate analysis obtained a calculated χ^2 of 7.359, with 3 degrees of freedom and a p-value of 0.036, which is significant at 0.05 error margin. The results imply that the success of applications for credit by rice farmers in the study area was significantly related to the type of land tenure. The analysis further indicated that rice farmers owning land solely were 2.6 times more likely to have their applications successful than those farming on rented land. Thus, type of land tenure significantly influences the success of credit requests from financial institutions.

Farming attributes and credit access

The study found that out of the 77 successful credit applicants, up to 46.8% owned between 2.5 and 2.9 acres of land, while 28.6% had 2.0 to 2.4 acres. The results in table 3 further shows that about 75.5% of the successful credit applicants had at least 2 acres of land. Contrastingly, 58.3 % of those whose applications were unsuccessful compared to 10.4% of the successful applicants had below 1.5 acres of land. The analysis obtained a calculated χ^2 value of 17.645, with 4 degrees of freedom and a p-value of 0.012, which is significant at 0.05 error margin, implying up to 95% chance that the success of credit requests was significantly associated with the size of land owned by applicants. Multivariate analysis results indicated that rice farmers owning 2.5 to 2.9 acres of land were about 2.3 times more likely to have successful credit requests than those owning less than 1 acre of land. The variation between largest and smallest land owners is significant at 0.01 error margin; thus, suggesting up to 99% chance than farmers with 2.5 to 2.9 acres of land were better placed to access credit provided by financial institutions.

Table 3: Farming attributes and the success of applications for credit

Variables	Successful		Unsuccessful	
	<i>Frequency</i>	<i>%</i>	<i>Frequency</i>	<i>%</i>
<i>Acreage</i>				
0.2-0.9 acres	2	2.6	44	31.7
1.0-1.4 acres	6	7.8	37	26.6
1.5-1.9 acres	11	14.3	23	16.5
2.0-2.4 acres	22	28.6	19	13.7
2.5-2.9 acres	36	46.8	16	11.5
Total	77	100.0	139	100.0
<i>No. of times applied for credit</i>				
Once	8	10.4	92	66.2

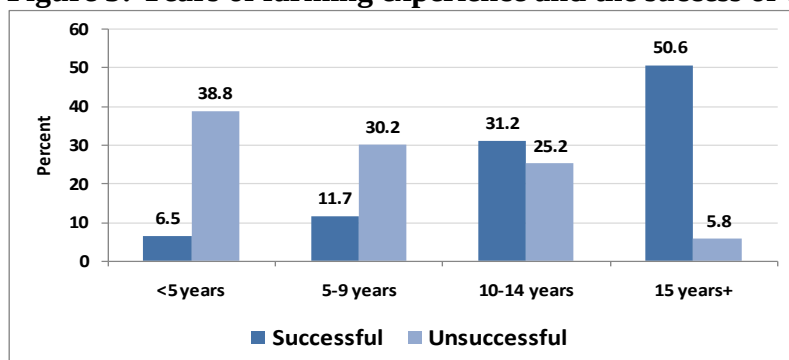
Twice	15	19.5	25	18.0
Thrice	19	24.7	16	11.5
>Thrice	35	45.5	6	4.3
Total	77	100.0	139	100.0

The results further indicated that up to 45.5% of the 77 successful farmers had applied for credit more than thrice, while 24.7% had done so three times. Among farmers whose credit applications were unsuccessful, up to 66.2% had applied for credit only once. This variation had significant implications on the probability of obtaining favourable results in application for credit from financial institutions. The analysis further yielded a calculated χ^2 of 11.365, with 3 degrees of freedom and a p-value of 0.034, which is significant at 0.05 error margin. This means up to 95% chance that the success of credit application is significantly associated with the number of previous credit requests made to financial institutions.

Access to credit services provided by financial institutions may be influenced by the number of previous requests made by an individual. In this regard, the results show that farmers who had requested for credit more than thrice earlier were about 2.7 times more likely to succeed than those making request the first time. Variation in access to credit between the two groups is significant at 0.05 error margin, which confirms that the number of previous applications influences the success of current request for credit.

Farmers in the study area report varying levels of experience in rice cultivation. In this regard, out of 77 successful credit applicants, figure 3 shows that 39 (50.6%) participants reported experience of 15 years or more in the cultivation of rice, while about one-third (31.2%) had 10 to 14 years experience. Notable from the results summarized in figure 3 is that up to 69.1% of those whose applications were unsuccessful compared to only 18.2% of successful applicants reported an experience below 10 years. Based on this, the analysis yielded a calculated χ^2 value of 27.319, with 3 degrees of freedom and a p-value of 0.000, which is significant at 0.01 error margin. This implies that the success of credit requests was significantly associated with applicants' farming experience. Farmers with 10 years of experience in rice cultivation were more favored by the success of credit applications. They were also better placed when it comes to the adoption of new rice varieties.

Figure 3: Years of farming experience and the success of credit requests



The results obtained from binary logistic regression analysis indicates that rice farmers with 15 years or more of experience were about 1.8 times more likely to get successful outcomes in their

application for credit from financial institutions. The variation in access to credit services between the two groups is significant at 0.01 error margin, suggesting up to 99% chance that the duration of farming experience influences access to credit. The results show that the longer that the farming experience the greater the chance that a farmer's credit requests will be successful. Figure 4 shows the results obtained when the change in -2 Log Likelihood (-2LL) associated with each covariate are plotted on a scattergram and a trendline fitted.

Figure 4: Effect of covariates on the success of credit requests

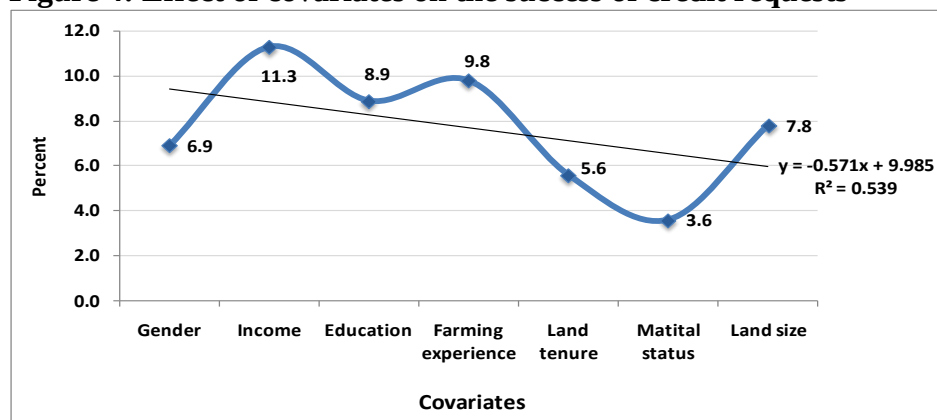
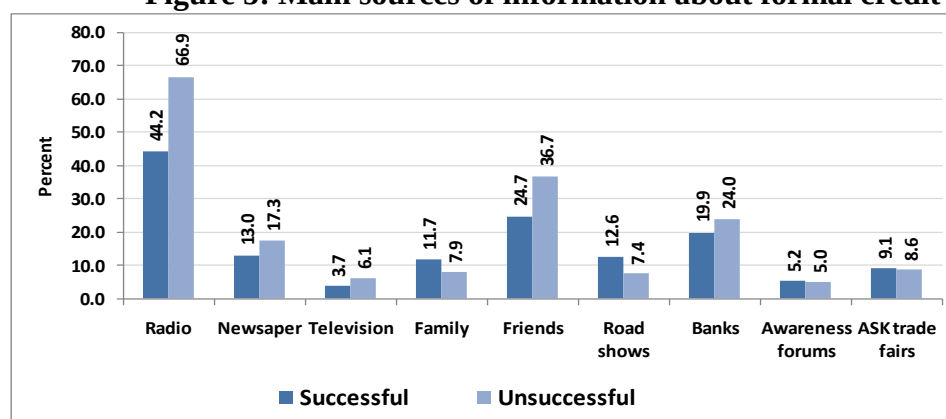


Figure 4 shows that income level accounts for highest proportion of variance in the success of credit requests by rice farmers (11.3%); this is followed by years of experience in cultivating rice (9.8%), educational attainment (8.9%) and land size (7.8%). In the fifth place gender (6.9%), followed by land tenure/ownership (5.6%) and marital status (3.6%). The sum of proportions of variance accounted for by the covariates is 53.9%. This implies that the regression model explains up to 53.9% of variance in the success of credit requests by rice farmers.

Information sources and access to credit by rice farmers

Access to information is a critical factor influencing farmers' access to credit facilities provided by formal financial institutions. Participants who had ever applied for credit from the institutions (216) were requested to state how they came to know about the availability of credit services. The results presented in figure 5 show that radio was the main source of information on credit services provided by financial institutions, as cited by 34 (44.2%) rice farmers whose credit application was successful and 93 (66.9%) of those whose applications were unsuccessful. The next important source of information for members of both groups is friends, which was stated by 19 (24.7%) rice farmers whose requests were successful and 51 (36.7%) rice farmers whose requests were unsuccessful. Also important were newspapers, financial institutions (formals) and road shows organized by the instructions or their agents.

Figure 5: Main sources of information about formal credit



Bivariate analysis obtained a calculated χ^2 value of 9.677, with 8 degrees of freedom and a p-value of 0.057, which is significant at 0.1 error margin. This suggests up to 90 % chance that rice farmers whose applications for credit were successful and those whose requests were unsuccessful were significantly different in terms of information sources about credit services. The significance of relationship between these two variables is marginal implying that members of the two groups were not far apart regarding their information sources. However, the role of mass media, particularly radio and friendship networks are key to reaching out for rice farmers.

Summary, Conclusions and Implications

The broad objective of this study was to determine factors influencing access to formal credit by small-scale rice farmers in Chakol Division, Teso District. The study was necessitated by the slow response of community members to the adoption of new rice varieties provided by the Government of Kenya after successful field trials. Although the slow response of community members in the adoption of new rice varieties was linked to various factors, inadequate access to formal credit services emerged as the primary challenge cited by community members, as indicated in anecdotal literature (KARI, 2004).

As noted by Atieno (2001), credit approval by financial institutions is a process involving various steps, the most critical being risk evaluation based on the information provided by an applicant. Risk evaluation involves information such gender, age, marital status, family size, average income, education level, type of business venture, years of experience in managing similar ventures, farm size, type of land tenure and expected output per unit of land, among others. Based on this, the factors covered by this study were grouped into three categories, namely, demographic, socio-economic and farm attributes. The study found that access to formal credit provided by financial institutions was significantly related to various factors, including gender, marital status, education level, income level, type of land tenure, land size, farming experience and number of previous credit requests.

Through multivariate analysis, the study found that credit requests by men were about 1.8 times more likely to be successful than applications made by women. This logically follows that male farmers in the study area had a greater advantage in the adoption of new rice varieties than female farmers. However, it's worth noting that until recently, women have been at a disadvantaged position to access formal credit, particularly due to limited access and ownership

of properties such as land and capital equipment, which may be used as collateral to secure formal credit. Creating special credit packages for women rice farmers in response to their unique socio-economic attributes, challenges and circumstances may be a positive step in empowering women to access formal credit, intensify rice farming and play a more important role in alleviating poverty and hunger as envisaged by the first MDG.

In relation to education level, the study found that the higher the education level the greater the chances of rice farmers accessing formal credit. In other words, rice farmers with university and college education were about 3.7 times more likely to access formal credit than those with no formal education. Nonetheless, pegging credit access on education level may lock out many rice farmers with lower formal education. In this study, up to 27 % of the rice farmers had less than secondary education. Although education level is an important criterion for accessing loans, locking out many rice farmers with no education may limit the potential of SSF in poverty alleviation and hunger reduction. This necessitates a training program on credit access and management; without which, even farmers with university education run a risk of mismanaging credit funds.

Overall, the main factors influencing access to formal credit include income level which accounts for the highest proportion of variance in the success of credit requests by rice farmers at 11.3 %. This is followed by years of experience in cultivating rice (9.8%), educational attainment (8.9%), land size (7.8%), gender (6.9%), followed by land tenure/ownership (5.6%) and marital status (3.6%). The regression model explains up to 53.9 % of variance in the success of credit requests by rice farmers.

The study found that about one-third (32.9%) of the farmers had never made any attempt to secure formal credit. The reasons cited by this group, included the fear of default in repayment, complicated application procedure and phobia associated with bank credit. These reasons can be attributed to a common denominator, which is lack of information. Initiating appropriate measures to inform rice farmers and help them meet prequalification conditions will go a long way in making formal credit services more responsive the financing needs of small-scale farmers. Financial institutions should design appropriate messages on credit products, interest rates and prequalification conditions, which should be disseminated to rice farmers through the mass media, particularly radio and other forums such as ASK shows, farmers' training centres and public barazas among others. The information should be mainstreamed in government structures such as provincial administration and agricultural extension services. Disseminating such information is particularly necessary to help clear myths associated with formal credit; thus, make financial institutions more responsive the financing needs of small-scale rice farmers.

Furthermore, financial institutions should initiate a comprehensive lending package that includes a training program, targeting small-scale rice farmers with information and skills on how to manage credit funds and honor their credit obligations as scheduled. This requires financial institutions to provide technical and managerial advice to rice farmers on how to create bigger investments out of their farms. This kind of support should nurture a strong, mutual and sustainable partnership between the institutions and rice farmers.

Limitation

The study was conducted between March and June, which coincided with long rains in western Kenya. The poor condition of the rural access roads frustrated mobility within the study area. Consequently, although 375 rice farmers were sampled, only 215 interviews were successfully conducted within the first two months. As a remedy, the study duration was extended by one month, which in turn, improved the response rate to 85.9 %.

Suggestions For Further Research

Small-scale rice farmers remain inadequately served by financial institutions in terms of formal credit. As a result, such farmers have been coping by sourcing financial support from alternative sources, albeit not sufficient to address their financing needs. This study did not assess coping measures initiated by small-scale rice farmers in Chakol Division and the effectiveness of such measures. This is an area that future studies should consider for empirical investigation.

References

- Atieno, R. (2001). *Formal and Informal Institutions' Lending Policies and Access to Credit by Small-Scale Enterprises in Kenya: An Empirical Assessment*. AERC Research Paper 111. Nairobi: African Economic Research Consortium.
- Best, J.W. and Khan, J.V. (2004). *Research in Education, 7th Edition*. New Delhi: Prentice Hall of India.
- Food and Agriculture Organization (2004). *The state of food insecurity in the world 2004*. Rome: Food and Agricultural Organization.
- Government of Kenya (2010). *Agricultural Sector Development Strategy 2010-2020*. Nairobi: Government Printer.
- Kandinate, C.H. (2007). "How Accessible are Agricultural Loans in Kenya to Local Farmer" *Journal of Agriculture and Social Research*. Vol. 3, No. 2, pp. 97-107.
- Kega, V.M. and Maingu, A. R. (2006). *Evaluation of New Rice for Africa (NERICA) cultivars in coastal lowlands of Kenya*. JICA/AICAD Technical workshop 16-17th February 2006 Nairobi. Kenya
- Kibaara, B.W. (2005). "Technical Efficiency in Kenya's Maize Production: An Application of the Stochastic Frontier Approach". Masters Thesis presented at Colorado State University, USA.
- Kibaara, B.W. (2006). "Rural Financial Services in Kenya: What is Working and Why?" *Tegemeo Working paper 25/2006*. Njoro: Tegemeo Institute of Agricultural Policy and Development.
- Kouko W. and Kore A. (2005). *Evaluation of NERICA rice cultivars in western Kenya* JICA/AICAD Technical workshop 16-17th February 2006 Nairobi. Kenya
- Ministry of Agriculture (2008). *Ministry of Agriculture. Kenya National Strategic Rice Development Plan*.
- Nachmias, C.F and Nachmias, D. (1996). *Research Methods in the Social Sciences, 5th Edition*. London: Arnold
- Odhiambo, W. (2007). *Financing African Agriculture: Issues and Challenges*. Draft paper to be Presented at the Second African Economic Conference at the UNCC, Addis Ababa, Ethiopia.

- Okech J. N., Wawire, N.W., Kor, W. A., Okiyo, T.O., Otieno, V.O. and Onyango, G. (2006). *A comparative economic analysis of the traditional and improved upland rainfed rice varieties in Kisumu District, Kenya*. Paper presented during 11th KARI biennial Scientific Conference held in Nairobi from November.
- Pearce, (2004). *Making Rural Finance Count for the Poor, Agriculture and Natural Resource Team*, DFID, UK.
- Ravallion, J.C. (2001). Issues and experience in agricultural financing in Africa: Lessons for policy. *Journal of Agriculture and Social Research*. Vol. 12, No. 1, pp. 1-23.
- Stamoulis, K. (2007). "Rural Development and Poverty Reduction: Is Agriculture Still the Key?" *ESA Working Paper* No. 07-02. Rome: Food and Agricultural Organization.
- World Bank (2008). *The Growth Report: Strategies for Sustained Growth and Inclusive Development*, Washington D.C., Commission on Growth and Development, World Formal.

Micro Financing Credibility on SMEs Performance in Tanzania: Formulation of Conceptual Framework, Research Objectives and Hypotheses

Mbowe R.Kabung'a and Dr. Muhsin Salim Masoud

Abstract

The objective of the paper is to develop a conceptual framework, research objectives and the hypotheses. The research objectives, hypotheses and the conceptual framework are developed from the reviewed theoretical and empirical literature. The contribution of the paper is the conceptual model that will be used in the conduct of empirical research in the subsequent study. The model comes up with microfinance policy, individual traits and entrepreneurial characteristics among the SACCOS loan beneficiaries and their relationships and contributions to the improvement of the SACCO's beneficiaries' businesses and livelihood.

Introduction

The micro financing facilities (loans) offered by SACCOS have been steadily increasing since its inception in mid 1970's and early 1980's (Hassan and Renteria-Guerrero, 1997). In recent years the trend shows that the SACCOS loan portfolio has been seen extensively granted to its members (loan beneficiaries) progressively and being top up in a certain percentage as the year elapses. For example, in 2008/2009 (56.25%), 2009/2010 (16.25%) and 2010/2011 (11.78%) (URT 2008; 2009; 2010 and 2011). The increment of the loan went along with the growing number of SACCOS and their members. To date there are 5,346 registered SACCOS with 970,655 SACCOS members in the Tanzania mainland.

However, the performance of most SME's owned by SACCOS loan beneficiaries and their livelihood are not reflecting to the essence of the microfinance loan as scheduled by the loan providers. In fact, the success or failure of these SME's is the combination of both microfinance policy and non policy factors of the SACCOS microfinance loan. Among the non policy factors include the general level of entrepreneurial characteristics of the loan beneficiaries and some cultural aspects among the loan beneficiaries. Reviewing the literature on the link between Microfinance policy and Small and Microenterprise Performance the conceptual framework assumes that there is no study that has been conducted to investigate that relationship empirically which represents a huge gap in the literature. It also assumes that there are conflicting arguments regarding to the nature of the psychological characteristics (risk taking propensity) and Small and Microenterprise Performance. Despite the strength of the results obtained from the personality studies, however the scholars in the area tend to disagree in the way these studies contribute to the development of the entrepreneurship theories. For example Low and Macmillan(1988) contend that personality based descriptive studies do not contribute to the development of entrepreneurship theory, while some other researcher philosophers suggested for discontinuing for the search of personality traits in entrepreneurship research (Aldrich,1999; Gatner, 1988). The emerged contradictions and inconsistencies are attributed on several reasons including a large number of traits are linked to entrepreneurial traits in most of the studies (Delmar, 2000).

It is suggested that one of the foundations of a good working theory of entrepreneurship is that it should be able to develop connections between the observable and predictable phenomena. Brockhaus (1982) suggested that risk-taking propensity had no direct bearing upon financial

performance. However Begley and Boyd's (1987) finding suggested an inverse relationship between risk-taking propensity and liquidity. In addition, Ginzberg and Buchholtz (1989) observed that no single empirical study provided a conclusive answer in terms of psychological differences between entrepreneurs and non-entrepreneurs. Frankly speaking, the contradictions of psychological traits go beyond imagination. For example, in comparisons studies of firm founders and managers, neither Babb & Babb (1992) nor Palich and Bagby (1995) found significant differences between the two groups in terms of risk-taking propensity.

From this argument the link between individual characteristics (personality) based theories to the Small and Microenterprise Performance need to be established. Based on the proposed perception, the current study examines the mediating effect of individual characteristics of the entrepreneurs (Risk taking propensity - a single trait) between the SACCOS microfinance policy with their Small and Microenterprise Performance. Ideally many previous studies flourished on the relationship between one or a combination of credit, savings, training and social capital and women Small and Microenterprise Performance, for instance Akanji (2006); Cheston and Kuhn (2002); Kuzilwa (2005); Lawal et al (2009); Olomola (2002); Rearley and litucly (2008); Wycklam and Wedley (2003). These studies are all confined on the mentioned variables relationship only on women Small and Microenterprise Performance and leave aside male counterpart.

Isidore et al (2010) study focused to examine the relationship between microfinance factors (credit, savings, training and social capital) and women Small and Microenterprise Performance under the mediating effect of attitude risk. Whatsoever the ability of business operator (SACCOS loan beneficiaries) to identify, willingness to act and exploitation of opportunity (undertaking business activities using the available loan) are normally determined by psychological characteristics. In this case they might have a mediating influence between microfinance policy and Small and Microenterprise Performance. On the same line of thinking cultural characteristics may also mediate the two variables.

Isadore et al (2010) once again examined the mediating effect of opportunity for entrepreneurial activity on credit and women entrepreneurial performance. Generally the findings from the study did not clearly indicate the proposed link in their conceptual framework. However, the findings of the similar studies based on the same theory conducted in Kenya by Peter (2001), in Nigeria by Ojo (2009), in Tanzania by Kuzilwa (2005), in UK by Carter and Show (2006), in USA by Rearley and Litucy (2008) revealed that credit have positive impact on business performance of an entrepreneur. In these studies the link has been established but the problem lies from identification of credit (loan) size (big or small) that claimed to be appropriate to provide a positive impact on business performance.

On the other hand, there are insufficient researches in the mediating effect of risk taking propensity or cultural characteristics between the microfinance policy and Small and Microenterprise performance. In this admiration the spending culture and psychology of spending is not well known to many of poor people (Omari, 1994). Therefore, the present model attempts to contribute towards filling a gap in the literature on the mediating effect of individual characteristics on the link or relationship between microfinance policy and Small and Microenterprise Performance. A conceptual framework is worked out as shown in figure 2. This

framework presents the direct links between microfinance policy and Small and Microenterprise Performance variables under the mediating effect of risk taking propensity and cultural characteristics, as well as the direct relationships between microfinance policy and individual characteristics, Small and Microenterprise performance and livelihood changes among the loan beneficiaries based on reviewing the previous researches on these links. The following hypotheses will be tested:

Theoretical Back Bound and Literature Review

Theoretical Back Ground

Entrepreneurial opportunities may exist independent of the actions of entrepreneurs or may be created by the action of entrepreneurs (Alvarez and Barney, 2007). The theoretical concepts have been advocated in the two philosophical stands; these include the “discovery theory” and “creation theory”. Both philosophical stands are each internally consistent approach to explain entrepreneurial actions; however both theories often make very unique predictions about how these actions affect ability of the entrepreneurs to produce new products and services of which amount to their Small and Microenterprise Performance.

Discovery Theory

The theory stipulates that opportunities arise from competitive imperfection in the markets due to changes in technology, consumer preferences or some other attributes of the context within which an industry or market exists (Kirzner, 1973). They emerged independent of entrepreneurial actions (individual characteristics), awaiting discovery by unusually alert individual who can choose to exploit them or not (Kirzner, 1973). Under this theory, it's obvious that those SACCOS loan beneficiaries who will be able to get the relevant information about the interest charged on loanable fund, the size of the loan and duration of the loan may exploit fully these opportunities on the best performance of their Small and Microenterprises than their counterpart who lags behind the prevailing information. However the preferences to exploit these opportunities are not that much straightforward, but depend on some other attributes possessed by the SACCOS loan beneficiaries.

Regardless of the nature of opportunities being object, as described in the discovery theory, however its exploitation solely depends on SACCOS loan beneficiaries' ability as well. This ability may either be determined by SACCOS loan beneficiaries' level of risk perceptions or some other cultural aspects of the SACCOS loan beneficiaries. For example the SACCOS loan beneficiaries who have higher risk taking propensity their ability to exploit the opportunity might be distinctive from those who have low and moderate risk taking propensity.

Under this considerations the difference in SACCOS loan beneficiaries' risk perceptions towards opportunities (microfinance policy- interest charge on loan, amount of the loan and duration of the loan) is grounded in the field of psychology (Alvarez and Barney, 2007). The difference in perception may possibly originated from cognitive attributes (Busenitz and Barney, 1997) and life experiences (Hayek, 1945) as these SACCOS loan beneficiaries came from different back ground. Any one of the two attributes might lead the SACCOS loan beneficiaries to become aware of the existence of good microfinance policy in their respective SACCOS which have been created within the industry or market while others do not. Basically the psychology explains variation in human behavior or variation in their abilities. Among the possible different

attributes of individuals in psychology that have been put forward to be positively influencing entrepreneurial behaviors and performance include internal locus of control (Rotter, 1966) and moderate risk taking propensity (McClelland, 1961; Brockhaus, 1982; Bird, 1989). Others are Need for power, fame, recognition and status (Kets de Vries, 1984), Tolerance of ambiguity (Schere, 1982) and Need for autonomy (Cooper, 1986).

Discovery Theory Financing

Entrepreneurs operating under conditions assumed to exist in Discovery Theory will often be able to obtain financing from external sources—including banks and venture capital firms (Alvarez & Barney, 2007). Under the conditions described in this theory, information asymmetries between a firm and its external capital sources should be either low or easy to overcome (ibid). This implies that the external capital market for entrepreneurs operating under Discovery conditions should be efficient (Fama, 1970).

“Financial reforms have allowed the entry of more players in the financial market place, and thus greater competition has led to better financial services and availability of various innovative products to various types of borrowers including the small borrowers. Competition has also spurred financial institutions to consider non traditional borrowers such as Small scale and Microenterprises. Together with fiscal and other microeconomic reforms, financial liberalization has also caused the decline in the lending rates as financial markets become more competitive. The reduction works for the benefit of both large and small borrowers. The greater competition provided by financial liberalization provides small borrowers access to formal credit. This enables them to hurdle their liquidity constraints which affect their investments, growth and expansion prospects”
(Lianto and Sanchez: 1997: pg 1)

The situation is more or less occurring in Tanzania, especially in the SACCOS sector where the Bank sector felt to have direct completion. In order to compromise and harmonize the situation the banks negotiate with the SACCOS authorities to borrow from these Banks with a bit smaller interest and lend the money to its members at reasonable price, for example CRDB and NMB in 2007 used this strategy. The most popular slogan by then was “Mabillionsi ya Kikwete” to mean billions of Tanzania shillings provided by president Kikwete to small borrowers through SACCOS targeting poverty alleviation. The SACCOS loan beneficiaries do explain to the loan provider (SACCOS) the nature of business they are planning to exploit, the financial implication of exploiting those businesses basing on the interest on loan, the loan amount and the riskiness of exploiting those business. The financial provider gets to understand well the nature and scope of their business operations. This knowledge enables entrepreneurs (SACCOS loan beneficiaries) operating under Discovery Theory conditions to obtain funding from these external sources (Admati & Pfleiderer, 1994).

All this does not suggest that entrepreneurs (enterprise owner) operating under this setting will not self-finance their operations to some extent. After all, it may well be the case that when an entrepreneur begins contemplating an investment, they may initially be operating under conditions more similar to those discussed in Creation Theory. Over time as enough information is collected, Creation conditions may transform to Discovery conditions (Alvarez & Barney, 2007).

Creation Theory

The action of entrepreneurs (enterprise owner) in utilizing the entrepreneurial opportunities is accentuated in a “creation theory” of entrepreneurship. Ideally the creation theory (Venkataramann, 2003) of entrepreneurship is based on the assumption that opportunities do not exist until entrepreneurs engage in an iterative process of actions and reaction to create them (Aldrich and Ruef, 2006; Gartner, 1985; weick, 1979). Creation theory is a theoretical alternative to discovery theory for explaining the relationship between entrepreneurial actions and production of new product or services (Gartner, 1985; Venkataramann, 2003) of which ultimately lead to the good or poor performance of their Small and Microenterprises.

The way it was for the discovery theory, in the creation theory the entrepreneur is also assumed to be engaging in various activities of producing new products and services. However opportunities are not assumed to be objective phenomena created by exogenous shocks to an industry or market. Instead they are created, endogenously by the actions and reactions of individual exploring ways to produce new products or services (Baker et al 2005; Gartner, 1985; Sarasvatly, 2001). The endogenous view of opportunities has variety of implications for creation theory (Alvarez & Barney, 2007) as shown below:

The creation theory assumes that opportunities do not necessarily involve out of pre-existing industry or market, while ex-post after an opportunity has been exploited. It will always be possible to show how that opportunity involves out of prior industry market. Creation theory suggests that ex-ante before an opportunity is created, it links with prior industries or market is known. The creation theory suggests that the “seeds” of opportunities to produce new products and services do not necessarily lie in previously existing industries or markets (Alvarez & Barney, 2007). Creation Theory assumes that entrepreneur’s actions are the essential source of opportunities irrespective of its inactiveness with respect to the creation of new opportunities. In this model, entrepreneurs do not wait for exogenous shocks to create opportunities and then provide agency to those opportunities, they act (Bhide, 1999). They create opportunities that could not have been known without the actions taken by these loan beneficiaries (entrepreneurs). In essence, if the SACCOS loan beneficiaries are unable to fully realize their goal of producing new products or services through the first actions they take, they may decide to engage in subsequent actions that modify and change their initial actions. This action/revision process may occur several times until SACCOS loan beneficiaries end up engaging in activities that create an opportunity (Alvarez & Barney, 2007). This inductive learning process—where entrepreneurs learn after they act is different from the learning that Discovery Theory assumes to occur, learning that takes place before an entrepreneur acts (Gagne & Glaser, 1987).

Risk bearing is a fundamental part of entrepreneurship because a person cannot know with certainty if the desired products can be produced, consumers’ needs can be met, or profits can be generated before a new product or service is introduced (Tang and Tang 2007). Early research shows that people who exploit entrepreneurial opportunities have a higher propensity to bear risk than those who do not exploit entrepreneurial opportunities (Begley, 1995; Caird, 1991; Sagie and Elizur, 1999; Stewart and Roth, 2001; Uusitalo, 2001; Van Praag and Cramer, 2001). Creation Theory, “*bringing agency to opportunities*” (Alvarez & Barney, 2007; pg 16) is without meaning since opportunities do not exist independently of the actions and reactions taken by

entrepreneurs to create them. Instead, opportunities only exist because of the actions and reactions of SACCOS loan beneficiaries who try to exploit them. In this sense, opportunities begin as consciousness in the minds of entrepreneurs (enterprise owners- SACCOS loan beneficiaries) of which depends on the level of risk taking propensity and risk perceptions. As entrepreneurs begin to take action to create opportunities, these consciousness can become social constructs that guide subsequent actions of entrepreneurs and others associated with an industry or market (Alvarez and Burney, 2007) including customers and suppliers (Berger & Luckmann, 1967; Weick, 1979).

The actions of the SACCOS loan beneficiaries in perceiving and exploiting business opportunities are not equally the same. The way each SACCOS loan beneficiaries is conscious in his/her mind guides subsequent actions. Generally as per psychological theory point of view as stipulated by Scott (2000, pg 449) “*Entrepreneurship is a function of stable characteristics possessed by some people and not others*”. For example among the SACCOS loan beneficiaries some do perform better in their Small and Microenterprise while others do not, irrespective of the similar environment of microfinance policy attached to the loan. The identification and willingness to exploit the business opportunities vary among the SACCOS loan beneficiaries. Suppose two different SACCOS loan beneficiaries might be given the same amount of loan, the similar interest charged on loan and equal duration to repay the loan in order to undertake shop business activity but one might outperform the other. The question here is that what are the special attributes that favors actions of one individual performance in his/her enterprise and limit the other? Of which the proposed conceptual model may possibly explain better.

Some of possible attributes responsible for those actions include psychological factors (personal characteristics) like risk taking propensity (Caird, 1991), locus of control (Shapero, 1975) and cognitive characteristics – including overconfidence (Busenit and Barney, 1997). Others include a willingness to generalize from small samples (Bisenitz and Barney,1997) and intuitiveness (Allison, Chell and Hayes,2000). Also there are non psychological factors like person’s age and gender (Long, 1982), the career expediencies (Shane and Khurana,2001) and the opportunity cost associated with exploiting an opportunity (Kanbur, 1980).

Creation Theory Financing

Traditional external sources of capital—including banks and venture capital firms are unlikely to provide financing for entrepreneurs operating under Creation Theory conditions (Bhide, 1992; Christensen et al., 2004). In these conditions, it will be difficult if not impossible for entrepreneurs to overcome the information asymmetries that limit the ability of traditional outside parties to invest in entrepreneurial activities. Entrepreneurs cannot explain to outside capital sources the nature of the opportunities they are going to exploit because these entrepreneurs do not know this nature themselves. Rarely will these entrepreneurs possess all that is required for funding by these external sources of capital (Alvarez & Barney, 2007).

“Bootstrapping” is likely to be a much more common way to finance entrepreneurial activities taking place under Creation conditions. In “bootstrapping,” entrepreneurs finance activities from their own wealth, or from the wealth of those closely associated with an entrepreneur—the triumvirate of “friends, family, and fools” (Bhide, 1992). These sources of capital invested in the business plus his or her character, ability to learn, flexibility, and creativity not in a particular business opportunity an entrepreneur plans to exploit. Generally, most of the SACCOS loan

beneficiaries, their specific business that have been planned to be undertaken may change dramatically over time. Therefore the changes normally reflect the nature of demand, customers and market in particular area. Indeed, Bhide (1992) argues that in Creation Theory entrepreneurs may actually damage their ability to grow and prosper if they obtain external funding.

However the nature of SACCOS does not qualify to be the external source of finance, this is because the SACCOS members are the ones who mobilize the funds through their savings. In other words the fund is originated from their own wealth. Although the SACCOS management may sometimes tends to pursue the SACCOS loan beneficiaries to exploit a certain identified business under special considerations on interest charged on loan, amount of the loan and duration of the loan even though the outcome might be contrary to the expectations of the management.

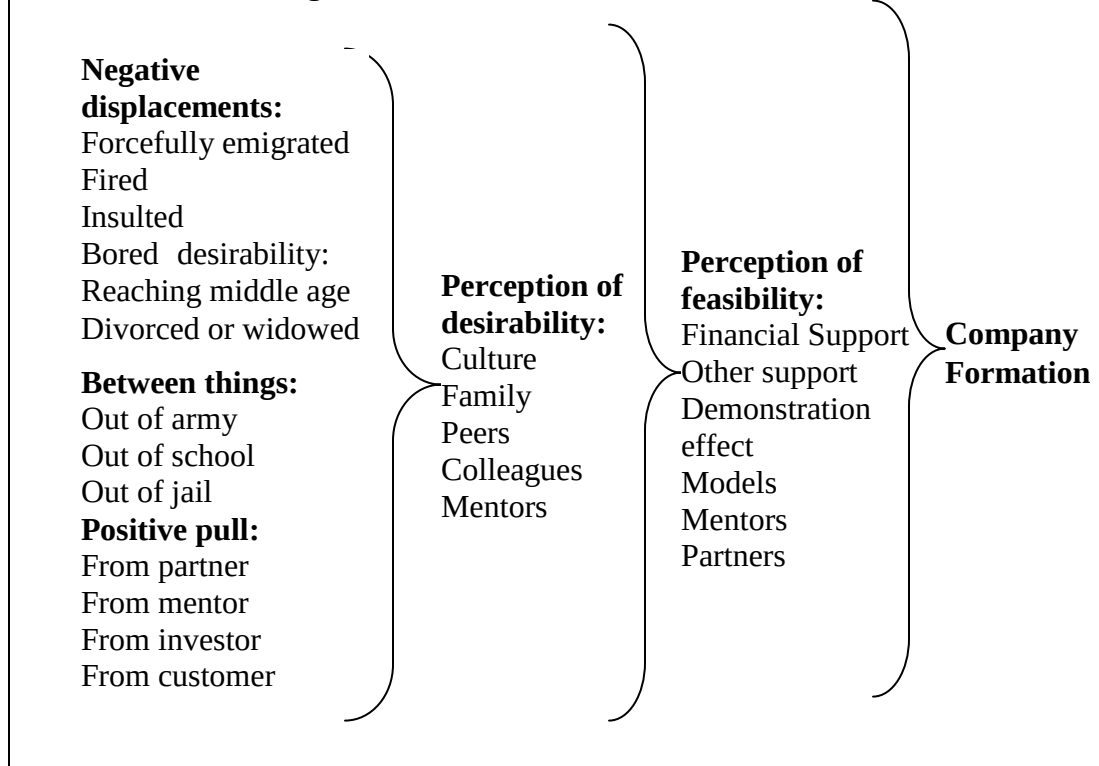
Social Learning Theory

The Social learning theory proposes that one way learning can occur vicariously through the observation of behaviours in others, referred to as models. The individual observes the model participating in various social behaviours and identifies the reinforcement attained by the model. According to social learning theory, if the observer values the reinforcements or recognizes the positive outcomes of such behaviour, then the observer will attempt to replicate (repeat in similar manner) the model's behaviour and obtain similar types of reinforcement.

The term reinforcement refers to “Stimulus” stand as independent variable in this study (including size of the loan, interest charged on the loan, minimum saving on loan, collateral of the loan and duration of the loan) which strengthens the probability of a particular “Response” dependent variable (composed of borrowing magnitude, repaying back the loan and interest there off) being repeated. Generally, reinforcement learning is a computational frame work for an active agent to learn behaviours on the basis of scalar reward signal. The agent can be an animal, a human being, or an artificial system such as robot or computer program. The reward (stimulus) can be food, water, money or whatever measure of performance of the agent (Kenji, 2007). A reward (stimulus) reinforces the action that causes its delivery (Thorndike, 1998). For example, low/minimum interest charge on the loan might be a common reinforcement (positive motivational criterion / reward/stimulus) for the borrowers (SACCOS's loan beneficiaries) to increase the frequency of borrowing and repayment under normal circumstance.

It is true that, positive reinforcement increases the chances a particular behaviour will be repeated simply because it results in desirable consequences. Similarly, in a negative reinforcement the loan beneficiaries repeat behaviour not because she/he wants too, but because she/he wants to avoid negative consequences (like to be taken to the court, assets capturing by the SACCOS etc). It is very important to note that the punishment (the most important principle of learning apart from reinforcement) is the method of managing behaviours, but it is not the opposite of reinforcement. The punishment usually involves with drawing a desirable consequence or applying an undesirable one. Shapero and Sokol (1982) in their model referred to entrepreneurial event formation distinguished three sets of inter linked variables that affect the entrepreneurial event formation. These variables composed the life path changes, perceptions desirability and perceptions of feasibility as described in figure 1.

Figure 1: Entrepreneurial Event Formations
Life Path Changes



Source: Shapero and Sokol, 1982: pg 83

According to Shapero and Sokol (1982) model, The process of change of an individual's life path (livelihood changes) is solely described in terms of directed forces that keeps the individual moving in a given direction (business formulation and success or failure) at any given point in time. Generally, substantial number of potential loan beneficiaries (borrowers) maintain on a given path due to various forces prevailing in their lives, like debt burden, culture of spending, individual characteristics (traits) and family/individual obligations. Normally, it takes a powerful force in a new direction before an individual is pushed to or consciously opts for major changes of the path (Nchimbi, 2003). Although negative displacement are more likely to swift new venture formation as proposed by Shapero and Sokol (1982) model, of course in addition to the above fact, negative outcomes (failure) call for changes and provide incentives for the potential (loan beneficiaries) borrowers to reconsider their current belief and courses of action. For example Parker (2007) found that entrepreneurs give much greater weight to their prior belief than to new information when forming their expectations.

“Learning is triggered by negative feedback, expressed in undesirable or unexpected outcomes of certain actions. Consequently the error made by entrepreneur (potential SACCOS loan beneficiaries) is likely to trigger learning, because negative outcomes tend to be more salient to entrepreneurs (potential SACCOS loan beneficiaries) than positive one” (Rouber and Fischer, 1993, pg 17)

However, combination of both positive and negative forces account for most changes in the life path (Nchimbi, 2003). In fact, positive outcomes, contrary to the negative outcomes lead (potential SACCOS loan beneficiaries) to persist with their selected course of action (Naffziger et al, 1994). Moreover, according to Shapero and Sokol (1982) model, perceptions of desirability such as culture and perceptions of feasibility like financial support, contribute significantly in the venture formation and therefore the performance by the way. Yet, it's surprisingly that people who succeed with their first venture often fail with the second one (Starr and Bygrave, 1992). The finding suggests that people who owned Small and Microenterprises/venture may not necessarily learn by doing things. This controversial finding call upon for a thoroughly investigation of the contributory factors for the situation which amount to the success or failure of the individual potential SACCOS loan beneficiaries' Small and Microenterprise Performance and hence livelihood changes.

Therefore adopting the social learning theory in this conceptual model formulation based upon the fact that reinforcement concentrate on improving personal behaviours through immediate actions, using suitable rewards "stimulus" (in financial terms) like microfinance policy of the loan (interest charge on the loan, size of the loan, duration of the loans and saving requirement for the loan disbursements). Also an individual performance in his/her SME "response" may possibly depend on loan spending culture (beliefs, perceptions, morals, customs and opinion). It has been proposed that the good microfinance policy being the reinforcement to the people behaviours, should allow potential SACCOS loan beneficiaries to grow in terms of Small and Microenterprise Performance and livelihood changes. This can be done through development of appropriate financial services delivering technology in attractive terms and conditions for loan (Meza 2000).The microfinance policy and individual culture of spending will be an important gauge for the potential SACCOS's loan beneficiaries' success or failure in their SMEs of which resulting into entire livelihood changes.

In fact, experiential learning theory (ELT) is applicable not only in the formal education class room, but in all grounds of life. As such, it is holistic theory that defines learning as the major process of human adaptation involving the whole person. The holistic nature of the learning process implies that it operates at all levels of human society from the individual, to the group, to the organizations and to the society as a whole. The phenomena of learning are so varied and diverse such that their inclusion in a single category may not be warranted. However, the Kimble (1961) definition of learning will be considered in this conceptual model formulation. This definition stipulates that "Learning is relatively permanent change in behavioural potentiality that occurs as a result of reinforced practices".

Generally, research based on (ELT) has been conducted all around the world supporting the applicability of the learning model (Alice et al, 2008). It is not just the result of cognition but involves the integrated functioning of the total person – thinking, feelings, perceiving and behaving. Normally, learning result from synergetic transactions between the person and the environment. Meanwhile, stable and enduring patterns of human learning arise from consistent patterns of transaction between the individual and his or her exposed environment. The way we process the possibilities of each new experience determines the range of choices and decisions

we come across, of course these determine to some extent the events which influence our failure decision and choice (Alice et al 2008).

Ideally, a new started Small and Microenterprise/venture needs profit and legitimate power based on cultural values that present the SACCOS's loan beneficiaries with the problem on how to achieve all these desirable goals while avoiding punishment (Negative experience or reward). In order to achieve these goals, the potential SACCOS loan beneficiaries need to learn the culture on how to spend the disbursed loans at the level of individual member. Aldrich (2000); Reynolds and White(1993) suggest that many people who owned and manage business enterprise (entrepreneurs) either fail to learn during the start-up process or they learn too late. Under the applicability of this theory, the study shall therefore be able to identify which kind of reinforcement determine the risk taking propensity of the potential SACCOS loan beneficiaries for the performance of their Small and Microenterprises. These ideas are connected to the spending culture of the loan disbursed to an individual loan beneficiaries upon the given experience and environment.

“In order to predict empirical behavior it is more meaningful to look at individuals, their past experience and their interpretation of present situation together with their expectations of the future. In general, individual take meanings from the situation in which they find themselves through the media of social role, group norms and culture, past experiences and future expectations” (Stanworth and Curran, 1973 pg 19).

A careful review of the literature on learning in psychology, management and organization theory suggest three major sources of learning:

- (a) Learning by repetition of efficient practices (“learning by doing”)
- (b) Learning by memorizing new information as a result of training or tutoring and
- (c) Represent of incorrect knowledge and practices with the new ones based on negative feedback.

The first behavioural learning theory suggests that an individual's experience in a given problem-solving domain increases efficiently (the so called “learning by doing” model). However, some psychological theorists have focused on individual qualities as determinant for success, for instance according to the risk taking propensity theory, the level of risk preference differ from one individual to another, such that it ranges from low, moderate to higher risk, such that the success of an individual normally reflects on her/his level of risk preference. This conceptual model stands on to represents learning by repetition of efficient practices (“learning by doing”) based on psychological learning point of view.

This conceptual model attempts to investigate the mediating effects of individual characteristics on the link between microfinance policy of the SACCOS loan and Small and Microenterprise Performance owned by SACCOS loan beneficiaries. The individual characteristics are basically characterized into psychological and cultural factors; these include risk taking propensity and cultural characteristics respectively. Since the specific objectives of this study are

1. To examine the extent with which the risk taking propensity of the SACCOS loan beneficiaries mediate the relationship between microfinance policy and the performance of their small and micro enterprise in Tanzania.
2. To examine the extent to which the small and micro enterprises performance contributes to the livelihood changes of the SACCOS loan beneficiaries in Tanzania.
3. To assess the impact of SACCOS microfinance policy on both Small and Microenterprise Performance and individual characteristics in Tanzania.
4. To explore how the cultural characteristics of the SACCOS loan beneficiaries mediate the relationship between microfinance policy and the performance of their small and microenterprise in Tanzania.

The proposed links could be significant or insignificant, positively or negatively related.

Hypothesis one (H₁)

“There is a positive relationship between microfinance policy of the loan and the Small and Microenterprise Performance owned by SACCOS loan beneficiaries”

Hypothesis two (a) (H_{2a})

“The individual characteristics (risk taking propensity - psychological characteristic) has a significant mediating effect between the microfinance policy of the SACCOS loan and Small and Microenterprise Performance owned by SACCOS loan beneficiaries”

Hypothesis two (b) (H_{2b})

“The individual characteristics (cultural characteristics) has significant mediating effect between microfinance policy of the SACCOS loan and Small and Microenterprise Performance owned by SACCOS loan beneficiaries”

Hypothesis three (H₃)

“Microfinance policy of the SACCOS loan has a positive influence on individual characteristics”

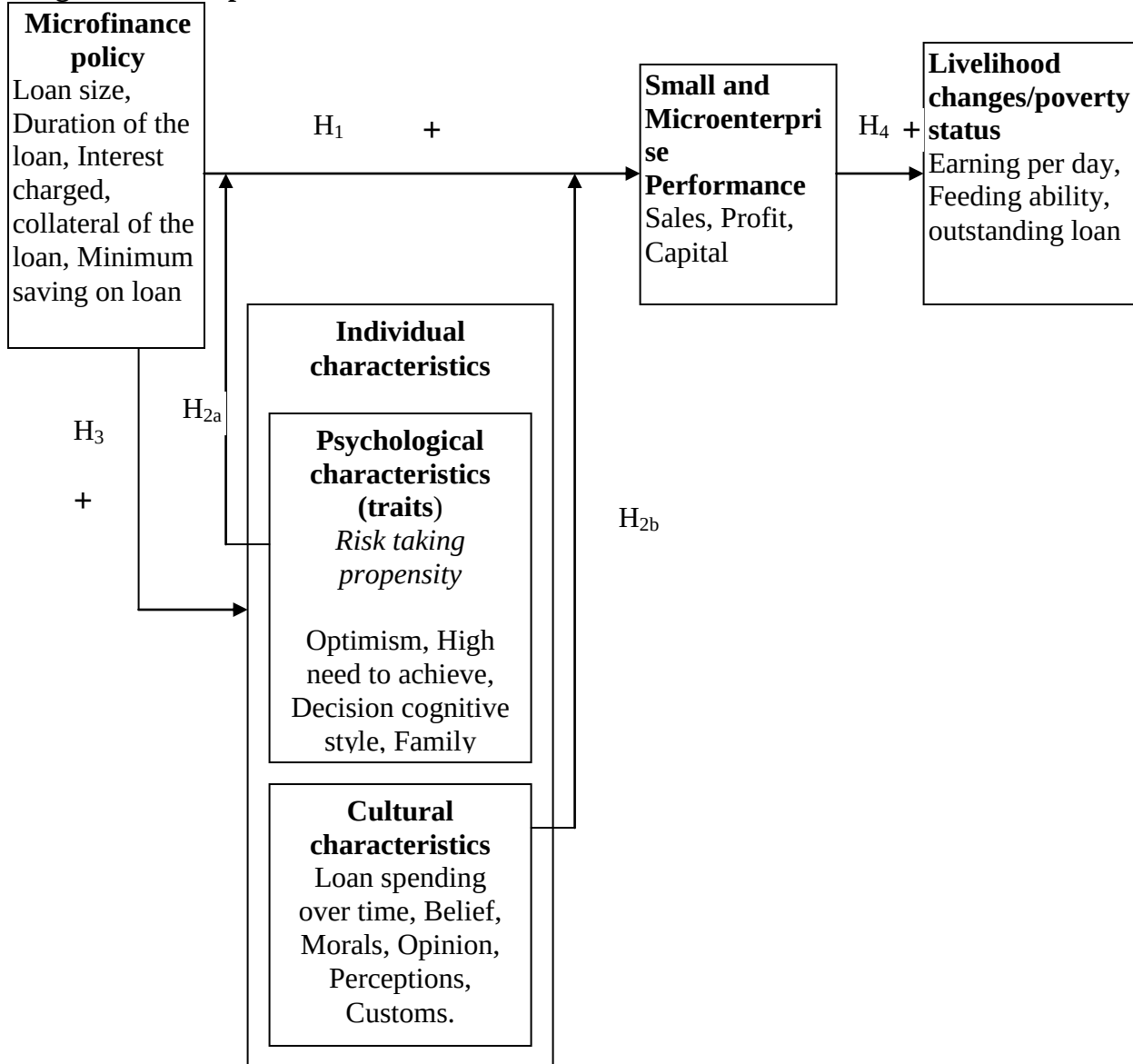
Hypothesis four (H₄)

“The Small and Microenterprise Performance owned by SACCOS loan beneficiaries is positively related to the livelihood changes of the SACCOS loan beneficiaries”

The Formulated Conceptual Framework

The study is guided by conceptual framework figure 1.2 as synthesized from the theories literature reviewed.

Figure 2: Conceptual Framework



Source: Developed from the Reviewed Literature

Descriptions of the Formulated Conceptual Model

The conceptual model has been derived from the theoretical concepts of the entrepreneurship and learning theories, empirical literature reviewed based on the entrepreneurial activities, microfinance policies information and the general overview of Small and Microenterprises Performance. The empirical literature covers the actions and reactions of the entrepreneur's towards success and failure in their business ventures have been synthesized with the statements of the hypotheses in the model formulated.

The conceptual model links several important relationships that respond to the research objectives. The hypothesis H_{2a} responds to the research objective one. This hypothesis entail to

ascertain the mediating effect of risk taking propensity between the microfinance policy of the SACCOS loan and Small and Microenterprise Performance owned by the SACCOS loan beneficiaries. The research objective two was designed to depict information about the extent with which the Small and Microenterprise Performance contributes to the livelihood changes of the SACCOS loan beneficiaries of which hypothesis H_4 provide the response to this research objective. The research objective three has been fulfilled by hypotheses H_3 and H_1 which depict the impact of microfinance policy of the SACCOS loan on (a) Small and Microenterprise Performance and (b) The individual characteristics of the SACCOS loan beneficiaries. The last hypothesis H_{2b} responds to the research objective four depicting the mediating effect of culture between microfinance policy of the SACCOS loan and performance of small and microenterprise owned by SACCOS loan beneficiaries.

References

- Admati, Anat and Paul Pfleiderer (1994), "Robust Financial Contracting and the Role of Venture Capitalists," *Journal of Finance*, 49, 1994, pp. 371-402.
- Aldrich H. (1999). *Organizations Evolving*. London, UK: Sage Publishers.
- Aldrich, H.E., 2000, Learning together: National differences in entrepreneurship research, in Sexton, D.L. & Landström, H. (Eds), *The Blackwell Handbook of Entrepreneurship*, Oxford: Blackwell, 5-25.
- Aldrich, Howard E. and Martin Ruef. 2006. *Organizations evolving*. London: Sage Publications.
- Alice, Y.Kolb and David, A. Kolb(2008) "Experiential Learning Theory: A Dynamic Holistic Approach to management Learning Education and Development. Hand book of Management Learning and Development, London, Sage Publication.
- Allison, C. W., Chell, E. and Hayes, J. (2000). "Intuition and entrepreneurial behavior". *European Journal of Work and Organizational Psychology*. Vol. 9, Issue 1
- Akanji, O. O. (2006). Microfinance as a strategy for poverty reduction. *Central Bank of Nigeria Economic and Financial Review* , 39 (4).
- Alvarez, S and Barney, J (2007). *Discovery and Creation: Alternative Theories of Entrepreneurship Actions*, Columbus, John Wiley.
- Babb, E.M. Babb, S.V. 1992. Psychological traits of rural entrepreneurs. *Journal of Socio-Economics*, Win Vol 21(4) 353-362.
- Baker, T., & Nelson, R. 2005. Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, 50: 329-366.
- Begley, T., & Boyd, D. (Eds.). 1987. *Psychological characteristics associated with entrepreneurial performance*. Babson Park: Babson College.
- Begley, T.M. (1995) Using Founder Status, Age of Firm, and Company Growth Rate as the Basis for Distinguishing Entrepreneurs From Managers of Smaller Businesses. *Journal of Business Venturing* 10, 249-263.
- Berger, P. L., & Luckmann, T. 1967. *The Social Construction of Reality. A Treatise in the Sociology of Knowledge*. Garden City, New York: Anchor Books Doubleday and Company, Inc.
- Bird, B. (1989). *Entrepreneurial behaviors*, Scott, Forestman and Company; Illinois
- Bhide, A. 1992. Bootstrap Finance: The Art of Start-ups. *Harvard Business Review*, 70(6): 109.
- Bhide, A. 1999. *How Entrepreneurs Craft Strategies That Work*. Boston: Harvard Business School Press.

- Brockhaus, R.H. (1982). The Psychology Of The Entrepreneur. In Encyclopedia of Entrepreneurship, ed. C.A. Kent, D.L. Sexton, And K.H. Vesper. Englewood Cliffs, NJ: Prentice Hall.
- Busenitz, L. W., & Barney, J. B. 1997. Differences between entrepreneurs and managers in large organizations: Biases and heuristics in. *Journal of Business Venturing*, 12(1): 9.
- Caird, S. 1991. The enterprising tendency of occupational groups. *International Small Business Journal*, 9: 75-81.
- Carter, S. & Shaw, E. (2006). Women's business ownership: Recent research and policy developments. UK: Small Business Service.
- Christensen, C. M., Anthony, S. D., & Roth, E. A. 2004. *Seeing What's Next*. Boston: Harvard Business School Press.
- Cheston, S. & Kuhn, L. (2002). Empowering women through microfinance. A case study of Sinapi Aba Trust, Ghana. USA: Opportunity International.
- Cooper, A. (1986). "Entrepreneurship and High technology" In sexton, D. and Sminor, R (eds) The art and science of entrepreneurship, Cambridge MA: Ballinger Publishing Co.
- Delmar, F. (2000). The psychology of the entrepreneur. In Carter, S. and Jones-Evans, D. (Eds), *Enterprise and Small Business*, Harlow, UK: Prentice-Hall.
- Fama, E. 1970. Efficient capital markets: A review of theory and empirical work. *Journal of Finance*, 25: 383-417.
- Gagne, R. M., & Glaser, R. 1987. Foundations in learning research. In R. M. Gagne (Ed.), *Instructional technology: Foundations*. Hillsdale, NJ: Lawrence Erlbaum.
- Gartner, W. (1988). "Who is an entrepreneur?" is the wrong question. *Entrepreneurship Theory & Practice*, 13(4), 47-68.
- Gartner, W. (1985). A conceptual frame work for deciding the phenomenona of new venture creation. *Academy of management review*, 10: 696-706
- Ginzberg, A and Buchholtz, A (1989) Are entrepreneurs a breed apart? A look at the evidence. *Journal of Management* 15(2): 32-40.
- Hassan, K. and Renteria, G (1997). "The experience of Greeman Bank of Bangladesh in community development, *International Journal of social Economics*, 24(12), 1488-1523.
- Hayek, F. (1945). The use of knowledge in society. *The American Economic Review*, 35(4): 519-530.
- Isidore, E. Norsiah, B. and Razli, C. (2010) "The Effect of Microfinance Factors on Women Entrepreneurs' Performance in Nigeria: A Conceptual Framework. *International Journal of Business and Social Science* Vol. 1 No. 2; 255-263.
- Kanbur, R. 1980. A note on risk taking, entrepreneurship, and Schumpeter. *History of Political Economy*, 12: 489-498.
- Kenji, D. (2007). *Reinforcement Learning: Computational theory and biological mechanisms*, Okinawa Institute of science and Technology. Japan.
- Kets de Vries, M. (1984). "The dark side of entrepreneurship" *Harvard Business Review*, Nov-Dec.
- Kimble, G. A. (1961) Hilgard and Marguis' *Conditioning and Learning*. (2nd ed.). New York: Appleton-Century.
- Kirzner, I. (1973). *Competition and Entrepreneurship*. Chicago and London: University of Chicago Press.

- Kuzilwa, J. (2005). The role of credit for small business success: A study of the National Entrepreneurship Development Fund in Tanzania. *The Journal of Entrepreneurship* , 14 (2), 131-161.
- Lawal, J. O., Omonona, B. T., Ajani, O. I. Y., & Oni, O. A. (2009). Effects of social capital on credit access among cocoa farming households in Osun State, Nigeria. *Agricultural Journal* , 4 (4), 184-191.
- Llanto, G. and Sanchez, M. (1997). Financial liberalization and small scale and microenterprises in the Philippine manufacturing industry. MIMAP Project policy and development foundation Inc, Manila Philippine.
- Long, J. 1982. The income tax and self-employment. *National Tax Journal*, 35: 31-42.
- Low, M. and MacMillan, I. (1988). Entrepreneurship: Past research and future challenges. *Journal of Management*, 14(2), 139-161.
- Meza, J. (2000). "Group and individual micro credit contract: A dynamic numerical analysis" Dissertation, School of Ohio state University. USA.
- McClelland, D. (1961). *The achieving society*, Van Nostrand203: Princeton.
- Naffziger, D.W., Hornsby, J.S. and Kuratko, D.F. (1994), "A proposed research model of entrepreneurial motivation,"*Entrepreneurship Theory and Practice*, Spring, 29-42.
- Nchimbi, M. (2003). "Gender and Entrepreneurship in Tanzania" A comparative analysis of Male- Female's start - up Motivation, Individual characteristics and perceptions of business success - Ph. D dissertation University of Dar es Salaam.
- Ojo, O. (2009). Impact of microfinance on entrepreneurial development: The case of Nigeria. Faculty of Administration and Business, University of Bucharest, Romania.
- Olomola, A. S. (2002). Social capital, microfinance group performance and poverty implications in Nigeria.Ibadan, Nigeria: Nigerian Institute of Social and Economic Research.
- Parker, S. (2007) Schooling, capital constraints and entrepreneurial performance: the endogenous triangle, *Journal of Business and Economic Statistics*, 24(4), 416.431.
- Reavley, M. A. & Lituchy, T. R. (2008). Successful women entrepreneurs: A six-country analysis of selfreporteddeterminants of success-more than just dollars and cents. *International Journal of Entrepreneurship and Small Business* , 5 (3-4), 272-296
- Reuber, A and Fischer, E. (1993). The learning experiences of entrepreneurs. In N.C.Churchill (Ed.) *Frontiers of entrepreneurship research* (pp. 234–245).Wellesley, MA: Babson College.
- Reynolds, P., & White, S. (1993). *The entrepreneurial process: Economic growth, men,women, and minorities*. Westport, CT: Quorum Books.
- Rotter, J. (1966). "Generalised expectancies for internal control of reinforcement" *Psychological monographs* 80 (609).
- Sagie, A. and Elizur, D. (1999). 'Achievement motive and entrepreneurial orientation: a structural analysis', *Journal of Organizational Behavior*, Vol. 20, pp.375–387
- Sarasvathy, D., Simon, H., and Lave, L. (1998). Perceiving and managing business risk: Differences between entrepreneurs and bankers. *Journal of economic Behavior and organization*: 33:207-225.
- Schere, J. (1982). "Tolerance for ambiguity as discriminating variable between entrepreneurs and managers" *Academy of management proceedings*, 404-408.
- Scott, W. (2000). *Institutions and Organizations*. 2nd edition. Thousand Oaks, California: Sage.
- Shane, S., & Khurana, R. 2001. Career expriances and firm foundings., *Academy of Management Meetings*.

- Shapero, A and Sokol, L(1982) “The social dimensions of entrepreneurship” in Kent,C.A Sexton D.L and Vesper K.H (eds) *Encyclopaedia of Entrepreneurship*, Englewood Cliffs, Prentice Hall, Inc. NJ,pp 72-90.
- Shapero, A. 1975. The displaced, uncomfortable entrepreneur. *Psychology Today*, 9: 83-88.
- Stanworth, J. and Curran, J. (1973). *Management Motivation in the Smaller Business*.London: Gower Press.
- Stewart, W. and Roth, P. (2001). ‘Risk taking propensity differences between entrepreneurs and managers’, *Journal of Applied Psychology*, Vol. 86, No. 1, pp.145–153.
- Tang, J. and Tang, Z. (2007). ‘The relationship of achievement motivation and risk-taking propensity to new venture performance: a test of the moderating effect of entrepreneurial munificence’, *Int. J. Entrepreneurship and Small Business*, Vol. 4, No. 4, pp.450–472
- Thorndike, E (1898). “Animal intelligence: an experimental study of the associate processes in animals” *Psychol. Rev.*2, 1-109.
- URT (2008: 2009:2010 and 2011). Ministry of Agriculture and cooperative unions “Status of SACCOS (Hali ya vyama vya ushirika wa Akiba na Mikopo) up to September 2011.
- URT (2011) “Department of cooperative union development”-Dodoma, Tanzania.
- Uusitalo, R. (2001). ‘Homo entrepreneurs?’, *Applied Economics*, Vol. 33, pp.1631–1638.
- Van Praag, C. and Cramer, J. (2001). ‘The roots of entrepreneurship and labor demand: individual ability and low risk aversion’, *Economica*, Vol. 68, No. 269, pp.45–62
- Venkataraman, S. (2003). Preface in Shane A General Theory of entrepreneurship. The individual opportunity Nexus. Massachusetts: Edward Edgar Publishing Inc.

An Analysis of the Impact of the Use of Third Party Logistics Providers on Logistics Performance and Customer Satisfaction: The Case of Ugandan Firms

Bonny Bagenda

Abstract

The study was aimed at analyzing the impact of the use of third party logistics providers on logistics performance and customer satisfaction, the case of Ugandan firms. This study was prompted from the lack of studies about third party logistics practices in Uganda. The study used an explanatory case study design where judgemental sampling technique was used to select 205 firms to respond to the study. Data was collected through surveys and interviews supplemented by literature review. Data analysis was done with the aid of SPSS software version 17 where chi-square tests were run to determine the relationship between the variables.

The study revealed that there is a significant positive relationship between third party logistics service offerings and logistics performance and among the indicators of service offerings transport and warehousing had more impact compared to other variables. It was also revealed that the use of technologies by third party logistics providers has a significant positive impact on logistics performance. The study also revealed that logistics performance has a significant positive impact on perceived customer satisfaction especially in terms of lead time performance. On the overall it was found out that the use of third party logistics providers has a significant impact on the logistics performance and customer satisfaction. It was recommended that Third Party Logistics (3PL) should widen on their service offerings and adopt new technologies as they deliver their services to their customers. Also firms that have not yet embraced third party logistics are encouraged to do so as logistics outsourcing was found to be contributing significantly to a firm's competitiveness and performance.

Introduction

Stiff competitive pressure of today's global business environment has forced companies to focus on their core competencies and increasingly identify non-core functions within the organization and outsource them to increase flexibility, efficiency and customer service levels (Pfohl, 2000). Logistics has been identified as a primary function that can enable firms to cut costs and improve responsiveness through outsourcing (Zach *et al.*, 2011). As such there has been increasing demand to outsource logistics activities as companies continue to source in one continent, manufacture in another & then sell in yet another continent (Knemeyer & Murphy 2005). This has resulted into a tremendous increase in the use of 3PL services coupled with the increase in the role and the number of services offered by 3PL providers.

For the last two decades, outsourcing of logistics services has been one of the most popular logistic decisions (Knemeyer & Murphy, 2005). Firms join this relatively new strategy by using third party logistics as their source of logistics services instead of sourcing them internally. Abdullah *et al.*, (2009) add that currently, firms tend to outsource their logistics activities more than how they did a decade ago. Companies in various industries have been outsourcing their logistics activities for years and are continuing to do so (Power *et al.*, 2007). They add that in the past years the logistics activities outsourced were mainly transportation activities. However, in recent years, there has been an increased demand to outsource other logistics activities such as warehousing, freight payment and consolidation, transportation planning among others. This increased demand for such services has stimulated the growth of many 3PL providers. Rushton

and Walker (2007) state that globalization, lead time, cost reduction, information technology, outsourcing, and ever increasing customer expectations are some of the reasons that have contributed to changes in the logistics landscape.

Third Party Logistics (3PL) is growing around the world and is drawing outstanding attention at government, industrial, academicians and practitioner's levels. Third party logistics services are widely prevalent in North America (Lieb & Lieb 2010, Lieb 2008, Lieb & Butner 2007), Europe (Wilding & Juriado 2004), Asia Pacific region (Power *et al.*, 2007, Abdullah *et al.*, 2009 & Chen *et al.*, 2010), South Africa (Cilliers & Nagel, 1994), Australia (Dapiran, Lieb, Millen & Sohal, 1996) and Singapore (Bhatnagar, Sohal & Millen, 1999) and have been examined in a number of studies. These countries have availed large benefits of 3PL services over the last few years.

Logistics Situation in Uganda

Uganda's 3PL and logistics industry is still in its nascent stages, but of recent there has been a great increase in 3PL and logistics activities in Uganda. According to the World Bank report (2010) Uganda's logistics performance index: Overall (1=low to 5=high) had increased from 2.49 in 2006 to 2.82 in 2009 and was expected to continue growing. Better infrastructure at the borders in the recent past has improved Uganda's global trade profile with a latest survey by the World Bank ranking the country the best performer in logistics in the EAC Region. Uganda is showing strong relative performance in logistics within East Africa and is doing well compared to its neighbors, according to the World Bank's Logistical Performance Index (LPI) of 2010. Within the global context, Uganda ranks 66th, against South Africa as the region's highest performer at 28th, better off than Tanzania at 95th, Kenya at 99th, Sudan 146th and Rwanda 151st. Uganda now stands a high chance of being competitive in international trade as well as attaining high economic growth than its East African counterparts.

In addition, according to Uganda Clearing Industry and Forwarding Association (UCIFA) there are over 200 companies licensed by Uganda Revenue Authority engaged in provision of logistics services. There are many companies that have joined the third party logistics business and many are continuing to do so (www.ucifa.com). These include Spedag Interfreight Uganda Limited, Orient Group of Companies, Bayundo Link (U) Ltd, Intraship (U) Ltd, Threeways Shipping Services Limited, Kenfreight Logistics, Multiple ICD, Uganda Freight Bureau Ltd, Maersk (U) Ltd, Across Africa Clearing & Forwarding Co. Ltd, Atlas Cargo Uganda Limited, and SDV Transami (U) Ltd and many others. Despite all the above developments in the area of logistics and third party logistics in Uganda, no study has been carried out about third party logistics in Uganda concerning the motivating factors for logistics outsourcing, the major logistics areas outsourced, 3PL practices and how their customers perceive their impact on logistics performance and customer satisfaction.

Statement of the Problem

There has been high demand for outsourcing of logistics services and a spread in the number of 3PL providers that provide such offerings over the past few years. Recently, it has been stressed that successful logistics management depends more on the performance of the 3PL providers. As a result of this a number of studies have been conducted in the field of outsourcing third-party logistics (3PL) services and the field is growing concerning their usage in different countries. Several studies have been carried out in various countries like Australia (Shams, 2011), Thailand

(Banomyong & Supatn, 2011) New Zealand (Yue, 2009), Asia Pacific region (Abdullah *et al.*, 2009, Power *et al.*, 2007 & Chen *et al.*, 2010), India (Sahay & Mohan, 2006), Turkey (Aktas, & Ulengin, 2005), Japan (Kajita & Ohta, 2003), UK (Marily, 2002), South Africa (Cilliers & Nagel, 1994) and Australia (Dapiran, Lieb, Millen & Sohal, 1996). *However according to the researcher's knowledge to date no such study has been carried out in Uganda.* Most of the previous studies focused on issues such as, industry dynamics, motivation factors, logistics activities outsourced, current status and future prospects of 3PL industry from both users and service providers' perspective. These studies also showed an increase in the use and importance of third party logistics providers. *However no much study has been carried out concerning the impact of outsourcing logistics services on logistics performance or even the customers' perception of the use of third party logistics providers on logistics performance and customer satisfaction.*

There has been mixed results on the impact of third party logistics for instance several studies have shown that logistics outsourcing has a positive impact on logistics performance, in terms of cost reduction, increased flexibility, access to advanced technology, reduced lead time among others (Hsiao *et al.*, 2011; Norek & Pohlen, 2001; Power *et al.*, 2007). However, other studies have shown less than successful relationships in which several firms have failed to gain such benefits. Lieb and Bentz (2005) while studying American firms stated that many respondents typically indicated that using 3PL services had no impact on logistics costs, logistics service levels, customer satisfaction and employee morale. In fact few respondents indicated that they believed using 3PL services had a very positive impact in any of above areas. Aktas and Ulengin (2005) add that although outsourcing is undertaken by many firms to control or reduce costs, there is some evidence that it does not decrease costs as expected, and in some cases actually increases costs.

This therefore raises questions as to whether the use of third party logistics providers actually improves logistics performance or not.

Realizing the importance of this issue, several authors have been researching into customer views of their service providers. This study is one such attempt in that direction, especially related to the Ugandan 3PL industry and their customers. It is against this background that the researcher decided to carry out the study so as to cover the highlighted gaps in terms of examining the impact of outsourced logistics services on logistics performance and customer satisfaction by Ugandan firms and what the customers of 3PL providers perceive of them especially in terms of service offerings, technologies used and contribution to customer satisfaction.

Literature Review

Outsourcing, third party logistics services (3PL) and contract logistics generally mean the same thing (Lieb, Millen & Wassenhove, 1993). It involves the use of external companies to perform logistics functions, which have traditionally been performed within an organization. The functions performed by third party logistics service providers can encompass the entire logistics process or select activities within that process. For the case of this study third party logistics refers to the use of an external firm to perform part or whole of the logistics activities

traditionally performed in house ranging from transportation, warehousing, customs clearance, inventory management, distribution management among others.

Review of Related Empirical Studies

Over the last two decades, a number of studies have been conducted in the field of outsourcing third-party logistics (3PL) services and the field is growing concerning their usages in different countries. Due to the promise and potential found in this industry, a sizeable portion of logistics literature in recent times focuses on logistics outsourcing. However, the vast majority of work in this logistics outsourcing area focuses on the type of activities outsourced, reasons and benefits of logistics outsourcing in general. These have been summarized in the Table 1 below;

Knowledge Gap

From the review of the various empirical studies, the following knowledge gaps were identified which justified the need for this study.

From the review of various empirical studies it can be seen that most studies have looked at outsourcing in general and none of the studies has looked at the impact of 3PL Service offerings and technologies on logistics performance and customer satisfaction. Also these studies focused on the impact of outsourcing logistics activities on firm performance other than logistics performance. Above of all these studies have been carried out in other regions that is Europe, Asia and America and none of such study have been carried out in African region to be specific Uganda which was a great motivation for this study.

Table 1 Empirical Studies

Title and Authors	Aim	Methodology	Findings and conclusions
The use of third party logistics services: a Malaysian perspective Sohail & Sohal (2003)	To determine the extent to which Malaysian firms were using the services of logistics companies; the time period these have been used; the decision-making process for choosing contract logistics and its impact on the organization.	An empirical research study Survey instrument based on the questionnaire developed by Dapiran <i>et al.</i> , (1996) was used.	Most of the firms in Malaysia were satisfied with the services providers and had largely seen positive developments within their firms. With a high current level of satisfaction, most firms surveyed indicated a moderate to substantial increase in usage of their services. It was concluded that the users were quite satisfied with their experiences to date and thus, indicated that the market for 3PL services in Malaysia and world over has a good potential for further development.
Customer perceptions on logistics outsourcing in the European Consumer goods industry Wilding & Juriado (2004)	To investigate customer perceptions on three key logistics outsourcing decisions: why to outsource, what to outsource and how to manage satisfaction within third party logistics providers (3PLs) partnerships	Survey through the use of questionnaire	Consumer goods logistics companies had generally experienced positive changes since they began to use 3PLs. The use of 3PLs has usually had a positive impact on companies' performance, especially on cost

Outsourcing logistics activities in Turkey Aktas and Ulengin (2005)	To determine the current situation of outsourcing logistics activities in Turkey	Survey analysis was conducted with 250 of the top 500 Turkish The responses were evaluated statistically using SPSS software. Factor and cluster analyses were also used	Power of third party logistics (3PL) firms in Turkey was underestimated. Turkish businessmen thought that they should do their business themselves and they were not aware of the benefits of outsourcing logistics activities.
Third Party Logistics Practices; an Indian Perspective Sahay & Mohan (2006)	To determine the usage of third party logistics practices in India	Survey Questionnaire	Most 3PL users are satisfied with the current level of services provided by 3PL service providers as it has led to a positive impact on business results.
Adding value through logistics outsourcing Power <i>et al.</i> , (2007)	To understand how customers perceive their logistics service providers in terms of achieving the claimed benefits of outsourcing	Survey through the use of questionnaire	Customers of 3PLs place significant value on the services they provide, technologies they use and objectives Logistics outsourcing firms see a focus on service based solutions as providing a set of benefits beyond mere cost control.
Impact of Outsourcing Logistics Levels on Logistics Service Performance Sheik <i>et al.</i> , (2011)	How the four levels of logistics outsourcing activities impact on logistics service performance	In-depth interviews, which were recorded and subsequently transcribed and analyzed.	Outsourcing of logistics activities has positive impact on the service performance in terms of flexibility, reliability and lead time of the organization

Conceptual Framework

From the literature review it seems quite plausible that logistics performance is dependent on 3PL service offerings and technologies used by 3PL providers. Service offerings include Transport services, Warehousing Management Services, Inventory Management and Customs clearance services. 3PL technologies include Advance shipment notification, Cargo tracking technologies and Electronic Data Interchange. It is also evident from literature review that logistics performance (Lead time and cost reduction) has an impact on perceived customer satisfaction. The study therefore tries to find out the relationship between those variables.

This study therefore proposed a conceptual framework which was to be followed. It is a useful way of summarizing a number of relationships discovered and discussed in literature review.

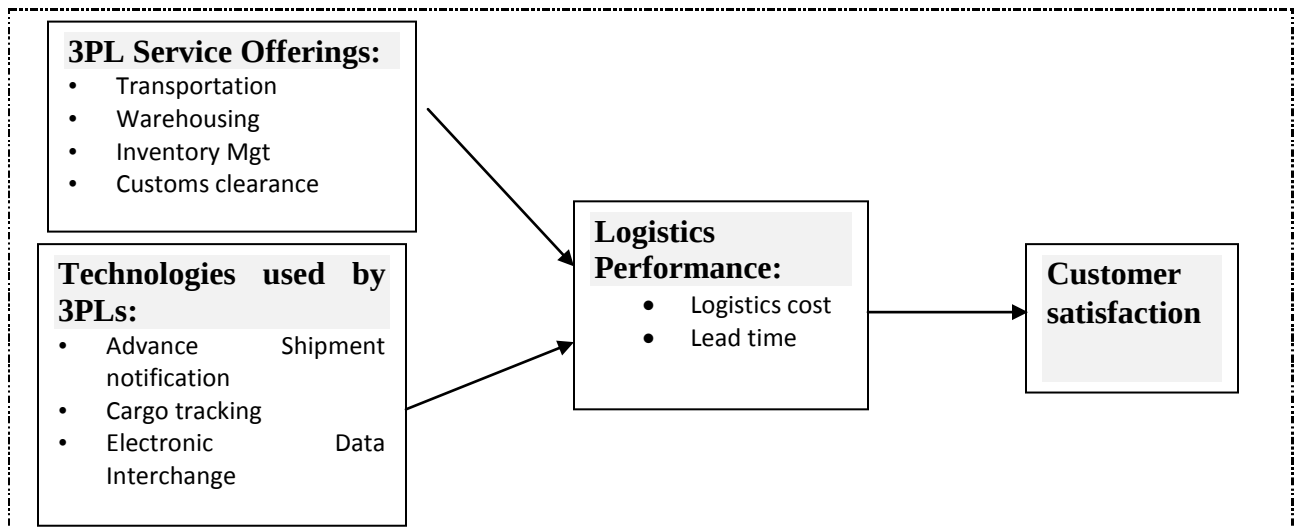


Figure 1 Conceptual Framework

Developed by the researcher based on literature review especially from Sahay & Mohan (2006) Power et al (2007), Guo & Han (2010) and Sheik et al., (2011)

Purpose and Methodology

The main purpose of this study was to understand the industry of logistics service providers in Uganda with a view to examining the question of how synchronized the service providers are with their customers' expectations and how satisfied the customers are with the service providers. Specifically the study sought to analyze the impact of the use of third party logistics providers on logistics performance and customer satisfaction. The study was guided by three objectives and these were

- i. To determine the impact of 3PL service offerings on logistics performance
- ii. To determine the impact of technologies used by 3PL on logistics performance
- iii. To determine the impact of logistics performance on perceived customer satisfaction

Accordingly, the following research hypotheses were developed:

H1 There is significant association between 3PLs' service offerings and contribution of the 3PL to logistics performance.

H2 There is significant association between 3PLs' use of technologies and contribution of 3PL to logistics performance.

H3 There is significant association between logistics performance and perceived customer satisfaction

The study was limited to experiences of customers of 3PL providers in Kampala and Wakiso districts of Uganda. The choice to undertake the study within the mentioned region was prompted by several factors mainly the fact that most of the industries and businesses are concentrated in these two districts. According to Uganda Bureau of statistics report (2007) over 50% of the businesses are located in the central region. The target population included all logistic executives, managers and department heads responsible for supply chain, warehousing, procurement and logistics functions in the selected businesses and industries in Kampala and Wakiso. Data was collected through questionnaires, un-structured interviews and literature review. The study targeted 210 firms in the districts of Kampala and Wakiso of which 206 responded and 205 questionnaires were usable giving a response rate of 97.6%. 210 respondents were selected because other related studies had used almost the same number of respondents for analysis for example Sahail & Sohal (2003) 124 respondents, Wilding & Juriado (2004) 52 respondents, Aktas E & Ulengin F (2005) 48 respondents, Sahay & Mohan (2006) 130 respondents and Power *et al.*, (2007) 178 respondents.

Reliability and validity

The reliability of the study was measured using Cronbach's Alpha approach. DeVellis, (2003) states that for better reliability the Cronbach's alpha should at least be 0.60 but a higher score reflects better reliability however in small researches a threshold of 0.50 can be taken as a cut point of determining data reliability. In this research all the constructs measures had α above 0.6 which shows that there was reliability and internal consistency in the data.

Table 2 Cronbach α for Variables

S/N	Items Measured	Number of Items	Number of Cases	Cronbach α
1	3PL service Offerings	4	205	0.636
2	Technologies used by 3PL	4	205	0.656
3	Logistics Performance	3	205	0.695
4	Customer Satisfaction	2	205	0.767

(Source: Author's computation from primary Survey Data, 2012)

The instrument of the study was created to ensure that it had content validity by allowing adequate coverage of the topic under study. To ensure construct validity, the researcher had to go through a systematic process of questionnaire development that involved pretesting and adjusting of the questionnaire until it was considered suitable by both the researcher and the supervisor before conducting the study. Questionnaires were also self-prepared and self-administered to the respondents by the researcher to make sure there was understanding of the questions in order to obtain reasonable responses.

Findings

Nature of business

The responding companies were in a broad cross section of the industry including manufacturing, wholesale and retail trade, transport and communication, health and social services, construction, mining and quarrying, utilities, agriculture and hotel. However, majority of the respondents were from Manufacturing (43 %), wholesale and trade (23 %), transport and communication (13 %) health and social services (6 %), construction (5%), Agriculture (4%), Hotel and Restaurant (3%) Utilities (1%), Finance and insurance (1%) Mining and Quarrying (0.4 %)

Main Reasons for Use of Third Party Logistics Provider

The surveyed companies were asked to list two of their primary reasons for outsourcing their logistics activities. The question was closed-ended i.e. a list of options was provided. The study revealed that the main reason for use of 3PL was the pressure to reduce logistics cost (31.7%), followed by increasing operational flexibility (20.1%), and focus on core activities (18.9%). Furthermore (17.3%) wanted to improve on customer service, while only 11.6 % mentioned that access to emerging technologies was their main reason for use of third party logistics providers. Therefore majority of the firms consider logistics outsourcing to be a tool for cost reduction and increasing operational flexibility. These findings are in line with other studies, for example, Akili (2011), Sahay & Mohan (2006) that have highlighted logistics cost reduction as the major reason for use of third party logistics providers.

Major Logistics Functions Sourced From Third Party Logistics Providers

With regard to scope of logistics activities outsourced, there is no definite list as a rule of thumb among the Ugandan firms. Choice of activities to outsource depends on the company's history - whether or not they had their own logistic system before, company's size, and availability of such services to meet the company's needs. Firms were therefore asked to state the major logistics functions outsourced to third party logistics providers. It was revealed that transportation was the most outsourced activity (28%) closely followed by clearing and customs services (24%), followed by warehousing and inventory management (19%), logistics information systems (15 %) and freight forwarding was the least outsourced (13%).

Hypothesis 1

The aim of this hypothesis was to test if service offerings of 3PL providers had significant impact on logistics performance. The firms were asked to rate on a *Likert scale of 1 (Not at all) to 5 (To a Great Extent)*, the extent of provision of various services by their major 3PL provider. The services identified were Transportation, Warehousing, Inventory Management and Customs Clearance. These were then cross-tabulated with logistics performance indicators of lead time performance and logistics cost reduction to establish the relationship and the chi-square results are presented in table 3.

Table 3 Service offerings and Logistics Performance

	Indicators	Chi-Square Values	Df	Asymp.Sign	Status
1	Transport Services	38.701	12	0.000	Significant
2	Warehouse Management Services	27.701	12	0.007	Significant
3	Inventory Management Services	15.968	12	0.193	Not Significant
4	Customs Clearance Services	22.473	12	0.033	Significant
5	Overall Service Offerings	31.904	12	0.001	Significant

Source: Author's computation from primary Survey Data, 2012). Critical value at 0.05 significance=21.026

From the respondents' opinions and cross-tabulations three out of the four measurable indicators for service offerings have a significant impact on logistics performance since they scored chi-

squares that are above the table value of 21.026 and also registered significance values less than the critical value of 0.05 that is TS ($X^2 = 38.701$, $df = 12$, $p < 0.05$), WHM ($X^2 = 27.701$, $df = 12$, $p < 0.05$), and CCS ($X^2 = 22.473$, $df = 12$, $p < 0.05$), as shown in Table 3. Inventory management services as a service offering was found not to have a significant relationship with logistics performance as it scored chi-square values less than the critical value IMS ($X^2 = 15.968$, $df = 12$, $p > 0.05$). On further analysis combined service offerings was also cross-tabulated with logistics performance and the results showed chi-square values above the critical value and significant values less than the critical value of 0.05 ($X^2 = 31.904$, $df = 12$, $P < 0.05$) which further confirmed that service offerings have a significant impact on logistics performance. Since three out of the four indicators of service offerings indicated that they have a significant impact on logistics performance, it can then be concluded that indeed 3PL service offerings have a significant impact on logistics performance. *The conclusion therefore is that 3PL service offerings have got a significant positive impact on logistics performance.*

Hypothesis 2

The aim of this hypothesis was to test the contribution of the Technologies used by the 3PLs to the firm's logistics performance. Responding firms were asked to rate on a 1 (Low) to 5 (High) Likert scale the extent of usage of Technologies by their major third party logistics provider. The technologies identified were Advance shipment notification, Electronic Data Interchange and Cargo Tracking technologies. These were then cross-tabulated with logistics performance to examine the relationship between 3PL technologies and logistics performance. The chi-square tests showed the following results as shown in Table 4. From the respondents' opinions and cross-tabulations all the measurable indicators for technologies used by 3PL have a significant impact on logistics performance since they scored chi-squares that are above the table value of 21.026 and also registered significance values less than the critical value of 0.05 that is ASN ($X^2 = 28.922$, $df = 12$, $p < 0.05$), EDI ($X^2 = 37.922$, $df = 12$, $p < 0.05$), and Cargo tracking ($X^2 = 31.965$, $df = 12$, $p < 0.05$) as shown in Table 4. In addition the combined technologies were cross tabbed with the logistics performance to further establish the relationship and it was observed that indeed technologies used by third party logistics providers have a significant impact on logistics performance ($X^2 = 43.621$, $df = 12$, $p < 0.05$). *The conclusion on hypothesis two is that therefore is that there is a significant relationship between technologies used by 3PL providers and logistics performance.*

Table 4 3PL Technologies and Logistics Performance

	Indicators	Chi-Square Values	df	Asymp.Sig	Status
1	Advance Shipment Notification	28.922	12	0.004	Significant
	Electronic Data Interchange	37.922	12	0.000	Significant
2	Cargo Tracking technologies	31.965	12	0.001	Significant
4	Overall 3PL Technologies	43.621	12	0.000	Significant

(Source: Author's computation from primary Survey Data, 2012)

Critical value at 0.05 significance = 21.026

Hypothesis 3

This hypothesis sought the respondents' perception of the effect of logistics performance on perceived customer satisfaction. Logistics performance had two measurable indicators that is

logistics costs and lead time performance. This was then cross-tabulated with perceived customer satisfaction to give the following results in table 5.

Table 5 Chi-square test of Logistics performance and customer satisfaction

	Indicators	Chi-Square Values	Df	Asymp.Sign	Status
1	Logistics costs	23.838	12	0.021	Significant
2	Lead Time	62.004	12	0.000	Significant
3	Overall Performance	93.689	12	0.000	Significant

(Source: Author's computation from primary Survey Data, 2012)

Critical value at 0.05 significance = 21.026

Both indicators registered chi-square values above the tables values of 21.026 and also registered significance values less than the critical value ($0.000 < .05$). From this assessment, we can note that logistics performance passed the test meaning that this scale significantly affects perceived customer satisfaction. This therefore means that the indicators (Logistics cost and lead time) are very strong in explaining the impact of logistics performance on customer satisfaction. *The conclusion on hypothesis three is that there is a significant positive relationship between logistics performance and customer satisfaction.*

The results provide substantial support for each of the three hypotheses, and in particular indicate that customers of third party logistics providers place significant value on the services they provide, technologies they use and how these affect their logistics performance and customer satisfaction.

Overall impact of the use of third party logistics providers on Logistics performance

This section provides a general picture on how the logistic performance of the selected firms in Uganda is impacted by the use of 3PL providers. Most companies believe that use of 3PL providers has benefited their lead time performance as well as their cost structure. Being not a core activity for the companies, investing in logistical assets could add up their fixed costs and operational costs. Firms were asked to state the overall impact of the use of third party logistics providers on their logistics performance notably on four aspects that is logistics costs, customer satisfaction, delivery performance and logistics operational flexibility. Their responses were measured on a five point linkert scale ranging from "very low" to "very high." Results show that nearly 80% of firms said that the use of 3PL providers had a significant impact on their logistics performance especially on customer satisfaction (56.59% high and 35.61% very high) on-time delivery performance (53.17% high and 32.68% very high), reducing costs (45.37% high and 26.83% very high) and logistics operations flexibility (45.85% high and 21.95% very high). *Therefore these results further confirm the results above and the related hypotheses where it was stated that the use of third party logistics providers has a positive impact on logistics performance.*

Conclusion

The general conclusion drawn from this study is that the business industry in Uganda in general appreciates contribution of 3PL in decreasing logistics costs and improving on lead time performance which in turn leads to increase in customer satisfaction. Outsourcing logistics activities to a 3PL provider has been a means of leveraging economies of scale and tapping into a

logistics infrastructure which includes IT systems, human resources and knowledge base that delivers increased robustness to a company's logistics and supply chain operations.

It is evident that usage of 3PL services can help organization's achieve substantial results, both in terms of lead time reduction, logistics cost reduction and customer satisfaction. This will form the cornerstone for increase in outsourcing of logistics functions in the near and long-term future by present and prospective users for improved business results and supply chain efficiencies.

In general therefore this study has therefore concurred with studies that have been carried out in other countries that indeed the use of third party logistics providers has a positive impact on logistics performance and customer satisfaction.

Below is the conclusion on each research objective and question;

3PL Service offerings and logistics performance

This study concludes that 3PL provider's services offerings have got a significant impact on logistics performance. From the service offerings selected for this study transport and warehouse management have got more impact on logistics performance compared to inventory management and customs clearance. The study also concludes that service offerings have got a great impact mainly on lead time performance compared to reducing logistics costs. These findings are similar to those of Power *et al.*, (2007).

3PL Technologies and logistics performance

This study concludes on this aspect that third party logistics providers really have important position in any company using them. Third party logistics providers are really helpful in enhancing customer satisfaction and integrating different processes of supply chain by using advanced tools of information technology. Third party logistics providers have a greater impact on logistics performance with the help of advanced information technology tools. This study reflects that logistics performance can be increased by using 3PL providers with advanced information technology such as advance shipment notification, Electronic Data Interchange, Cargo tracking technologies among others. Therefore there is a significant association between technologies used by third party logistics providers and logistics performance.

Logistics performance and customer satisfaction

The study therefore concludes that logistics performance has a significant impact on customer satisfaction. When a firm outsources its logistics functions its logistics performance will be improved in terms of logistics costs and lead time management among other aspects. This improvement will then be transferred to the customers in terms of reduced lead time and prices of the goods and services provided by the firm.

Implications Of The Study

The findings from this study will greatly contribute to the current 3PL practices and the trends in 3PL services in Uganda and the world at large. These findings present an opportunity to third party logistics providers especially in Uganda and the East African Region, to know what their clients expect them to do in terms of the service offerings and the technologies required as well as their contribution to their clients logistics performance and customer satisfaction. The study has also helped cast a light on the fact that realized cost reduction, wide service offerings, information technology, skilled logistics professionals and real time access to information are

very important factors for success as a third party logistics provider. Therefore for logistics service providers to be successful in their business they need to embrace them.

The study has shown that the use of 3PL providers has significant implications on the firm's logistics performance and customer satisfaction. In a time when companies are outsourcing non-core competencies, firms should recognize the potential contribution of 3PL firms and take advantage of opportunities to address organizational needs. Companies should be aware that 3PL provides an opportunity for an increase in competitive advantage. Through their unique position and evolving capabilities, 3PL providers can be seen as strategic players in a supply chain as opposed to mere vendors of a given organization. Furthermore with the help of third party logistics providers the firms will be able to meet the needs of their clients in time and will have smooth and flexible operations. Managers should be aware of the additive roles a 3PL can play and take advantage of or even demand them from their 3PL providers. This therefore stresses the need for use of third party logistics providers.

With the increasing focus of business expansion into the global market, companies need to have an extremely lean, efficient supply chain to achieve successful integration into new markets. 3PL providers can help provide services to these companies, but also assist the more localized companies looking to cut operational costs or focus on core competencies. There are many advantages to outsourcing logistics services to third parties as the amount of services being offered by these logistics providers continues to grow each year. In addition, today, 3PL's are more than just transportation providers; they are becoming involved in the long-term strategic direction of their client companies.

Suggestions for Further Research

There need for more studies comparing various 3PL users and their providers as this study did not segment the 3PL users based on their service providers. The study did not look at the reasons as to why some of the firms were not using third party logistics providers despite the benefits associated with this practice. It will be interesting to carry out a study in this area.

Because of time and financial constraints the study covered only the businesses located in Kampala and Wakiso districts, it will be interesting to carry out a similar study covering those businesses located outside these two districts to find out whether there will be any difference in the results. This study was only confined to Uganda; it will be interesting to carry out a comparative study between East African countries to find out if different results may be obtained.

References

- Abdullah, H. H., Mohamed, Z. A., Othman, R., & Uli, J. (2009), *The effect of Sourcing Strategies on the Relationship Between Competitive Strategy and Firm Performance*. International Review of Business Research Papers, 5 (3), 346-362.
- Akili Emmanuel Allan (2011), *Impact of the design of Logistics Outsourcing strategy on the firm's logistic performance*. (Unpublished Master's Thesis). University of Agder, Norway.
- Aktas, E., & Ulengin, F. (2005), *Outsourcing logistics activities in Turkey*, The Journal of Enterprise Information Management, Vol. 18 No. 3, pp. 316-329
- Banomyong R & Supatn N (2011) *Selecting logistics providers in Thailand: a shippers' perspective*, European Journal of Marketing Vol. 45 No. 3, pp. 419-437

- Bhatnagar, R., Sohal, A.S. & Millen, R. (1999), *Third party logistics services: a Singapore perspective*, International Journal of Physical Distribution and Logistics Management, Vol. 29 No. 9, pp. 569-587
- Chen, H., Tian, Y., Ellinger, A. E., & Daugherty, P. J. (2010). *Managing Logistics Outsourcing Relationships: An Empirical Investigation in China*. Journal of Business Logistics, 31 (2), 279 - 299.
- Cilliers, W.W. & Nagel, P.A.J. (1994), "*Logistics trends in South Africa*", International Journal of Physical Distribution and Logistics Management, Vol. 24 No. 7, pp. 4-14.
- Dapiran, Peter, Lieb, Robert, Millen, Robert and Sohal Amrik. (1996). *Third party logistics services usage by large Australian firms*. International Journal of Physical Distribution and Logistics Management, 26 (10), 36-45.
- DeVellis, R.F. (2003). *Scale development: Theory and applications* (2nd edn). Thousand Oaks, California: Sage.
- Guo.B., Han.N., (2010) *Competitiveness of supply chain customer satisfaction.*, International Conference on E-Business and E-Government, pp-3351-3353.
- Hsiao. H, Kemp. R.G.M, van der Vorst. Jack G.A.J and Omta S.W.F. (Onno) (2011). *Logistics outsourcing by Taiwanese and Dutch food processing industries*, British Food Journal Vol. 113 No. 4, 2011 pp. 550-576
- Kajita H and Ohta T (2003) *Third party logistics function for construction virtual company* Study of assignments in Japanese companies. Proceedings of the first international conference on integrated logistics.
- Knemeyer, M. A., and Murphy, P. R. (2005). *Exploring The Potential Impact of Relationship Characteristics and customer Attributes on the Outcomes of Third-Party Logistics Arrangements*. Transportation Journal, 44 (1), 5-19.
- Lieb, R. C., & Lieb, K. J. (2010). *The North American Third-Party Logistics Industry in 2008 The Provider CEO Perspective*. Transportation Journal, 49-65 (2), 53.
- Lieb, R., & Butner, K. (2007). *The North American Third-Party Logistics Industry in 2006: The Provider CEO perspective*. Transportation Journal, 46 (3), 40-52.
- Lieb R, & Bentz, B.A (2005). *The use of third party Logistics Services by Large American Manufacturers: the 2004 survey*. Transportation journal Vol. 44, 2 5-15.
- Lieb, R.C., Miller, R.A. and Wassenhove, L.N.V. (1993), *Third party logistics services: a comparison of experienced American and European manufacturers*, International Journal of Physical Distribution and Logistics Management, Vol. 23 No. 6, pp. 35-44.
- Marily A Stone (2002) *Has Europe fulfilled its promise to UK Third Party Provision?* European Business Review, Vol. 14 No. 2 pp. 81-91
- Norek, C.D. and Pohlen, T.L. (2001), *Cost knowledge: a foundation for improving supply chain relationships*, International Journal of Logistics Management, Vol. 12 No. 1, pp. 37-51.
- Pfohl, H.C (2000). *Supply Chain Management A critical Analysis*, Finanzekette, Berlin
- Power, D., Sharafali, M. and Bhakoo, V. (2007), *Adding value through outsourcing contribution of 3PL services to customer performance*, Management Research News, Vol. 30 No. 3, pp. 228-35.
- Rushton, A & Walker, S (2007) *International Logistics and Supply Chain Outsourcing: from local to global*. London; Philadelphia:
- Sahay B. S. and Mohan R (2006) *Third Party Logistics Practices: An India Perspective*

- Sheikh Z., Rana S., Samiullah and Umar S (2011) *Impact of Outsourcing Logistics Levels on Logistics Service Performance* Department of Management Sciences, COMSATS Institute of Information Technology, Lahore, Pakistan
- Sohail, S and Sohal, A. (2003). *The use of third party logistics services: a Malaysian perspective*. Technovation. 23 (5), 401-408.
- Sohal, A.S, Millen, R & Moss, S (2002). *A comparison of the use of third party logistics services by Australian firms between 1995 and 1999*. International Journal of Physical distribution and Logistics Management Vol. 32, 1, 59-68
- Uganda National Bureau of Statistics (2006/2007). Report on the Uganda business register.
- Wilding, R. and Juriado, R. (2004), *Customer perceptions on logistics outsourcing in the European consumer goods industry*, International Journal of Physical Distribution & Logistics Management, Vol. 34 No. 8, pp. 628-44.
- World Bank Report (2010), Logistics Performance Index 2010: Southern and East Africa
- Yue Zhang (2009) “*The Usage of Third Party Logistics in New Zealand*” (Unpublished Master’s Thesis). Massey University Albany, New Zealand.
- Zach G. Zacharia, Nada R. Sanders and Nancy W. Nix (2011), *The Emerging Role of the Third Party Logistics Provider (3PL) as an Orchestrator*, Journal of Business Logistics, 32(1): 40–54

Strategic Responses by Commercial Bank of Africa to Changes in the Regional Business Operating Environment

Nicholas Mwenda Limungi and Phyllis Kinanu Marete

Abstract

This study is on Commercial Bank of Africa (CBA), which is the largest privately owned bank in Kenya and Tanzania and currently expanding to other E.A countries. The bank's target Market since its incorporation has been Corporate and Institutional Market segment. CBA has been dominating these markets for a very long time until late 2000s when it started experiencing challenges as a result of changing business-operating environment including changes resulting from integrating East African Community and other Regional business dynamics. CBA has been forced to respond to these challenges in a number of ways.

The study examined the strategic responses adapted by CBA to changes in the business operating environment within the East African region and also sought to understand the opportunities presented by the regional market integration. The objectives of the study were first to establish the strategic responses adapted by CBA to changes in the regional business-operating environment and secondly to establish the challenges and opportunities that CBA has encountered as a result of changing regional business-operating environment over the last five years. After data analysis was done, it was observed that CBA responded to the changes in the regional business operating-environment in a number of ways. Some of the strategic responses adopted by CBA are: Regional Market Expansion, Corporate restructuring and Re-branding, Research and Development of new product and service, Improvement in Information and Technology systems, financial strategy and Improvement in Human Resource Management style among others.

Introduction

Organizations and especially business organizations are environment dependent and must keep abreast with changes in the environment for them to operate profitably. Ansoff & McDonnell (1990) say that business organizations are environment dependent and they do not operate in a vacuum. Porter (1998) says organizations obtain their inputs and discharge their output to the environment through a process he called a value chain. According to Pearce & Robinson (1997) organization's environment consist of all conditions and forces that affect its strategic options and define its competitive position. Ansoff & McDonnell (1990) observes that when an organization is faced with unfamiliar changes in its operating environment, it should turn to strategic management and revise its strategies to match the turbulence levels in the environment. They further say that the firm's strategic aggressiveness should match the levels of environment turbulence and must be supported by firm's internal capability.

Strategic Responses To Changes in Regional Business Operating Environment

Changing business operating environment is the most challenging aspect to any business venture and for a business to operate profitably and remain competitive in the industry it must respond to various challenges the changing environment presents.

Grant (2000) observed that for a firm to compete in any industry, its strategy should be consistent with the goals and values, resources and capabilities, and more importantly it should be flexible enough to accommodate changes in the business environment.

It was observed by White and Shipper (1998) that a business's operating environment is very critical to business performance in both how it is run in the short run and also as a going concern. They further observe that even though the operating environment has multiple factors, a firm should respond first to the major factors that affect the firm's business competitiveness. Due to challenge presented by the ever changing business environment, businesses should always modify their strategies to match the challenges from environment. Pearce & Robinson (2007) say that external environment management is fundamental component of strategic management processes. They say that external environment factors influences a firm's choices of direction, action and ultimately its organization's structure and processes.

It was observed by Sababu (2007), that the challenges presented by the changes in the business environment necessitates a business venture to design strategies that appropriately respond to the challenges and ensures the business has got a competitive edge in the competitive operating environment. Strategy is creating a fit between the external characteristics and internal conditions of an organization to solve a strategic problem, Aosa (1998). Strategic problem is a mismatch between the internal characteristics of a firm and changes in the operating environment and thus there is always a need to formulate a set of actions and decisions that match these changes. According to Ross et al (1996), for an organization to remain truly competitive as the environment changes, they have to learn to adopt and re –orient as per the changing environment. This process has to be deliberate and coordinated leading to a gradual or radical systematic realignment between firm's environment and firm's strategic orientation.

Commercial Bank of Africa (C.B.A)

Commercial Bank of Africa popularly known as CBA is the largest privately owned commercial bank in Kenya and Tanzania. Until recently, the bank's target market has been predominantly Corporate, Institutional and Individuals with high monthly income. CBA has been performing very well in this market in terms of profitability and also growth of its market share. In the last five years the bank has experienced increased competition from other banks and changing regional business operating environment especially in the expanded East African Community. The bank has been forced to come up with various strategic changes that can help it remain competitive by countering the challenges presented by the expanded Market and also exploit and capitalise on the opportunities that the integrated market has presented.

Regionally the bank has branches only in Kenya and Tanzania but in its five year strategic plan (2007-2012) the bank had plans to open some more branches regionally with an aim of having at least one branch in Kigali Rwanda, Kampala Uganda and Juba South Sudan to take advantage of the opportunities presented by expanded EAC market. Also in this strategic plan, the bank will be implementing a new strategy that will allow selected retail banking in within the EAC. The plan will also see the bank include in its target market middle income individuals alongside its corporate and institution market. This is due to increasing numbers of middle class group as a result of growing regional economy.

Statement Of The Problem

According to Ansoff and McDonnell (1990), business organizations are environment dependent and they do not operate in a vacuum. This means business operations are affected by general

environmental changes in one way or another in either short term or in the long term. As a business is faced with unfamiliar changes in the operating environment, it should turn to strategic management and change its strategies in order to respond to the changes in the operating environment. In East Africa there has been a lot changes in the business operating environment in the last ten years and businesses have been forced to adopt different responses to these changes.

Regional banking industry has been one of the mainly affected sectors by the changes in the regional operating environment and regional banks have adopted some strategies to respond to the changes. A strategic response adopted by one bank may vary from the one adopted by another even if all of them are in the same business industry. A strategic response therefore can be defined as a well formulated and organized action plan by firm's management that is aimed at countering a threat or seizing an opportunity presented by a certain change in the environment and the same time ensuring it outsmarts the competitors.

It was observed by Miller and Friesen (1983), that even though much is known about the relationship between strategy, structure and environment, too little is known about the third link: - The relationship between strategy making and the environment. They further noted that as a result of the ever changing business operating environment, strategy making should be a process and not a one time event. Firms should always be on look out for changes taking place in their environment and come up with appropriate strategic responses to address the changes. Chege (2008) argues that in determining competitive advantage and creating coping strategies a firm needs to understand the changing environment it is operating in because the strategies created will help in responding to the changing environment.

Over the last decades, operating business environment has become very dynamic and these dynamics have made firms not only to be keen but also to remain very alert to environment changes so that they respond to them in good time. Recently, in 2008 and 2009 there has been a very big challenge as a result of global economic crunch that started in U.S.A and spread to other continents. Though this crunch started by hitting hard on financial institutions it later spread to other sectors of the economy and many firms were forced to adjust their strategies to respond to the challenge. Locally, there are a number of environment factors that have affected the banking sector. Notable cases are Technological advancement which has made banks come up with branchless banks, internet banking, and mobile banking among other external factors have put managers under pressure to improve productivity and financial performance in very challenging environment.

There are a number of local studies that have been done to find out how various organizations have responded to environment challenges. Chege (2008) did a study on competitive strategic adopted by Equity Bank Kenya Ltd in response to changing environment. He found out that some of the response Equity Bank adopted included investment in modern Information Technology, review of human resource policies to offer staff incentive and also corporate restructuring. He notes that while formulating these responses, some of the challenges came from the employees who were resistance to change and huge financial expenditures that sometimes went beyond the estimated levels.

In a study by Gitonga (2008) on response strategies of equity bank to competition in the banking industry, it was observed that Equity bank restructured its corporate operations with an aim of separating its retail and corporate businesses. He also noted that there were Marketing and Promotion activities that were used as a response to counter competition and also the bank invested in modern ICT to boost the Banks operations. He observed that the management and a challenge of explaining to both the shareholders and small scale customers that the bank was not incorporating corporate business at the expense of retail customers who were the core market segment.

In her study on response strategies adapted by Barclays bank, to challenges from external environment, Mugweru (2008) noted that Barclays bank improved on its ICT especially in the aspect of system inter-connectivity aimed at offering branchless banking experience to customers. She also noted improvement in human resource management activities with an aim of attracting and retaining talented staff alongside product development and innovation to adapt to customers changing preferences. Some of the challenges encountered when formulating response strategies included delayed response time as result of bureaucratic communication channels and decision making, resistance to change from various stakeholders and huge financial expenditure.

Mutugi (2006) did a study on strategic responses of Barclays Bank to changes in retail banking environment and observed that Barclays Bank used Market strategy as response. This involved product segmentation, price discrimination and also extended geographical coverage. He also found that the bank improved on its HRM operations, investment in ICT and Change management that involved managing culture change in the working environment.

It can be observed that all these studies have been done on banks within Kenyan business operating environment and not in regard to East African regional business operating environment. It can also be observed that all these studies are on banks whose core market segment is retail and personal banking and none has been done on banks specializing in Corporate and Institutional market. It is also not scientifically proved that banks operating in similar environment respond to changes in the environment in the same way. This study will help in answering the following question: What responses have CBA-as corporate and institutional banker, adopted to address changes in the regional business operating environment and what business opportunities has CBA encountered as a result of integrating economies of East Africa.

Objectives Of The Study

This study has two objectives which are as follows:

1. To establish what strategic responses CBA has adopted to address changes in the regional business operating environment;
2. To identify the opportunities that has come up as a result of integrating and expanding EAC Market.

Importance of the Study

The study will be of importance to various stakeholders within EAC. By understanding the responses this bank has used to counter challenges resulting from changes in the regional

business operating environment, the information will be useful to other existing regional banks and other financial institutions with the same target market in formulating their strategic plans.

The results of this study will also help other local and regional market players in knowing the opportunities that are arising as a result of expanded EAC market and thus formulate strategies that will help them capitalise on the opportunities. The study may also expose some other areas of future academic and business research aimed at improving business management styles in changing environment.

Literature Review

Views On Strategy as a Concept

Thompson (1993) Views strategy a set of predetermined actions with an aim of increasing firm's competitiveness in a very competitive environment. Johnson & Scholes (2001) see strategy as the direction and scope of an organization over a long term which achieves the objectives of the organization through the configuration of resources to meet the needs of the market and fulfil stakeholders' expectations. They argue that strategy should be seen as the matching of the activities of an organization to the environment in which it operates. They further argue that even though strategy can be seen as *building* or *stretching* of organization's resources and competencies to create opportunities or to capitalize on opportunities, it does not just mean trying to ensure resource are available or can be made available but rather it means identifying existing resources and competencies which might be a basis for creating new opportunities in the market place.

Chandler (1962) sees strategy as an establishment of long term goals and objectives of an organization, including taking actions and allocation of resources for achieving these goals. Pearce & Robinson (1997) see strategy as the building of defences against competitive forces or finding a position in the industry where competitive forces are weakest. Strategy is a plan that sets out together an organization major goal, policies and action sequences, (Quinn, 1950).Thompson & Strickland (1998: pg 2) argues that a company's strategy is the *game plan* management hold for positioning the company in its chosen market arena, competing successfully, pleasing customers, and achieving good business performance.

In order for an organization to formulate a good strategy that will enable it to achieve its both long term and short term goals, it first needs to clearly understand its business. It should be in a position to answer the following questions: Where are we as a business? Where do we want to go? And how do we go there? By answering these questions it will be in position to come up with a *strategic vision* of the firms future business make up of where the business is headed. Porter (1980) says that strategy is basically about competition and means which an organization fights to gain a competitive advantage. Johnson & Scholes (1999) says there are three levels of strategy: corporate level strategy which is concerned with the future direction of the company, Business level strategy is concerned with sustainability of different portfolios and operational level strategy that is concerned with shop floor delivering systems and procedures. It can be concluded that strategy can be clearly formulated after careful and objective analysis of the resources and firm's capability. This ensures that a firm does not come create a strategy that it can not implement or that will lead to too much strain on its overall capabilities and thus reduce its competitive advantage

Definition of a Strategic Response

A strategic response is a well formulated set of actions or decisions aimed at countering a change which has already taken place, is currently taking place or is anticipated to take place. A response is a reaction to a threat posed to an organization's operations and achievement of both long term and short term objectives. According to Ansoff and McDonnell (1990), strategic response involves changes in the firm's strategic behaviour to assure success in the changing future environment. The usefulness or relevance of a response adapted by a firm is measured by how well it has countered the challenge emanating from environment.

Thompson (1997) defines strategy adoptions as changes that take place overtime to the strategies and objectives of an organization. Such change can be gradual, evolutionary, dramatic or even revolutionary. Pearce & Robinson (2007) define strategic responses as the set of decisions and actions that result in the formalization and implementation of plans designed to achieve firm's objective.

According to Ansoff and McDonnell (1990), the management system adopted by an organization is a determining component of the firm's responsiveness to the changes. The management system adapted determines the way an organization perceives the environment, diagnosis its impact on the firm and consequently implements the decisions. Strategic responses are basically meant to cushion the firm against any threats as a result of change in the environment. There are no standard or sequential forms of responses that a firm may adopt to respond to the environment because every response adopted is dependent on the environment change and a firm may adopt more than one kind of response to one environmental challenge. A well developed and targeted response is formidable weapon for a firm in acquiring and sustaining competitive edge in a challenging environment. These responses may include: marketing response, financial response, research and development response, Human resource management response and Information Technology (Wheelen & Hunger, 2008).

Relationships between Operating Environment, Strategy and Internal Capability

Business operations are affected by environmental changes and for them to effectively compete and remain profitable they must adapt to changes in the operating environment. It was observed by Pearce & Robinson (2007) that business operating environment factors influence a firm's choice of direction, action and ultimately its organization structure and procedures. They further divide factors in the environment into three interrelated categories: factors in the remote environment, factors in the industry environment and factors in the operating environment. Remote environment comprises of factors that originates beyond and usually irrespective of any firms operating situation. Industry environment consists of aspects like the extent of rivalry between existing firms; threat posed by suppliers, buyers and substitute products and also the level of industry entry barriers. Operating environment is also called competitive environment and is typically more subject to the firms influence, or control. This environment has factors like the firm's customer composition, firm's reputation, firm's resources and internal capabilities, management style and firm's ability to attract and retain capable and talented employees among other factors.

Firm's strategy should not only be tied to the internal capability (resources) of the firm but should also be flexible to respond to changes in the operating environment. Thompson (1997) argued that the managers must not only be aware of environmental change but they must also manage the organization's resources to take advantage of the opportunities and counter threats. Shipper and White (1988) observed that the operating environment as having multiple facets and three of the major ones being the degree of market competitiveness, the rate of technical innovation and variability of economic fluctuations that affect the industry.

Ansoff and McDonnell (1990) noted that change in organizational behaviour is very necessary when there is a change in environment if competitiveness of a firm is to be achieved. They further noted that changes that touch on the organization strategy and capability needs to be systematically identified through the strategic diagnosis approach. The approach is derived from the strategic success hypothesis which stated that "a firm's potential is optimum when the aggressiveness of the firm's strategic behaviour matches the turbulence of its environment and the responsiveness of the firm's capability is supportive of one another. When one of these three aspects is missing then the firm's performance potential will be less than optimum.

According to Grant (2000), a successful strategy is consistent with the organization's goals and values, external environment, resources and capabilities and organization's systems. This indicates the fact that the organization depends on the environment for its survival and the responses to the environmental situation will determine its performance. Thus when there are changes in the environment, the organization's capability and strategy would have to be changed in order to ensure continued strategic fit.

Research Methodology

Research Design

Study adopted a case study method. Yin (1984) says that a case study research is the best because it helps in understanding of a complex issue or an object and can extend experience or add strength to what is already known through previous research. Kothari (1990) noted that case study is a good method of doing research because it involves careful and complete observation of a social unit be it a person, institution, family, cultural group or an entire community. Case study emphasizes depth rather than breadth of the study

In this research, case study helped in getting in depth information on response strategies used by C.B.A. it helped in understanding behaviour patterns of this particular bank studied. Case study has been used successfully by past researchers such as Chege(2008), Mugweru (2008) and Njau (2000) among others.

Data Collection

Data collection was done through primary and secondary data collection method. Primary data was collected from C.B.A.'s senior management team and person targeted were: The Managing Director, Executive Director, Head of cooperate business, General Manager of Operations & I.T, Treasury and Assistant General Managers of Corporate strategy and Human resources. Senior departmental managers were also respondents as they are members of the bank's Strategy formulation team. Primary data collection was done through personal

interviews guided by structured questionnaire. This method helped in extracting some in depth information through directed question where questionnaire by itself could not be helpful.

Secondary data supplemented primary data. Existing reports such Audited financial report, updated bank's policy hand book, Existing and previous strategy plans , the bank's weekly market bulletin and the C.B.Ks annual report on commercial bank performances, Economic survey reports, published journals and business articles among others.

Data Analysis

After collection of both primary and secondary data had been properly completed, it was analyzed through content analysis. Content analysis helped in gaining detailed and in-depth information from the qualitative data received. All the information collected on strategic responses was analyzed qualitatively on the basis of the strategic variables observed.

Data Analysis And Interpretation Of Results

Challenges from External Environment

CBA faced a number of challenges as a result of changes in the regional business-operating environment. All the respondents agreed that CBA faced a number of challenges as a result of changing environment and some of the main challenges they highlighted included the following: Increased competitive environment was one of the major challenges CBA faced. Competition was not only coming from other Regional commercial banks but also from micro finance institutions, co-operative societies and foreign exchange bureaus which become the outstanding competitor in foreign exchange dealing. Even though CBA has created a strong niche of its own kind of market that is mainly composed of corporate and institutional market, it has been experiencing a lot of competition from other commercial banks for the same market. Other commercial banks are now targeting the corporate and institutional market across the region thus forcing CBA to aggressively compete to retain its market share and also attract more customers across the whole of EAC.

Advancement in modern Information and Communication Technology (ICT) has been another challenge facing CBA and other players in the banking industry regionally. CBA has been faced by this challenge of advancement in information technology which has been extremely unpredictable and very dynamic. Over the last 10 years there has been a revolution in banking technology and information and CBA has had to re-evaluate its ICT system every now and then to accommodate the new developments. Internet banking, Mobile phone banking, Automated Teller Machines (ATM) which can accept both cash and checks deposit from customer has been some of the ICT development that has made CBA review its strategies. These technological changes have had impact on CBA's operating environment and the bank had to respond to these changes in order to remain competitive in the very dynamic environment.

Changing customer preferences and increased levels of awareness has been another challenge from external environment. The bank has been faced by a challenge of meeting its customer's changing expectations and at the same time maintaining or meeting its targeted financial objectives. Products and services offered by almost every commercial bank are similar and every bank competes on customer service and innovation. This has made both existing and potential customers very particular when choosing a preferred bank. CBA have been faced with

a huge task of pleasing, retaining and attracting customers with varied preferences and taste to keep up with competition and at the same time meet its shareholders expectation of profitability.

Strategic Responses Adopted By CBA

As a result of the changes in the operating environment, CBA has adopted some strategic responses that include; Regional Expansion, Market expansion and penetration, Corporate restructuring, Information and Communication Technology, Research and Development, Financial Management and Human Resource responses.

Regional Expansion

In CBA's current five year Strategic plan, the bank plans to expand its operations presence to at least Five East Africa countries from the current Two. The bank has a plan to venture into Rwanda, Uganda and South Sudan Markets and establish not less than one branch in all these countries. The need for expansion is necessitated by increased competition as other commercial banks with EAC are expanding their branch networks into these countries and threat by banks incorporated outside the region coming into the EAC market which currently has more than 90 Million bankable populations.

As a result of customs amonization and removal of trade barriers within the EAC, increased trading activities within the region has been realised and this has led to increased economic development and growth. This economic growth and development has led to increased need for banking and other financial services for EAC residents. Mobility within EAC has been improved whereby citizens from any of the community member countries can easily move across the member countries borders without much immigration rules and hindrances. This mobility especially for economic and business reasons has forced banks to come up with ways of meeting their custom demands across the borders and this has meant banks have to *follow* their customers across the borders to meet their financial demands at the same time searching for new markets.

Market Expansion and Penetration

The bank is strategically expanding its market share across the EAC. This is because of the ongoing changes within the community with most the member countries government putting in places structures that attract foreign investments and encourages growth of regional trade within the community. CBA is currently adopting a strategy that alos attracts middle income individuals unlike before when its target market for personal bankers was only high income or affluent individuals. Due to the growing Middle income class across the region as a result of improved economic activities within EAC, the bank plans to tap into this class of customers across all EAC member countries and at the same time increasing its branch networks across major towns within EAC.

Corporate Restructuring & Re-branding

CBA has done a lot of corporate restructuring especially in the years 2011 and 2012 with an aim of creating a competitive edge not only in Kenya but also within EAC. As CBA incorporates both middle income and high income personal bankers into its market segment, the bank has expanded its personal banking business unit into a large strategic business unit. The

personal banking unit has been further divided into two market areas; High net worth clients market named as Platinum Banking and Ordinary personal banking market. Each segment is headed by a senior manager who reports to Assistant General Manager in charge of personal banking. This restructuring was meant to enhance customer service efficiency has a result of increased number of personal banking clients and also to ease management of individual customer expectations due to differences in their financial and social status.

Senior management model has been also changed at CBA. The bank has adopted new senior management model with effect from 1st August 2012 that will the banks regional expansion process. New position of Group Managing Director has been created. The position holder will oversee regional operations of the bank as a group comprised of various country operations within EAC. Each country operations will be headed by a Country Managing Director who will be reporting to the group's Managing Director. This restructuring is meant to ease regional expansion because through this method there will be increased responsibility in every country operations. This will also reduce bureaucracy while improving ownership of responsibilities and decision making process in every country where CBA will open office within EAC and thus regional expansion and market penetration will be easier.

Information and Communication Technology

CBA has adopted modern information and technology system to increase its efficiency and effectiveness in its operations. Through good I.C.T CBA has been able to achieve *branchless* banking through interconnectivity and decentralization of its core banking system. This has made the banks customers receive excellent and best service at any branch of CBA regardless of where they are within the EAC. In the year 2008 the bank spent a huge sum of money in the acquisition of new modern banking system T24 which is internet based and is more efficient compared to the older system of micro- banker the bank had used for almost a decade. Acquisition and implementing a strong ICT platform is one of the pillars the bank is banking on towards effective and efficient expansion into the regional market of EAC.

Research and Development

Research and development primary aim is to come up with new and innovative products and services that meet customer expectations and attract new customers to the bank. In the last three years, CBA has created a R&D team composed of various personnel from different departments. This is team falls under a newly created department known as Project Management whose key role is coordination of various new projects to be implemented by the bank including regional expansion.

In order to come up with new and innovative products and services, CBA has come up with an innovative way of seeking ideas and suggestions from its staff. The bank's management decided that in order to come up with excellent and very best ideas to improve on overall efficiency and effectiveness, there was a great need to encourage best brains of its staff to contribute some credible ideas gained from their experience both at work and from the social set ups. It was agreed to have an e-mail address where staff can e-mail their innovative ideas for evaluation by R&D team. The ideas once received are evaluated objectively by R&D team and the credible ones are taken up for implementation. People who contribute credible and applicable or potentially usable ideas are awarded some prizes.

To encourage staff to always come up with innovative ideas and ensure that there are always sustainable innovative ideas for products or services within the bank, management has included innovation as part of every individual's staff performance target. During performance appraisal every year an individual is rated against the innovative idea presented among other aspects of overall performance management system.

Human Resources Management

CBA has been hiring very qualified and highly skilled persons to ensure that its investment in human resource remains one of its biggest strengths. CBA one of the best choice of employer for those who want to build a career in banking and CBA has remained the employer of choice in banking industry because of not only creating a very conducive working environment and opportunities for training and development but also by offering a very competitive remuneration and other employment benefits.

Human Resource Management department has always been of high influence in strategic decisions because CBA human resource plays the primary role in achieving companies' goals and objectives and at the same time creating a very strong competitive edge in the industry. Proper training of staff especially in areas where one has some weakness and high motivation in terms of incentives and very competitive salary packages has made CBA staff very loyal to the bank and work extra hard in very smart and intelligent manner to propel the company into higher heights.

Performance of every individual staff is evaluated through a well formulated and structured performance management appraisal system and the persons who have met their annual targets are awarded bonus among other incentives like promotion and salary increments. This has been one strong pillar in achievement of the CBAs overall performance in the industry.

Financial Strategy

CBA has used financial strategy to increase its competitiveness in the industry and across the whole of EAC. CBA management meets frequently to analyse various financial strategic options it may take to increase its market share and performance. Financial strategy has worked very well for CBA in the areas of lending, investment and management of cost. CBA has undertaken very calculated lending procedures to avoid instanceAs of non-performing and bad debts. This has been achieved through very careful and very objective risks analysis of the loan applicants. The bank has adopted a policy of investment of only secure and less risky investment options and mainly it has opted to lending government through Treasury Bonds and Bills. The bank uses this as its major investment option because it is less risky in nature.

CBA has also undertaken cost cutting measures which are aimed at reducing its amounts of expenditure. Basically this involves cutting cost associated to Staff maintenances and other cost related to efficient use of physical utilities. Cost cutting is emphasised in the aspects like reduction in Taxi expenses, Overtimes, Meals and inconveniences allowances given to staff, effective use of other utilities to avoid unnecessary wastages. The bank management has always put a policy in place to ensure that costs should only be incurred when they cannot be avoided and proper authorization is in place to avoid covering cases that are not economical.

Summary

From the analysis of data, it was observed that CBA has adapted a number of strategic responses to changes in the external environment. The responses include; Regional expansion, Market Expansion and Penetration, Corporate restructuring, Improvement in Human Resource Management, Establishment of Research and Development department to carry out research and review product and services in order to meet customer expectation. The bank also adopted marketing system to reach its clients alongside the use of Modern Information and Technology system that will enable easier regional expansion. As a result of increased competition in the banking industry, CBA is also reaching to middle income individuals and Small and Medium Enterprises (SME) to increase its volume of business and ultimate profitability.

In process of implementing these strategic responses, CBA encountered a number of challenges. Some of the challenges encountered included huge financial and Capital expenditures like in the case of acquisition of new and modern Information and Technology system, corporate re-branding, and regional expansion. There was a challenge of bureaucracy where the management could not implement some strategies that required swift responses because all stakeholders were to be involved and consensus was to be reached. Resistance from some staff was encountered especially when the decision to reach middle income groups was reached. There were some staffs that were of the opinion that the bank was losing its sense of direction especially in regard to its target market. Also some customers who wanted to maintain their esteem as members of high net worth class were reluctant to accept the bank's new strategy to go for Middle income market. They felt that their status and services offered to them would reduce as a result of embracing 'mass market'.

Conclusion & Implication

From the study it can be concluded that Commercial Bank of Africa is strategically responding to changes in the regional business operating environment in a number of ways. These responses were necessitated by increased competition from regional banks and other institutions like Micro-Finance Institutions that are offering banking related products and services.

The on-going integration of East Africa Community is also presenting a good opportunity to expand businesses across the region. CBA is positioning itself to exploit this opportunity because most of EAC member countries are putting on structures meant to improve business environment and attract foreign investors into their country. Some key reasons for business expansion within the region are: increased market as a result of increased population within the EAC compared to individual member countries population, Integration of Custom formalities across all the member countries, Removal of trade barriers and tariffs that were making trade across the countries difficult, The prospects of currency uniformity among EAC member countries and finally reduced immigration formality requirements for the citizens and residents of the member countries that has increased movement of people and their goods favourable across the region.

EAC market integration has a huge implication to regional business where by it will create steep competition in almost every industry and business firms that are not alert to the changes will end up losing great chunk of their market share to the competitors have developed survival

strategies. Residents of these countries who are also the target market will be much favoured by this market integration to improved product and services delivered as result of the competition. Consumers will be at advantage also because of diversified goods and services that are being put at their disposal.

Recommendations for Further Studies

This study was a case study on only one regional commercial bank, CBA. I recommend a survey on a number of other regional commercial banks in order to have a competitive study. If a study is done on a number of other banks in the region, a conclusion can be drawn on whether there are general responses adopted by the banks in the region or it will help in knowing whether responses adopted by a particular bank are responses specific to that bank only. If a study is done on a number of other banks in the region, the study will help in finding out whether other banks are finding any business opportunities or there are no business opportunities across the EAC region as a result of integration.

References

- Ansoff, H. I. (1965), *The new corporate strategy*. Wisely: New York.
- Ansoff H. I. & McDonnell, E. J. (1990), *Implanting strategic management*. Prentice Hall, London.
- Aosa, E. (1998) The leadership challenges facing the Kenyan organizations, THE ACCOUNTANT, Jan-March Pgs 24-26.
- Banerjee, B.P (1999), *Corporation strategies*. Oxford University Press, New York.
- Chandler, A.D (1962), *strategies and structure*. MIT Press.
- Chege, B. R. (2008), Competitive strategies adopted by equity bank Kenya Ltd., unpublished MBA Project, University of Nairobi.
- Central Bank of Kenya Annual Report (2009), <http://www.centralbank.go.ke>
- Commercial Bank of Africa: <http://www.cba.co.ke>.
- David, F.R, (2001), *Strategic management concepts*, Prentice Hall, New Jersey.
- Government of Kenya (2009);Economic Survey. Ministry of Planning and national development: Government Printers.
- Hax, A.C. & Majiluf, N.S. (1996), *The strategy concept and process: A pragmatic approach*. Prentice Hall, New Jersey.
- Johnson, G. & Scholes, K. (1997), *Exploring cooperate strategy*. Prentice Hall: New Delhi.
- Kandie, p. (2001), A study of strategic responses by telkom Kenya ltd in a competitive environment. Unpublished MBA Project, University of Nairobi.
- Kothari, C.R. (1990), *Research Methodology: Methods and Techniques*, Whira Prakashan, Second Edition.
- Miller & Friesen (1983), *Philosophy of Business Behavior*, New Jersey, NJ.
- Mugweru, C. (2008), *strategic responses of Barclays bank to changes in the external environment*, unpublished MBA Project, University of Nairobi.
- Mutugi, R.M, (2008), *strategic responses by Barclays Bank Kenya to changes in retail banking Kenya*. Unpublished MBA Project, University of Nairobi.
- Njau. G.M. (2000), *strategic responses by firms facing changed competitive environment: A case of EABL*. Unpublished MBA project, University of Nairobi.
- Ohmae, K. (1983), *The mind of a strategist*. Harmordsworth: Penguin books.

- Pearce, A. J. & Robinson, B. R. (2007), *Strategic management: formulation, implementation and control*, Richard Irwin Publishers, USA.
- Porter, M. E (1980) *competitive strategy: techniques for analyzing industries and competitors*, The prer press, New York
- Porter, M. F (1985), *Competitive advantage: creating and sustaining superior performance*, the free press, New York.
- Porter, M. E (1986) *competitive strategy*: Harvard Business school press.
- Quinn, J.B.(1980), *Strategies for change: logical increamentism*. Irwin, Homewood.
- Rayport, J.F. & Sviokla, J.J. (1995), *Explaining the virtual value chain*, Harvard Business Review, November- December.
- Sababu, B.M. (2007), *Strategic management: the analytic approach*. Jomo Kenyatta Foundation, Nairobi.
- Senior, B. (1997), *Organizational change*, *Financial Times*. Prentice Hall, Harlow.
- Shipper, F & White S. C (1988), *Linking organizational effectiveness and environmental changes*.
- Thompson A. A. & Strickland, A. J. (1998), *Creating and implementing strategy* Irwin. McGraw – Hill New York
- Thompson, J. L. (1994), *Strategic management, awareness and change*. Chapman & Hall. London
- Wheelhen T. L & Hunger, J. D. (2008), *Strategic management and Business policy*, Prentice Hall. London.

Top Management Team Diversity, Quality Decisions and Organizational Performance in the Service Industry

Zachary B Awino

Abstract

There have been different findings as to whether Top Management Team Diversity influences the performance of organizations. Some past studies have found that the characteristics of the Top Management Team influence the performance of organizations while others have found that they do not. This study, which is founded on the Upper Echelon Theory, investigated the relationship between TMT diversity, quality decisions and organization performance. Hambrick and Mason (1984) suggested that top management characteristics, specifically their demographic characteristics could impair decision making and thus organization performance. Other researchers have shown that workforce diversity can provide for positive organizational outcomes such as increased morale, higher satisfaction, greater commitment and improved performance. As a result, the study sought to find out the effect of TMT diversity and quality decisions in the performance of commercial banks in Kenya. The target respondents were the Heads of Human Resources in all the banks and out of the 43 targeted banks, 33 responded which was a good response rate of 77 %. The questionnaire was the main tool of data collection. The data was analyzed using descriptive statistics and regression analyses. The TMT diversity attributes under study were age, gender, academic qualifications, tenure in the bank and at the top, professional and functional background diversity. The balanced score card which has four perspectives, namely financial, customer, internal business processes and learning and growth, was used as the measure for performance. The study also used secondary data obtained from the Banking Survey of Kenya to measure performance in terms of increase in customer deposits, increase in average assets and profit before tax. The study found that diversity in tenure in bank service by the TMT had a significant effect in the quality decisions made. The study also found that quality decisions had a significant effect on the internal business processes and learning and growth perspectives of the balanced scorecard. However, most of the factors making up TMT diversity, namely gender, age and tenure at the top management have a negative effect on quality decisions and also the performance of banks. Past studies have however shown that the question as to whether diversity leads to organization performance depends on the performance measures used. Since past studies have shown mixed results in the relationship between TMT diversity and organization performance, the study sought to find the intervening effect of the quality decisions and the moderating effect of involvement culture and diversity management strategies. The study found that the two moderating variables had a significant effect on the relationship between TMT diversity and quality decisions and TMT diversity and organization performance.

Key Words: Diversity, Top Management Team, Quality decisions, Organizational Performance

Introduction

As organizations increasingly operate in a multinational and multicultural context, understanding how diversity in the composition of organization group affects outcomes such as satisfaction, creativity, turnover and performance is of increasing importance (Johnston & Packer, 1987). Top Management Team and their importance as potential determinants of organization performance continue to be a focus of strategic management researchers (Carson et al., 2004). Morison (1992) argued that organizations need to become more diverse with the respect to their employees' characteristics to match the increased diversity of backgrounds represented in their markets. The

potential cognitive benefits of having a heterogeneous group stem from the argument on the impact of diversity on creativity (Hoffman and Maier, 1961) and requisite variety.

Researchers have argued that in service industries like banks where competition is stiff and new players enter easily, there is a constant need to think strategically (Willie et al., 1997). According to Milliken and Martins (1996), diverse groups may make higher quality decisions. Organizational scholars (Cox et al., 1991) have illustrated that demographic characteristics of TMT have the potential to result in strategic decision making, greater creativity, more innovation and the ability to reach more and different types of customers, which is important in the banking sector. Proponents of diversity maintain that different opinions provided by diverse groups lead to quality decisions (Cox, 1993; McLeod et al., 1992) as diverse teams are able to produce a wider range of solutions and decision criteria for strategic decisions.

Top Management Team diversity

Carson et al., (2004) defined diversity as any attribute that humans are likely to tell themselves that another person is different from them while Miller et al. (1998) defined the Top Management Team as all executives who report to the Chief Executive Officer or Chief Operating Officer. Researchers have categorized diversity in different ways. One distinction is between diversity on observable or readily detectable attributes such as age and gender and diversity in respect to less visible or underlying attributes, such as education, functional backgrounds, and tenure in the organization, personality and values (Cumming et al., 1993; Tsui et al., 1992).

The Top Management Team diversity discussed in the study is the extent to which the executive team is heterogeneous with respect to gender, age, academic qualifications, tenure, professional qualifications and functional back grounds. Simons et al. (1999) studied the same factors if TMT diversity with the exception of gender and professional qualifications. Diversity is an increasingly important factor in organizational life as organizations worldwide become more diverse in terms of gender, race, ethnicity, age and other characteristics (Shaw and Barrett-Power, 1998). Hamrick and Mason, (1984) argued that TMT diversity would be best able to manage turbulent complex environments since team member differences may stimulate debate about the appropriate strategy, allow them to generate greater range of strategic alternatives and collectively better evaluate the feasibility of such alternatives. Bantel and Jackson (1989) concluded that when solving complex, non routine problems, groups are more effective when they comprise individuals with diverse skills, knowledge, abilities and perspectives. Pfeffer, (1983) found out that increases in TMT diversity enhances the organizations ability to acquire critical resources. Top Management Team diversity however comes with some challenges as initial conflict arises as the teams set norms (Carson et al., 2004). In order for teams to be efficient and effective, they must be able to reach a consensus regarding group decisions (Coll et. al., 2001).

Organizational performance

Businesses today are faced with an increasingly competitive environment. To cope with this competition, organizations must be more adaptive. The performance of an organization can be measured in various ways which include qualitative and quantitative. One measure breaks down organization performance in to two broad ways. Firstly, some assess the stewardship of the top management or how efficient the organization utilizes its resources to produce a profit. Since the

period considered is usually brief, these measures can be interpreted as indicators of how well fitted the organizational is to present conditions (Murray, 1989). The second set of measure is based on the prevailing price of an organization's stock. The efficient markets hypothesis states that the stock price multiplied by the number of shares outstanding is the best available estimate of the true value of an organization (Murray, 1989). Some studies have shown that team heterogeneity had opposite effects on performance depending on the measure of heterogeneity selected (Wiersema, 1992).

Other studies especially in the service sector have measured performance based on employee productivity (Orlando, 2000). This is an important performance criterion in banks because human labor costs are high and is calculated as the logarithm of net income per employee per year. This measure reflects employee efforts disassociated from variations in product and capital markets (Jackson et al., 1987). Qualitative measures can be considered under outcomes which have affective (satisfaction, commitment, turnover, role conflict and group social integration), cognitive (innovation, range of perspective, number and quality of ideas) symbolic (behavior of lower level employees) and communication (communication with group members) consequences. Comparative performance can be measured in terms of an organization's current performance relative to other organizations in its industry in terms of product quality, employee morale, on time delivery, inventory management and employee productivity (Milliken and Martins, 1996).

Hopkins and Hopkins (1997) used three measures in the financial performance of banks, namely, profits (or net income) as also used by Ansoff (1991), return on investment and return on shareholder equity (ROE). Bird (1991) also supports this measure. Deposit growth is another measure (Gup and Whitehead, 1989) which is unique to banking and related financial services industries. It is measured as the deposit percentage change in consumer deposits from one year to another. Dalaney and Huselid (1996) used both financial and non financial indicators. The financial indicators were a percentage growth in sales, labeled as sales growth and percentage profit margin labeled as profitability. They used public image and goodwill, quality of services and efficiency of operations as the non financial indicator.

The Top Management Team understands that organizational measurement system strongly affects the behaviors of management and employees. The TMT also understand that traditional financial measures like return on investment and earnings per share can give misleading signals for continuous improvement and innovation (Kaplan and Norton, 1992). As managers and academic researchers have tried to remedy the inadequacies in performance measurement systems, some have focused on making financial measures more relevant while others improve on operational measures such as cycle time and defect rates. Kaplan and Norton (1992) thus introduced the concept of a Balanced Scorecard as a basis for a strategic management system. This approach not only included financial and non financial aspects but also blended business strategies into management systems.

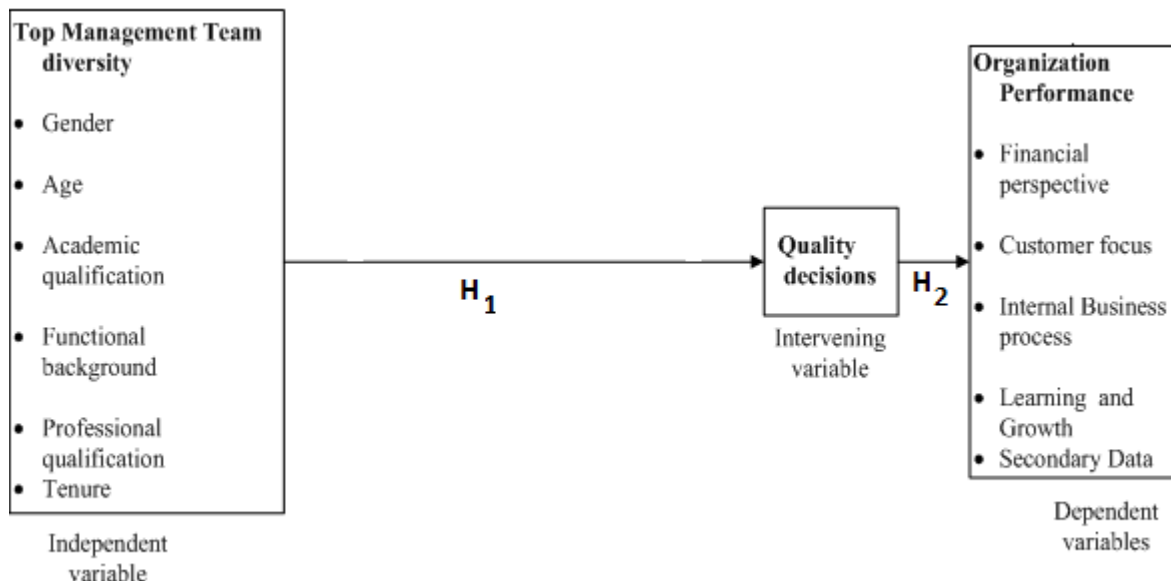
Quality decisions

Top Management Teams make strategic decisions and the quality of these decisions influence organization performance. Quality decisions are the ones that consider all issues deserving thought with respect to the situation. They depend on thoroughness. Researchers have found that group process conflict is multi dimensional in that cognitive conflict can improve decision

quality, whereas effective conflict may weaken group relations by generating acrimony. Timely, high quality decisions that enjoy the understanding and acceptance of those who will implement them are the hallmark of an effective TMT. A team's cognitive capability is related to its cognitive diversity as diversity provides a resource of capabilities upon which the team can draw when making complex decisions.

Research findings indicate that TMT with diverse capabilities make more innovative and higher quality decisions than teams with less diverse capabilities (Bantel and Jackson, 1989). However, the quality decisions depends heavily upon the process that the group actually employs. Rigorous debate of different and opposing positions produces a synthesis that is qualitatively superior to either of the initial positions. If group members sense that their own interest are at risk, they may undermine, sabotage or delay implementation of the decision. Top Management Teams make strategic decisions by combining their diverse cognitive capabilities with an interactive process resulting in the byproducts, quality decisions and satisfaction.

Figure 1: Conceptual Model



Hypotheses

H₁: Top Management Team diversity has effect on quality decisions.

H₂: Quality decisions has effect on organization performance.

Methods

The study was a cross sectional survey which targeted the top management team of all the commercial banks in Kenya and offered the opportunity to collect data across the different banks at the same time. The study between TMT diversity, quality decisions and organization performance seeks to establish the relationship between these variables and also the strength of these relationships.

Test of Hypotheses

The study had two objectives and two hypotheses which are addressed in this section. The first objective tested the effect of Top Management Team diversity on the quality decisions while the second one was to find out the effect of quality decisions on organizational performance. Simple regression analysis was used to determine the effect of TMT diversity on organizational performance, TMT diversity on quality decisions and on the organizational performance in hypotheses one, and two.

Hypothesis 1: Top Management Teams diversity has an effect on quality decisions

The first hypothesis sought to establish the relationship between TMT diversity and the quality decisions. The Top Management Team diversity under study was gender, age, tenure in the bank service, tenure at the Top management, academic, professional diversity and functional background while quality decisions consisted of determining the cause of major actions, generating alternatives to solve problems and final decisions and integration. Simple regression analysis was done in Table 1

Table 1: TMT Diversity and Quality Decisions

Model		Unstandardized Coefficients		Standardized Coefficients
		B	Std. Error	Beta
	(Constant)	10.510	1.314	
	Gender Diversity	-.438	2.059	-.043
	Age Diversity	-.383	.792	-.125
	Tenure diversity in bank service	1.231	.558	.561*
	Tenure diversity at top management	-.778	.735	-.263
	Academic diversity	-.021	.647	-.007
	Professional qualifications diversity	1.037	2.062	.123
	Functional backgrounds diversity	.743	2.038	.092
Dependent Variable: QUALITY DECISIONS				
r = .474				
R Squared = .225				
Durbin-Watson = 1.843				
F = .911				

*P < .05

Table 1 presents the results of the regression analysis, with $r = .474$ which shows a positive relationship between the factors making up TMT diversity and quality decisions. The value of R^2 is .225, meaning that factors making up TMT diversity can explain 22.5 percent of quality decisions. The rest, 77.5 percent is explained by other factors. The Durbin-Watson value is 1.843, showing that the data is good for the analysis. The F ratio is .911 and is not significant meaning that the regression model does not predict the organization performance significantly well.

The results in Table 1 further show that tenure in the bank, has a significant effect on quality decisions with $\beta = .561$ at $p < .05$. Other effect which are positive though not significant on quality decisions are professional qualifications diversity ($\beta = .123$) and functional background (β

= .092). All the other factors of TMT diversity, namely, age, gender, academic qualifications, tenure at the top management have a negative effect on the quality decisions, which was not significant. We can therefore conclude that Tenure at the bank has a significant effect on quality decisions.

Hypothesis 2: Quality Decisions has an effect on Organizational Performance

The third hypothesis in the study was to test the effect of quality decisions on organization performance. This was to address the second objective which sought to find out how quality decisions affects organization performance. For the purpose of the study, quality decisions was made up of the factors taken into account when determining the cause of a major problem, when generating alternatives to solve problems and when arriving at the final decision. Organization performance was composed of the four perspectives of the balanced score card, namely, financial, customer, internal business processes and learning and growth.

The first analysis determined how the overall quality decisions affects the overall organization performance while a second analysis tested how the factors making up quality decisions affect each of the four factors making up organization performance using the balanced scorecard approach. The results are shown in table 2 and table 3 respectively

Table 2: Quality Decisions and Organizational Performance

Model	OVERALL ORGANIZATION PERFORMANCE		
	B	Std. Error	Beta
(Constant)	14.894	6.547	
QUALITY DECISIONS	2.015	.562	.542***
R Squared = .293 , Change in R Squared = .293, F Change= 12.877, Durbin-Watson= 1.920			

p < .001

Table 2 shows the results of the regression analysis. The model shows that the value of R^2 is .293, an indication that factors making up quality decisions can explain 29 percent of organization performance. The rest, 71 percent is explained by other factors. The Durbin-Watson value is 1.920, showing that the data is good for the analysis. The F ratio is 12.877 and is statistically significant at $p < .001$ meaning that the regression model predicts the organization performance significantly well.

The beta coefficient at $\beta = .542$ at $p < .001$ shows that quality decisions contributes significantly to organization performance as per Table 2. This suggests that the quality decisions plays a crucial role in determining the organization performance. Further analysis was undertaken to determine the effect of the factors making up quality decisions on the four perspectives of performance based on the balanced scorecard approach. The results of the findings are presented in Table 2.

Table 3: Quality decisions and perspectives of Organizational Performance

<i>Independent Variables</i>	<i>Financial Perspective</i>			<i>Customer Perspective</i>			<i>IBP Perspective</i>			<i>Learning and Growth Perspective</i>		
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	<i>B</i>	<i>B</i>	<i>SE</i>	β
(Constant)	5.530	2.645		7.410	2.717		.727	1.612		4.249	2.228	
Determining the cause of a major problems	.573	.295	.424*	.118	.303	.087	.583	.180	.524**	.733	.249	.534*
Generating alternatives to solve problems	.035	.200	.035	.165	.205	.163	.305	.122	.368*	.018	.168	.018
Final decision and decision integration	-.154	.178	-.185	.102	.183	.122	-.047	.109	-.069	.125	.150	.148
Model Summary results	r =.367 R Square=.135 F Change=1.505 Durbin Watson=1.974			r =.301 R Square=.091 F Change=.962 Durbin Watson=1.533			r =.725 R Square=.526 F Change=10.723 Durbin Watson=1.819			r =.638 R Square=.407 F Change=6.624 Durbin Watson=2.374		

* $p < .05$, ** $p < .01$, *** $p < .001$

The effect of quality decisions on financial perspective

The results of the regression analysis of quality decisions against one factor of organization performance, financial perspective show the value of R^2 is .135, meaning that factors making up quality decisions can only explain 13.5 percent of financial performance. The rest, 86.5 percent is explained by other factors. The Durbin-Watson value is 1.974, showing that the data is good for the analysis. The F ratio is 1.505 with $p = .234$ which is not significant meaning that the regression model does not predict the financial perspective based on the balanced scorecard significantly well.

Each coefficient value shows the degree each predictor affects the outcome, if the effects of all other predictors are held constant. All the factors of quality decisions have a positive effect on the financial performance with the exception of final decisions and decision integration. The beta coefficients show that determining the cause of a major problem has a positive effect on the financial perspective of performance ($\beta = .424$) while final decisions and decision integration contributes negatively ($\beta = -.185$).

The effect of quality decisions on Customer Perspective

The model summary in Table 3 shows that the value of R^2 is .091, meaning that factors making up quality decisions can only explain 9 percent of customer perspective. The other 91 percent is

explained by other factors. The Durbin-Watson value is 1.533, showing that the data is good for the analysis. The F ratio is .9.62 with $p = .424$ which is not significant meaning that the regression model does not predict the organization performance significantly well.

The same model shows that all the factors of quality decisions have a positive effect on the customer perspective, with generating alternatives being at $\beta = .163$. Since the combined effect on the equation from all the factors is positive, this means that the overall effect of quality decisions on the customer perspective is positive, though not significant.

The effect of quality decisions on internal business processes perspective

The research results for the effect of quality decisions on the internal business processes perspective showed the value of R^2 is .526, meaning that factors making up quality decisions explain 53 percent of internal business processes. The rest, 47 percent is explained by other factors. The Durbin-Watson value is 1.819, showing that the data is good for the analysis. The F ratio is 10.723 at $p < .001$ which is statistically significant meaning that the regression model predicts the internal business processes perspective significantly well.

In addition, all the factors of quality decisions, except final decision and decision integration ($\beta = -.069$) have a positive effect on the internal business processes. Determining the cause of a major problem has a positive effect which is also significant with $\beta = .524$ at $p < .001$ while generating alternatives to solve problems had a significant effect on internal business perspective of the balance scorecard with $\beta = .368$ and $p < .01$.

The effect of quality decisions on learning and growth perspective

Table 3 further shows the results of the regression analysis on the effect of quality decisions on the learning and growth perspective. The value of R^2 is .407, meaning that factors making up quality decisions can explain 41 percent of learning and growth. The rest, 59 percent is explained by other factors. The Durbin-Watson value is 2.374 showing that the data is good for the analysis. The F ratio is 6.624 with $p < .001$ which is statistically significant meaning that the regression model predicts the learning and growth perspective significantly well.

The factors of quality decisions have a positive effect on learning and growth perspective of the Balanced scorecard approach with determining the cause of a major problem having significant effect with $\beta = .534$ at $p < .01$. Generating alternatives to solve problems and final decisions and decision integration also have positive though not significant effect on learning and growth perspective of the Balanced scorecard approach with $\beta = .018$ and $\beta = .148$ respectively.

In summary, the results in Table 3 indicate that quality decisions has a significant effect on the internal business processes perspective of the Balanced scorecard with R Squared = .526 at $p < .01$ while the F factor is 10.723. Further, the relationship between quality decisions and learning and growth perspectives was also significant with R Squares = .407 at $p < .001$. The F factor was 6.624 which was significant. The effect of quality decisions on the financial and customer perspectives of performance was however not significant.

The effect of quality decisions on TMT diversity and organizational performance

The research results of the regression model show that quality decisions has an effect on the relationship between TMT diversity and organizational performance. The effect of Top Management Team diversity on organization performance had $r = .100$ which improved to $r = .565$ when quality decisions was introduced to the regression equation. The $R^2 = .010$ in the first model changed to $R^2 = .319$ which was significant at $p < .001$ when the quality decisions was introduced into the equation, an improvement of .309. This indicates that the combined model can explain 31 percent of the outcome up from 1 percent given by the Top Management Team diversity alone, a percentage increase to prediction of 30 percent. The Durbin-Watson score was 1.953. The F ratio in the first model which showed the effect of Top Management Team diversity on organization performance was $F \text{ ratio} = .285$. When quality decisions was introduced to the regression equation the F-factor improved by 11.986 to 12.271 at $p < .001$ which was statistically significant. These results indicate that quality decisions has a significant effect as an intervening variable in the relationship between Top Management Team diversity and organizational performance.

Conclusion

TMT diversity and Quality decisions

Hypothesis one was to determine the effect of TMT diversity on quality decisions. The study found out that tenure in the bank had a statistically significant effect on the quality decisions made by a diverse TMT in the commercial banks in Kenya. The other factors making up TMT diversity did not however have any significant effect on the quality decisions.

Diversity among the TMT is widely assumed to influence the quality decisions but empirical research on this linkage has been virtually limited. Past empirical research has shown that tenure can have both positive and negative effect on an organization. The common belief is that TMT members are naturally more comfortable with those they joined the banks with due to ease of identification or sense of belonging.

TMT with greater tenure are usually known to be more cohesive but less likely to change the status quo. Bantel and Jackson (1989) found a positive relationship between tenure and commitment to status quo. In a TMT composed of members who have worked for different periods, conflict is bound to happen as those who have worked for long feel that they have more institutional memory than those who have recently joined the team and as a result are committed to maintain things as they have always been. Status quo is likely to create a comfort zone, leaving no room for creativity and innovation which are critical components of the performance of banks and form the internal processes perspective of the balanced score card.

The findings of this study show that TMT with diverse tenure has a significant effect on the quality decisions. This means that diversity in tenure of the TMT is good for the performance of banks in Kenya. Banks should always ensure that they have a TMT which has worked for varying periods to draw the best. It is expected that those who have worked longer have valuable institutional memory while those who are newer bring in unique experiences in to the decision making process.

Generally, however, most of the factors which make up TMT do not have a significant effect on quality decisions. This can be interpreted to mean that a diverse TMT may not be cohesive enough and thus do not involve people directly impacted by the decision nor make extensive use of external experts. It may further be interpreted that the TMT which is diverse doesn't consider all the possible causes of problems, either due to limited communication among members or lack of cohesiveness. This confirms the findings by O'Reilly et al. (1989). Hambrick's (1994) concept of behavioral integration suggests that TMT diversity affects cohesion in that individuals assume that those who agree with them also like them and vis versa.

Further, this study confirms that TMT diversity affects cohesion, which was described by O'Reilly et al. (1989) as the extent to which TMT like one another and stick up for each other. Members of teams which are not cohesive are more likely to challenge opinions by their colleagues. They further encourage debate and initiate investigations designed to uncover flaws in the reasoning of their colleagues (Miller et al., 1989). Team members are known to value group membership to the extent where fear of membership loss results to conformity and unquestioned acceptance of ideas which compromises the quality decisions

Other empirical researchers have however argued that when there are many disagreements about a threat or an opportunity, TMT are aware of more issues, more ways of viewing each issue and more alternative courses of action (Bantel and Jackson, 1989). This results to in depth analyses and even hiring of experts to help solve the issues but if there is less disagreement, TMT is unlikely to consider the issues at depth. These arguments may result to reduced group think and more strategic options. Another argument that TMT diversity leads to quality decisions states that disagreement in strategic decisions leads to greater willingness to expend resources necessary for more analyses, consultations and discussions (Miller et al., 1989). The findings of this study indicate otherwise therefore we can conclude that TMT diversity does not have a significant effect quality decisions apart for tenure diversity is the bank which has a significant effect on quality decisions.

Quality decisions and Organizational Performance

Hypothesis two was to determine the effect of quality decisions on organization performance.

The study found out that the overall quality decisions (which consists of activities undertaken when determining the cause of a major problem, when generating alternatives to solve problems and when arriving at the final decision and decision integration) contributes significantly to the overall performance of the banks in Kenya.

The study also analysed the effect of the factors making up quality decisions on each of the four perspectives of organization performance based on the balanced scorecard approach, namely financial, customer, internal business processes and learning and growth. The study found out that some factors which make up quality decisions have a significant effect on some of the four perspective of organization performance based on the balanced scorecard. This means that the quality decisions plays a crucial role in predicting the performance of banks in Kenya.

The study found that determining the cause of a major problem had a significant effect on the internal business processes, learning and growth and the financial perspectives of the balanced scorecard approach. Further generating alternatives to solve problems had a significant effect on

the internal business processes. As stated above, determining the cause of a major problem had a significant effect on the internal business processes perspective of the balanced scorecard. The internal business processes perspective in the study was made up of efficient and automated business processes, high turnaround time on major banking services and higher level of innovation and creativity.

The findings indicate that banks which take time to determine the cause of a major problem had greater creativity, innovation and automation of their services. This was because the TMT involves those directly impacted by the decision and also considers all possible causes to a problem. The introduction of credit references bureaus have enhanced decision making by the TMT in banks. This allows sharing of credit information, and has brought efficiency in the credit system, brought down costs and made it easier for banks to lend individual credit track record.

On any given day, one will find bankers interacting with employees, students or even the community with the aim of offering them relevant and unique services. Such forums not only provide opportunities for opening new accounts but also empowering the communities. In 2011, Kenya witnessed banks appeal to citizens to help alleviate hunger in drought stricken parts of the country, thus enhancing their image among their customers.

Some banks have also been able to introduce some of the world's most secure banking software which includes, Pinnacle. Others have introduced advanced core banking infrastructure that allows SMS and internet banking. Further, the TMT in these banks make extensive use of external experts which in turn enhances efficiency and turnaround time of major banking services. The TMT in banks need to always consult those affected by decisions, provide the necessary resources and also make extensive use of consultants to enhance the levels of innovation, creativity and automation of their banking services. Many banks in Kenya have responded to their customer needs and launched Islamic banking products while others have consolidated banking products with insurance and introduced services like "bank assurance" and stockbrokerage.

The second finding was that determining the cause of a major problem had significant effect on learning and growth perspective. The factors which make up learning and growth perspective are high staff satisfaction level, ability to attract and retain staff and effective communication, both internally and externally. The study found that determining the cause of a major problem has a significant effect on the learning and growth perspective. In banks where the TMT involved those directly impacted by the decision have higher staff satisfaction and retention rate. This indicates that staff are motivated when they are involved and recognized, which in turn has a positive effect on their performance. This confirms that recognition contributes to motivation and to some extent, satisfaction. The TMT which consults their staff and provides all the required resources leads better communication and satisfaction level. Further, when all possible causes of a problem are considered in decision making, this is also likely to lead to staff involvement which results to higher satisfaction and enhanced communication both internally and externally.

The third finding indicated that determining the cause of a major problem had a significant effect on the financial perspective of the balanced scorecard. The financial perspective under study was made up of growth in customer deposits and return on shareholder equity. When divergent

opinions are considered seriously and decisions taken are promptly implemented, this has a significant effect on the financial performance of the banks.

The final finding under this hypothesis was that when TMT in banks generate alternatives to solve problems, this has a statistically significant effect on internal business processes perspective. This means banks where the TMT hold brainstorming sessions during meetings and generate many options are better when it comes to creativity and innovation of banking services. This further indicates that TMT who share information about each option especially risks involved significantly contributed to the performance of their internal business processes.

Banks in which the TMT made extensive use of historical data also had more efficient banking services and created of better products. Automation of banking services is an expensive and complicated task. The banks which hire experts for complex activities also had higher automation levels which in turn lead to enhanced efficiency and high turnaround time on major banking services. Some foreign owned banks in Kenya have been utilizing their global expertise in the corporate and retail arena to win over Kenyans of foreign origin or expatriates working in the country so that they can enjoy advance cash transfers, among other products. Others have used their foreign connections to have some formidable accounts with multinational organizations. Banks therefore which encourage deliberate brainstorming sessions, sharing information, use of experts and historical data were found to be more competitive in terms of creativity, innovation and automation of their services.

As noted from the discussion above, quality decisions significantly contribute to the learning and growth perspectives and the internal business process. Quality decisions does not however have a significant and direct impact on the customer aspects of performance in the banking sector in Kenya which consists of growth in the market share response to customer complaints and satisfaction of the customers.

This implies that serious brainstorming of issue to come up with quality decisions has no effect on customer satisfaction. This can be interpreted to mean that the customer in the banking sector in Kenya today is very dynamic and sophisticated. Their needs are identified and addressed through other means not by a TMT sitting, brainstorming and deliberating on them in a boardroom.

TMT Diversity, Quality decisions and Organizational Performance

In some past studies, TMT diversity was related to organization performance, without considering the mediating effect of process variables. Diversity effects on firm outcomes may however be too weak to be detected consistently and more so in cross sectional studies (Miller et al., 1998). As a result, this study used the quality decisions to determine the intervening effect on the relationship between TMT diversity and organization performance. Simons (1999) found that decision comprehensiveness intervenes on the relationship if TMT diversity and organization performance while moderated by debate. Some researchers who have studied comprehensiveness of strategic decisions have found that it has an impact on organizations profitability. Miller et al. (1998) suggested positive effects for organizations in turbulent environments while there is no effect in organizations in stable environments. Some researchers also have strong beliefs that a diverse TMT compromises the quality decisions.

The study found that quality decisions has a significant effect on organization performance. When TMT diversity was combined with the quality decisions, the effect on organization performance was statistically significant meaning that quality decisions has an intervening effect on the relationship between TMT diversity and organization performance. Many researchers' believe that diverse teams use their experiences and different backgrounds to communicate to each other. Researchers have suggested that this differentiation may lead to communication failure. As a result, a small group of the TMT may decide to address strategic issues quietly without consulting the larger team (Miller et al., 1989).

From the findings of this study, organizations need to encourage diverse TMT to have meetings which identify the causes of major problems as such forums provide an opportunity for generating many options through the brainstorming process. Further, it allows information sharing and allocation of the desired resources. During their meeting, the diverse TMT members are likely to enhance communication and come up with new ideas to improve the bank services. The banking sector in Kenya has expanded its networks very rapidly within the last four years. Some banks have used the expansion strategy to transform from small time players to large one-stop financial institutions. One bank is known to have opened 35 new branches across Kenya in 2008, using the expansion strategy to meet the customer demands. Several banks have recently expanded to neighboring countries including Southern Sudan, Tanzania, Uganda and Rwanda to enhance their revenue base

In the final analysis, the use of quality decisions was found to have a significant effect on the relationship between TMT diversity and performance of organizations. We can further conclude that different moderating variables have varying influence on the relationship between TMT diversity and the quality decisions and TMT diversity and organization performance. Further implementing policies to support diversity management has better influence on the quality decisions and performance than banks which have not put in place such strategies.

Implications of the study on Theory, Policy and Practice

The current study confirms the mixed findings on the relationship between TMT diversity and performance. It also gives consistent negative effect of observable attributes, namely age and gender on quality decisions and performance. It confirms earlier researches that biases and discrimination on easily observable attributes may still be contributing negatively to organization performance.

On theory, the study shows that TMT diversity has no significant effect on quality decisions. The study further confirms some earlier findings that TMT diversity does not have a significant effect on organization performance. Further, the study contributes to theory in that diversity in functional background has a significant effect on the quality decisions of the TMT. The quality decisions also has a significant effect on the internal business processes perspective and learning and growth perspectives of the balanced scorecard approach of organizational performance.

As stated earlier, the government of Kenya is committed to have at least 30 percent presentation of any gender in public recruitments, promotions and appointments to all decision making level through gender mainstreaming in government policies, plans, budgets and programmes. What is

clear is that gender diversity does not contribute significantly to the quality decisions. These programmes should therefore be for affirmative action not necessarily for increase in output. Further, on its own, age diversity does not have any significant contribution to quality decisions or performance. Diversity in the workplace should however be encouraged for good governance, equity and fair distribution not necessarily because of any expected increased outcome.

However, when the minorities are involved in decisions affecting them, when relevant information is shared, then this enhances the quality decisions and the performance of the diverse bank teams. Diversity management strategies are not widely applied in Kenya. In fact, in some countries, like South Africa and the United States of America, laws have been passed to ensure that the interests of the minorities are well taken care of. Legislation on representation of age diversity should be encouraged in Kenya.

This study further bears significant implications for those responsible for the composition of the TMT and for organization performance. The study clearly confirms earlier research findings that TMT diversity has no significant effect the performance of organizations. In particular, the study identifies gender diversity and age diversity as having negative effects on quality decisions and organization performance. This implies that recruiting more of one gender to create a balance has a negative impact on the performance of organizations.

The study gives input in that gender diversity is not expected to enhance the quality decisions in the organizations but the same will be good for affirmative action. Diverse ages too at the top have a negative effect on performance as people view the world based on their socialization and environments. High diversity in age of the top managers needs to be discouraged while composing Top Management Teams as it affects their performance negatively.

Further, the study established that out of the seven factors of diversity under study, tenure with the bank had the highest positive effect on both performance and the quality decisions. This finding is very critical to the human resources managers to ensure a mix of years worked by the TMT which contributes to the performance of banks. The HR managers can ensure that the TMT team is composed of members who have worked for diverse periods so that banks can continually ensure a mix in experience at the top. The new members to the TMT may inject fresh ideas to the bank like advanced technology while drawing from the experiences of those who have been in the banks longer.

The study also emphasizes the importance of how quality decisions affects performance of banks positively. Policy and decision makers need to involve those who are impacted by decisions and also take time to determine the causes of major problems. In addition, the need to brainstorm, generate many options, engage experts and make use of historical data add value in coming up with quality decisions.

While making the final decisions, TMT need to make contingency plans, compare several alternatives and promptly implement decisions in order to enhance the performance of the banks. The Constitution of Kenya, 2010 recognizes the need to involve those who are affected by decision in the decision making process. The benefits of this critical need are confirmed in this study.

This research also serves as a reference point for those studying the relationship between TMT diversity, quality decisions and organization performance. Other researchers can test other moderators to this relationship to find out which ones have the most significant effect. Decision makers in organizations and more so banks, can be guided by the finding of the study while recruiting TMT's and also while developing policies which aim at retaining and maintaining their employees.

References

- Ansoff, H. I. (1991). "Critique of Henry Mintzberg's 'the design school: Reconsidering the basic premises of strategic management'" *Strategic Management Journal*, 12 (6):449-461.
- Bantel, K.A & Jackson, S. E. (1989). Top Management and innovations in Banking: Does the composition of Top Management make a difference?" *Strategic Management Journal*, 10:107-124.
- Bird, A. (1991). "A 1990s twist of strategic planning" *Bankers Magazine*, pp 66-69.
- Carson, M.C, Mosley, D. C and Boyar, S.L. (2004). Performance gains through diverse top team management *Team Performance Management*, 10: 21-126.
- Coll Sambrhanya R.B & Tucci L.A. (2001). Top Management Team composition, corporate ideology and organization performance. *Mat Turtur*, 41(2): 109-129.
- Cox, T.H. (1993). *Cultural diversity in organizations: Theory, research and practice*, Berrett-Koehler, SA Francisco, CA.
- Cox, T. H, Lolel S. A & Mcleod, P..L.(1991). Effects of ethnic group cultural differences on cooperative and competitive behavior on a group task.
- Government of Kenya (2007). *Vision 2030*, Ministry of planning and National Development and the National Economic and Social Council (NESC), Office of the President
- Gup, B.E & Whitehead, D.D. (1989). Strategic planning in banks: Does it pay? Long range planning.
- Hambrick, D.C. (1994). Top Management groups: A conceptual integration and reconsideration of the team label.
- Hambrick, D.C & Mason, P.A. (1984). "Upper echelons: the organization as a reflection of its top managers. *Academy of management Review*, 9: 193-206.
- Hoffman, L.R., & Maier, N.R.F (1961). "Quality and acceptance of problem solutions by members of homogeneous and heterogeneous groups". *Journal of Abnormal and Social Psychology*. 62: 401-407.
- Hopkins W.E & Hopkins, S.A. (1997). Strategic planning- financial performance relations in banks. A causal examination
- Jackson, S.E., Brett, J.F., Sessa, V.I., Cooper, D.M., Julin, J.A & Peyronnin, K. (1991). Some differences make a difference: Individual dissimilarity and group heterogeneity as correlates of recruitment, promotions, and turnover. *Journal of Applied Psychology*. 76:675-689.
- Kaplan, R.S & Norton, D.P. (1992) The Balanced Scorecard measure that drives performance. *Harvard Business Review* Jan-Feb
- Miller, C.C., Linda M. B. & William H.G (1998). "Cognitive diversity among Upper-Echelon Executives: Implications for strategic decision processes *Academy of Management Journal*, 19: 39-58.

- Miller, D. (1998). Relating Porter's business strategies to environment and structure: Analysis and performance implications" *Academy of Management Journal*, 37: 280-308.
- Milliken F.J & Martins L.L. (1996). "Searching for common threads: Understanding the multiple effects of diversity on organizational groups" *Academy of Management Review*, 21: 402-433.
- Murray, A. (1989). Top management group heterogeneity and organization performance. *Strategic Management Journal*, 10: 125-141.
- Pfeffer, J (1983). *Organizational Democracy*. 3: 1-52 Greenwich CT JAI Press
- Shaw, J. B & Barrett-Power, E. (1998) "The effects of diversity on small work group processes and Performance" *Human Relations*, 51 (10): 1307-1325.
- Simons, T., Pelled, L.H & K.A Smith. (1999). Making use of difference: Diversity, debate and decision comprehensiveness in Top Management Teams *Academy of Management Journal*, 42(6): 662-673.
- Tsui A. S, Egan T. D & O'Reilly C. A (1992). Being different: Relational demography and organizational attachment. *Administrative Science Quarterly*, 37: 549- 579
- Wiersema M. F & Bantel, K. A. (1992). Top Management team demography and corporate strategic change, *Academy of Management Journal*, 35:91-121.
- Zenger, T. R & Lawrence, B. S. (1989). Organizational demography: The differential effects of age and tenure distribution on technical communication

Export Market Information Usage, Market Selection and Export Performance of Coffee Exporters in Uganda

Aaron Ecel, Godwin Ahimbisibwe and Dennis Nuwagaba

ABSTRACT

The purpose of the paper was to establish the predictive potential of export market information use on export market selection and the resultant export performance. Primary data from all coffee exporting firms in Uganda (as of 2011) was analyzed using SPSS to establish the predictive potential of export market information use on export market selection and export performance such firms. Findings show that not only is exporting the most common form of internationalization, but export performance is also becoming the key to overall organizational success, thus making it imperative to have information about export markets, consequently directing much of the research efforts towards the acquisition information about export markets, however limited empirical research exists that is geared towards the use of export market information and the selection of export markets and the resultant effect on export performance. The paper tries to fill that gap by reporting the predictive potential of export market information use on the export performance.

The study provides decision makers in the export function with a guideline on how to extract the maximum benefit from information acquired about export markets by specifically guarding against unproductive modes of usage such as power-seeking usage and uses that legitimize decision reached based on other grounds, as well as haphazard usage. the study is cross sectional in nature, therefore static in nature and secondly.

Key words: International Business, Export market Information use, Market selection, coffee exporting firms, export performance, Uganda.

Introduction

In 2009, coffee was not only Uganda's top export earner, but it also contributed approximately USD 320 million (37.6%) to Uganda's export earnings (International Trade Center, 2010). In particular, non- roasted and non decaffeinated coffee specifically was the main form of coffee exported. Exporting tends to be the most common form of internationalization as it provides the firm with high levels of flexibility and a cost-effective way of penetrating new foreign markets quickly (Vyas and Souchon, 2003). Coffee, like other agricultural exports are of immense importance to the development of a country in terms of economic and societal prosperity especially in developing countries heavily depend on it as a source of foreign exchange (Westhead, 2008; Koksall, 2008 and Lu and beamish, 2001).

Trade flow information shows that the majority of Uganda's coffee exports are destined and concentrated in few foreign markets, i.e. Switzerland (25.8%), closely followed by Germany (20.4%) and Sudan (15.2 %), thus indicating that 61.4 % of all Ugandan coffee exports is destined for only three countries (Switzerland, Germany and Sudan). Over the past four years, some of the fastest growing markets for non-roasted, non-decaffeinated coffee were Costa Rica (182%), Thailand (338%), Mozambique (192%) and Madagascar (154%).

However, in the few export markets in which Uganda's coffee exports are concentrated, trade flow data shows that it's facing stiff competition from other markets and its contribution is quite insignificant relative to other countries. For instance, in the Germany market, Uganda ranks 9th as a coffee supplier and only contributes 3.2% of Germany's total imports of coffee. Brazil, Viet Nam and Peru dominate the Germany market and contribute over 50 % percent of the coffee imports. In Switzerland, Uganda ranks 13th as a supplier of coffee and only contribute 0.5% of Germany's total coffee imports (source).

Problem statement

Whereas Ugandan coffee exporters are tapping into lucrative markets of coffee worldwide (Germany and Switzerland), trade flow information shows that Ugandan exporters are yet to tap into coffee's fastest growing markets in the world, which include; Costa Rica (182%), Thailand (338%), Mozambique (192%) and Madagascar (154%). Whereas the majority of Ugandan coffee exports are concentrated in Germany and Switzerland, their contribution is quite insignificant (3.2% and 0.05% in Germany and Switzerland respectively) and face intensive competition from other supplying markets. For instance, Brazil, Peru and Vietnam command 58.7% of the Germany market, yet coffee imports from Brazil and Peru into Germany, are growing at impressive rates of 32% and 44% respectively. The study seeks to examine predictive potential of export market information use and the selection of export markets on the export performance of Ugandan coffee exporters.

Objectives of the study

- (i) To establish the relationship between export information use and the selection of export markets
- (ii) To establish the relationship between export information use and export performance of coffee exporters in Uganda.
- (iii) To establish the extent to which export market information is accessible and used by Ugandan coffee exporters
- (iv) To establish the predictive potential of the use of export market information and the selection of export markets on the export performance of Ugandan coffee exporters

Literature Review

Bentley (1986) defines information as data that is meaningful and useful to the user, and which should be accurate, applicable, timely and available. Boisot (1998) describes information as data that have been filtered through perceptual and conceptual filters, organized accordingly, and thereby transformed into information. Toften & Olsen, (2003) define export market information, as filtered, transformed, and organized export data concerning a firm's current and potential international customers, used in an instrumental-conceptual manner, and/or a symbolic manner, and normally with the intention of increasing perceived firm export performance.

Information use can be defined as taking research findings into account, the conversion of data into ultimate actions or the extent to which interpreted data influence the users decision making.. According to Vyas and Souchon, 2003, Export information use research is warranted for a number of reasons; the resources associated with conducting foreign trade are generally considerable and at the same time, many exporters suffer from limited financial power. Thus it

become critical to identify ways in which information –processing capabilities can be optimized to ensure rational dispersion of resources and limit the risks associated with export operations.

Secondly; information use is especially critical for exporting firms whose foreign trade environment is marked by greater environmental diversity and turbulence. In turn, when faced with greater levels of uncertainty arising from such a business arena, exporters will experience and heightened need to compensate for this by using more export information.

Leonidou and Adams-Florou, (1999) assert that ,far from being systematic and scientific, SME managers tend to be “haphazard” in their approach to export information acquisition and use. Owner-managers often rely on small, inexpensive, loosely structured and “coincidental” networks for their information

Diamantopoulos (2003) asserts that there is a growing realization of the importance of the use of market information, and it’s now accepted that market information is crucial for a firm’s success or failure. Firms operating in international markets and in unfamiliar export environments are exposed to additional uncertainty and the importance of information is key in influencing export behavior

Export firms use export information to overcome decision –making uncertainty caused by the potentially unfamiliar environment and this information acts as key determinants for entry or expansion decisions (Vyas and Souchon, 2003)

Vyas and Souchon (2003), stress that organizations may acquire and disseminated information but, unless this information is also put into use, very little is accomplished. What is more likely to influence export success therefore is the extent to which, and ways in which information is used, rather than acquired.

Tolfe & Olsen, 2003 define export market information use as;

“filtered, transformed and organizational data concerning a firms current and potential international customers, used in an instrumental/conceptual manner and/or a symbolic manner, and normally with the intention of increasing export knowledge and/or perceived firm export performance.”

Three dimensions of export market information use have been identified; instrumental, conceptual and symbolic. Instrumental use is based in the direct application of research findings to solve a policy problem, implying that information is acquired for immediate use and is applied for a specific purpose (Toften, 2005), it occurs when a manager uses information directly to solve a specific problem (Vyas & Souchon, 2003). Conceptual use is based on an indirect application of research findings in which much of the information is used for general enlightenment and development of managerial knowledge base. This implies that the information is not necessarily applied to specific problem and may be stored for future use (Toften, 2005).

Symbolic use involves the use of information that is not consistent with the declared purpose. For instance distorting market research findings, taking conclusions out of context, disclosing only those findings that confirm an executive’s predetermined position or consciously ignoring

information. Symbolic use could legitimize and sustain previously held positions or justify actions for other reasons (Toften, 2005), or use that is aimed at the needs of the individual user, information used for appearance's sake rather than for any intrinsic value it may have. It has been claimed that symbolic use may be the most prevalent form of information use within organizations (Vyas & Souchon, 2003). It is likely that symbolic use of export information will be common in an export context for companies that begin exporting without much rational analysis or deliberate planning (Vyas & Souchon, 2003).

(Toften, 2005) However, an extensive empirical study by Diamantopoulos and Souchon (1991) concluded that "instrumental" and "conceptual" uses in an export setting were actually aspects of a single dimension. Therefore, a two dimensional-view of export information use, consisting of "instrumental/conceptual" use and "symbolic" use, is adopted in this paper. This two-dimensional view has later been adopted in recent research (Williams, 2003). The instrumental/conceptual dimension is defined to include both use of export information for a particular decision-making purpose and for more general and future decision making purposes. The symbolic dimension is defined to comprise "bad" use of information (Souchon and Diamantopoulos, 1996) or inappropriate use (Maltz et al., 2001) in terms of justifying previously made decisions, distorting findings or applying information for unintended purposes.

Diamantopoulos and Souchon, (1996), assert that export decision makers were predisposed to using export information either instrumentally/conceptually, or symbolically, but that both types of use within the same individual were a rare occurrence.

Doing business in a potentially unfamiliar foreign environment increase decision making uncertainty, which export information can help reduce. Export information may also act as a key determinant to export market entry and expansion (Vyas & Souchon). Wood and Roberston (2000), when considering overseas markets, executives face relatively complex strategic planning assignments given today's rapidly shifting alternatives in terms of risk, stability and political returns inherent in the myriad markets around the world

Selecting among alternative international markets, be it for exporting, licensing, joint ventures, strategic alliances or direct investment, requires information. Likewise the assessment of information across different types of markets determines, in a large part, the degree of success (or failure) achieved in the international arena (Anderson and Strandskov, 1998)

In theory, decision makers' perception of the importance of different types of foreign market information may be driven by a combination of things, including the industry they represent, the specific markets they are considering and the type of transactions they would favor when entering specific markets. International business decision makers, representing different means of transacting their foreign ventures, should value certain types of information differently depending on the specific perceived impact of such information on their firms success or failure, Wood and Roberston (2000),

They further assert that selecting among alternative international markets, be it for exporting, licensing, joint ventures, strategic alliances or direct investment requires information. Likewise

the assessment of information across different types of international markets determines, in a large part, the degree of success (or failure) achieved in the international arena

The identification of promising foreign target markets is a critical issue in international marketing and international business research, strategy and management. Its capital importance arises from the fact that its inter-relationships with other strategic decisions, such as mode of entry, foreign marketing programmes and, ultimately, success and performance (Gaston-Breton & Martin-Martin, 2011).

Many companies begin exporting without much rational analysis and deliberate planning, in that they fail to consult experts or collect much information but still believed that a market existed for their products, and much of such behavior is associated with a lack of a sophisticated information planning and control systems within companies. The limited search for information is attributed to the uncertainty of the anticipated benefits from exporting. McAuley (1993).

Export Performance

Export performance is becoming the key to overall organizational success (Vyas and Souchon, 2003). Katsikeas, Piercy and Ioannidis (1996), present a generalization towards the modes of assessing export performance, thus, objective measures which are largely based on records relating to absolute figures of company profitability, sales levels, and subjective measures which are predominately based on the managers' perception, although he emphasize the distinction that most of the studies significantly rely on objective performance indicators.

Similarly, the choice of performance dimensions illustrates another facet of measuring export performance of firms, Aaby and Slater (1989) are adamant to the assertion that firms export performance ought to largely be based in the achievement of their pre-set exporting objectives.

Contrary to the proposition that the larger the firm, the more successful it is in export markets (Moini, 1995; Wagner, 1995), by further expounding on the Resource Based View (RBV) of export performance, (Berney, 1991), that stipulates that the export success of a firm is mainly derivative from its resources and capabilities, findings by Maurel, 2009 state that firm size doesn't systematically impact export performance positively.

In the same direction, Stevenson, Roberts and Grousbeck, (1989) asserts that, the export managers ability to seek for new opportunities regardless of the resources present (the managers' proactively, level of innovation and level of risk taking), a dimension that defines the managers' entrepreneurial functionality significantly affects that resultant export performance.

Mintzberg (1979), greatly attributes export success to the context in which the company operates and not only the internal forces of a company. The assertion is greatly theoretically grounded on the contingency and industrial organisation view of export performance (Scherer and Ross, 1990). The environment and industry in which the firm operates, significantly determines the firms' performance in export markets.

Several studies have linked market information to company success (Baker et al., 1988; Hooley and Lynch, 1985; Dolinger, 1984), including export performance (e.g. Hart and Tzokas, 1999). For example, formalized international marketing research activities tend to relate to better

financial performance, and firms engaging in such activities have a better understanding of their customers, competitors, and the foreign environment, resulting in a competitive edge over competition (Koh, 1991). Also, particular manifestations of use of information, in terms of immediate and future use, have been revealed to be positively related to export performance (Souchon and Diamantopoulos,

Research Methodology

The study involved a quantitative approach. A cross sectional design was used to capture perceptions within a given point in time. The population of the study comprised all firms in Uganda engaged in exporting non roasted, non decaffeinated coffee. The list of firms that engaged in the export of coffee was obtained from the Uganda export promotion board. Primary data was collected from firms engaged in export of non-decaffeinated coffee, while secondary data was be collected using online trade databases (the International trade center statistics for international business development) with specific focus on data analyzed up to 2009, online journals, news papers and periodic reports especially those from coffee development bodies.

A mixture of close-ended questionnaires were passed on to coffee export firms to capture their opinions export information use, selection of export market and their export performance. The questionnaire were self administered with the help of interview guides for easy interpretation by the respondents

Measurement of the variables

In order to obtain valid and reliable measures of the variables, previously validated scales were used to measure export information use (Jasmine E.M. Williams, 2003) export performance (R. Glenn Richey and Matthew B. Myers, 2001). All items were measured via a five-point bipolar scale, with scale poles ranging from strongly agree (1) to strongly disagree (5). The questionnaire was pre-tested before its final administration. The Cronbach coefficient was used to assess the reliability of the measures. Nunnally (1967) states that reliability coefficients of 0.70 or more are considered good. The items adopted have been used overtime and have been proven to be valid. The interview guide was designed before the administration and pre-administration sessions were carried out to test its reliability.

The results in the table were generated so as to assess the levels of reliability of the research instrument. The reliability was assessed using the Cronbach alpha values while the Validity was assessed using the CVI.

Table I

Variable	Anchor	Cronbach Alpha	Content Validity Index
Export Market Information Use	5 Point	.639	.857
Export Market Information Search	5 Point	.619	.778
Export Markets Selection	5 Point	.681	.875
Export Performance	5 Point	.714	.750

The results in the table above showed that the items were both reliable and valid since the Cronbach alpha and CVI values were above 0.5 in either case.

Data processing and analysis

The data was coded into numerical format and the study used quantitative data. Data derived from the questionnaire will be analyzed using SPSS version 17. The analyzed data was presented using frequency distribution tables. Pearson's correlation coefficients will be run to examine the relationship between the variable and multiple regressions were used to establish the variance in export performance explained by export information use and choice of export markets.

Results and Discussions

Factor Analysis Results: Export Market Information Use

The results in table II below are for the Factor Analysis highlighting the degree to which Export Market Information is used by Ugandan coffee exporters.

TABLE II

Factor Analysis Results: Export Market Information Use

	<i>Affective Use</i>	<i>Legitimate Use</i>	<i>Power Seeking</i>
Our confidence in making export decisions is increased as a result of export marketing information	.809		
Decisions based on EM information are more accurate than wholly intuitive ones	.792		
If EM information is difficult to obtain, guesses are made instead	.841		
EM information is often not considered in the making of decisions for which it was originally requested	.742		
We sometimes take account of EM information, to justify the cost of having acquired it		.775	
EM information is often collected to justify a decision already made		.775	
Instinct/intuition is often combined with EM information when making decisions		.677	
Key executives often distort EM information in passing it on		.714	
We actively seek out particular export marketing (EM) information for specific decisions			.773
EM information is often used specifically to make a particular export decision			.678
Eigen Value	2.627	1.529	1.202
Variance %	37.521	21.84	11.44
Cumulative %	37.521	59.36	70.80
		7	7
	Mean SD		

Affective Use	3.037	.474
Legitimate Use	3.282	.296
Power Seeking Use	3.167	.400

The results show the Affective Use, Legitimate Use Power, Seeking Use and these constitute 37.521%, 21.846% and 11.440% respectively of the Export Market Information Usage. In total, the results showed a cumulative value of 70.807%. With the component of Affective Use, the capacity of the employee confidence in making export decisions which is increased as a result of marketing information (.809) and the fact that Decisions based on EM information are more accurate than wholly intuitive ones (.792) are important aspects for the usage of the Export Information. Other critical aspects of the variable include; the difficulty involved in accessing the Export Marketing Information and the usage of reliable information (.841). The Descriptives for the components of Export Information Usage indicated that the variable components all had their means falling below 3.3, a clear sign that even the accessibility of the resources is still poor.

Relationships between the variables

The Pearson (r) correlation coefficient was employed in examining the nature of the relationships that are at play among the study variables

Table III

	<i>Mean</i>	<i>SD</i>	1	2	3	4
Export Market Information Use-1	3.07	.99	1.000			
Export Market Selection-2	2.92	.85	.685**	1.000		
Export Market Information Search-3	2.90	.86	.720**	.741**	1.000	
Export Performance-4	2.06	.64	.671**	.663**	.622**	1.000

** Correlation is significant at the 0.01 level (2-tailed).

The results in table above revealed a significant and positive relationship between export information use and the selection of export markets ($r=.685^{**}$, $p<.05$). however, contrary to the suggestion by McAulley (1993), that the gathering of information (information availability) of export markets is sufficient to select the most lucrative export markets, the findings of this study that assert that beyond the possession of information about export markets, more importantly is the use of such information in a more instrumental, conceptual and affective ways. The findings of the study are consistent with that of Rakhee and Anne (2003); Adamatios et al (2003), who emphasize the importance of export market information usage over acquisition.

There was a significant and positive relationship between export information use and the export performance ($r=.671^{**}$, $p<.05$). The environment in international markets is more turbulent, complex & dynamic than a purely domestic context, thus uncertainty and consequently accentuating the need for and occurrence of intuitive decision making (increased use of the gut feeling despite availability of information). This study shows that possession alone doesn't guarantee appropriate usage and consequent success in export markets. The findings are consistent with Adamantios et tal, (2003), who assert that the extent to which export information is used can play a significant role in a firms export performance.

The results showed that the Affective form of usage was prevalent, accounting for 37.521% of the Export Market Information Usage. Affective use was mainly manifested in incidences when guesses were made when information was difficult to obtain (.841) and incidences where Export Market information is not often considered in the making of decisions for which it was originally requested (.742). Worse still, the available information was used in more affectively rather than instrumentally. Such results are consistent with the work of Toften & Olsen (2003) who emphasize the prevalence of the symbolic use of information (affective use) among exporters especially first time exporters. Accessibility to information was a hindrance to usage of such information (.841) and the Descriptives for the components of Export Information Usage indicated that the variable components all had their means falling below 3.3, a clear sign that even the accessibility of the resources is still poor.

The findings revealed that export market information use and export market selection hold a predictive potential of 50.3 % of the variance in export performance of the Ugandan coffee firms engaged in exporting. (Adjusted R square = 0.503). The findings are consistent with those of Adamantios et al, 2003, whose bottom line assertion is that “the possession of information though still critical to decision makers’ level of confidence and certainty, is no longer considered to be the only pre-requisite for successful decision making. *In fact essentially the same information is available to competing firms at about the sometime*”. Thus the extent to which export market information is being used to consequently select export markets will half of the times predict the resultant export performance of the firm.

The predictive potential of export market information use and the selection of export markets on the export performance of Ugandan coffee exporters. The results in table below show the degree to which export market information use and export market selection can explain Export performance of coffee firms

TABLE IV

	<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	t	Sig.
Model	B	Std. Error	Beta		
(Constant)	.439	.232		1.896	.064
Export Market Information Use	.259	.089	.405	2.923	.005
Export Market Selection	.285	.104	.378	2.728	.009
Dependent Variable: Export Performance					
R Square	.523				
Adjusted R Square	.503				
Std. Error of the Estimate	.450				
F Statistic	26.817				
Sig.	.000				

The results in the table IV showed that export market information use and export market selection can predict 50.3 % of the variance in export performance (Adjusted R square = 0.503).

Conclusion and Implications

If a nation is heavily dependent on one commodity for its export earnings and that commodity is heavily dependent on few export markets, Then not only should they have adequate information about export markets of that commodity, BUT continuously investment in the appropriate usage of information about current and potential international markets.

Recommendations

In light of the research findings and the significant predictor variables in the regression modal, the following recommendations are suggested. Coffee exporting firms ought to facilitate the information acquisition process to reduce incidences where guesses are made in incidences where there is difficulty in obtaining the required information about a particular export market. Coffee exporting firms ought to seek for more appropriate use of export information rather than uses geared towards legitimization purposes and power seeking usage. Thus reducing the selection of export markets by intuition, which largely renders export market information for power seeking and legitimization purposes (justification for decisions already made).

Areas of Further Research

The study establishes the importance of export market information use on improving export performance in the coffee industry in Uganda. Further research ought to be undertaken to establish other factors that influence the export performance of coffee exporting firms in Uganda. The research sample is limited to coffee exporting firms in Uganda, but export information use and market selection exist in every industry and country. Whether the findings of this study still hold in other contexts must be further explored. A longitudinal study would be more appropriate to study the impact of export market information use on the export performance of oil-seed agro processing firms.

References

- Anderson, P.H. and Strandskov, J. (1998), "International market selection: a cognitive mapping perspective", *Journal of global marketing*, vol.11 No.3, pp.65-84
- Anne L. Souchon and Adamantios Diamantopoulos. (1999), "Export Information Acquisition Modes: Measure development and validation. *International Marketing Review*, Vol. 16 No. 2, 1999, pp. 143-168
- Adamantios Diamantopoulos, Anne L. Souchon, Geoffrey R. Durden, Catherine N. Axinn, Hartmut H. Holzmuller (2003), "Towards an understanding of cross-national similarities and differences in export information utilization A perceptual mapping approach." *International Marketing Review* Vol. 20 No. 1, 2003, pp. 17-43
- Diamantopoulos, A. and Horncastle, S. (1997), "use of export marketing research by industrial firms: an application and extension of Deshpande and Zaltman's model", *International Business review*, vol.6 No. 3, pp. 245-70
- Diamantopoulos, A. and Siguaw, J.A. (1999), "measuring export information use: scale development and validation", *journal of business research*, vol. 46, pp. 1-14

- Jasmine E.M. Williams (2003), export information use in small and median-sized industrial companies, an application of Diamantopoulos' and Souchon's scale, international marketing review, vol, 20 No. 1.
- Kevin I.N. Ibeh and Stephen Young (2001), "Exporting as an entrepreneurial act: An empirical study of Nigerian firms", European Journal of Marketing, Vol. 35 No. 5/6, 2001, pp. 566-586
- Kjell Toften and Svein Ottar Olsen, (2003), Export market information use, organizational knowledge, and firm performance: A conceptual framework, International Marketing Review Vol. 20 No. 1, 2003 pp. 95-110
- Van R Wood and Kim R. Robertson, (1999) Evaluating international markets: the importance of information by industry, by country of destination and type of export transaction, international marketing review, vol. 17 no.1 2000, pp 34-55
- Hart, S.J. Webb, J.R. and Jones, M.V. (1994), "Export marketing research and the effect of export experience in industrial SMEs", International Marketing Review, Vol. 11 No. 6, pp. 4-22.
- Lu, J.W. and Beamish, P.W. (2001), "The internationalization and performance of SMEs", Strategic Management Journal, Vol. 22, pp. 565-86
- Leonidou, L.C. and Adams-Florou, A.S. (1999), "Types and sources of export information: insights from small business", International Small Business Journal,, Vol. 17 No. 3, pp. 30-48
- O'Farrell, P.N. and Wood, P.A. (1994), "International market selection by business service firms: key conceptual and methodical issues", International Business Review, Vol. 3, pp. 243-61.
- R. Glenn Richey and Matthew B. Myers, (2001) An investigation of market information use in export channel decisions Antecedents and outcomes, International Journal of Physical Distribution & Logistics Management, Vol. 31 No. 5, 2001, pp. 334-353.
- Robert Bradshaw and Mark Burridge, (2001), "Practices of successful small and medium-sized exporters: The use of market information" MCB niversity Press, ISSN 1462 – 6004, 267–273
- Stevenson, H.H., Roberts, M.J. and Grousbek, H.I. (1989), "New Business Ventures and the Entrepreneur", Irwin, Homewood, IL
- Wagner, J. (1995), "Exports, firm size and firm dynamics", Small Business Economics , Vol. 17 No. 1, pp. 29-39.
- Moini, A.H. (1995), "an inquiry into successful exporting: an empirical investigation using a three-stage model", Journal of Small Business Management, Vol. 33, pp. 9-25.
- Barney, J. (1991), "Firm resources and sustained competitive advantage", Journal of Management Studies, Vol. 17 No. 1, pp. 99-120.
- Carole Maurel (2009), "Determinants of export performance in French wine SMEs", International Journal of Wine Business Research Vol. 21 No. 2, 2009, pp. 118-142
- Scherer, F.M. and Ross, D. (1990), Industrial Market Structure and Economic Performance , Houghton Mifflin, Boston, MA.
- Constantine S. Katsikeas, Nigel F. Piercy and Chris Ioannidis (1996), "Determinants of export performance in a European context", European Journal of Marketing, Vol. 30 No. 6, 1996, pp. 6-35.

Psychic Distance, Firm Size, Perceived Risk and Export Market Choice of Exporting Firms in Uganda

Dennis Nuwagaba

Abstract

The study sought to investigate the relationship between psychic distance, firm size, perceived risk and the market choice for Uganda exports. The problem of the study was that there is a notable shift of Uganda's firms from exporting to markets that are geographically distance to nearer regional markets, a situation that could be attributed to psychic distance that leads to higher levels of perceived risk of which the smaller Sized Ugandan firms cannot wedge against due to limited resources. The study reviewed literature that was related to the study variables. It used a cross sectional research design and collected quantitative data using a structured question from a sample of 80 exporting firms of which only 72 questionnaires were used for analysis.

The analysis indicated that psychic distance is positively correlated with the perceived risk in the export market of choice; it also established that psychic distance was negatively related to export market choice. Psychic distance and perceived risk were found to be having significant effect on export market choice. The study made concluded and recommended that in order to reduce on psychic distance, firms can invest in psychic distance reducing activities such as trade exhibitions, recruitment of multicultural employees/managers to be able to reduce on the perceived risk in the export markets of choice. On policy and national level, trade promotion organizations should intensify negotiations for trade arrangements that harmonize conditions in the domestic and export market and reduce on the unfamiliarity of export markets. They can also sponsor trade missions of exporters to markets that they intend to export to in order to enable them understand better these foreign markets.

There were limitations in terms of scarce literature on some variables and lack of response from some exporting firms. The study suggested that future studies should focus on the later performance of firms in either psychically close or distant market and also studies on more specific sectors should be conducted.

Key words: Psychic Distance, perceived Risk, Firm Size, Export market Choice

Introduction and Background

Uganda's exports continue to enjoy access to both regional and distant markets as their destination market choices. Exporting to regional markets can be explained by the geographical distance where neighborliness would favour and attract exports to such markets. This fact however, does not suffice especially where some geographically close markets have not attracted Uganda's exports. For example, some regional markets and in particular the Tanzanian market has not attracted much of Uganda's exports. There seems to be a different explanation apart from geographical nearness. In understanding the direction of export in different markets, psychic distance has been identified to be a major indicator of foreign market orientation including export market choice and entry mode of firms (Stottinger & Schlegelmilch, 1998). Firms are seen to be serving markets that are close to their country of origin psychically. Psychic distance is used to explain export marketing strategies including international diversification and export market

choice (Tihanyi, Griffith & Russell, 2005). Studies on psychic distance have focused on choice of entry mode (Claver, Quer, & Rienda, 2007) few if any has been done on the choice of export market. Managers use psychic distance to make decisions as regards which entry mode to adopt in a given market. It is always associated with the risk anticipated in a given a market. There is a belief that psychic distance influences the risk perceived by managers. Claver et al, (2007) seem to argue that wider psychic distance hinders the adoption of higher commitment entry strategies. Bridson, Byrom, Evans & Medway (2008), contend that cultural differences impede the progress and expansion of firms into new markets.

In the internationalization process, firms will commit more resources if they perceive less risk involved in the target market (Forsgren & Hagstro, 2007). Companies invest in markets that are perceived to be close and these are the markets at a closer psychic distance but not necessarily geographic distance. The investment could be in marketing, distribution or production facilities. On the other hand Griffith, Javalgi, & White (2003) note that the larger the size of the firm, the more suited it is to absorb the risk associated with going international. This indicates that firm size impacts on the risk perceived in the different markets

According to Hollensen (2007), physical and psychological closeness to the international market plays an important role in the export activities of a firm. He notes that firms that operate near the border posts may end up entering such markets without perceiving their marketing activities as exporting; they would perceive them as mere extensions of domestic products without considering them as exports. This therefore demonstrates the easiness with which market selection and choice decisions are easily determined in a psychically close market. Psychically close markets are likely to be perceived to be less risky than those perceived to be psychically distant (Alexander, Rhodes & Myers, 2007).

The concept of psychic distance could be used in explaining the direction of Uganda's exports. Over the years, Ugandan exports have showed a steady growth with total formal merchandise exports rising by 29% from US\$ 1.33 billion in 2007 to US\$. 1.7 billion in 2008. Traditional exports earned US\$ 530 million; Service exports earned US\$ 722 million while nontraditional exports brought in US\$1.2 billion (UBOS, 2008). Uganda's major trade partner for the years has been the European Union contributing 27.7% and 31.1% for the years 2004 & 2005 (UBOS, 2009). In the Middle East, Uganda's leading trade partner in this region has been the United Arab Emirates with U\$128.111million in 2008 contributing 7.4% to the total Uganda's exports. In Asia, Singapore topped the region by attracting U\$29 million compared to India and China which attracted US\$12.788 million and US\$18.735million respectively. This could be attributed to the smaller size of Ugandan firms that makes them unable to exploit such bigger markets due to high levels of perceived risk and large amounts of resources that need to be committed to such markets.

Whereas there has been considerable effort to promote exports by the government of Uganda, it is puzzling how Singapore for example tops the Asian region in attracting Uganda's exports comparing it with China and India's economic and market size; this could be explained among other things by physic distance. The liberalized environment in the most urbanized Singapore can be related to that of United Arab Emirates creating a physically close export market for Ugandan Exporters.

The amount of exports to regional markets is increasing compared to those going to seemingly geographically distant markets (UEPB, 2009) which partly could be due to the shorter psychic distance between the markets. For instance, Uganda's exports to the COMESA region have increased higher than those going into the European Union market. In the years 2006, 2007 and 2008 exports to the COMESA represented 29.5%, 37.9% and 42.1% respectively of the total exports of the country. In particular, Sudan topped up amongst the COMESA countries with an export value of US\$ 245,872,760 representing 56% increase from US\$ 157,116,711.86 in the year 2007. Exports to Rwanda and the Democratic Republic of Congo also increased by 64% and 25% respectively (Nshekanabo, 2009). It is notable that exports to COMESA region have been increasing higher above other regions for the three years running from 2006-2008. The increase in exports to the regional market requires a careful study to investigate this trend.

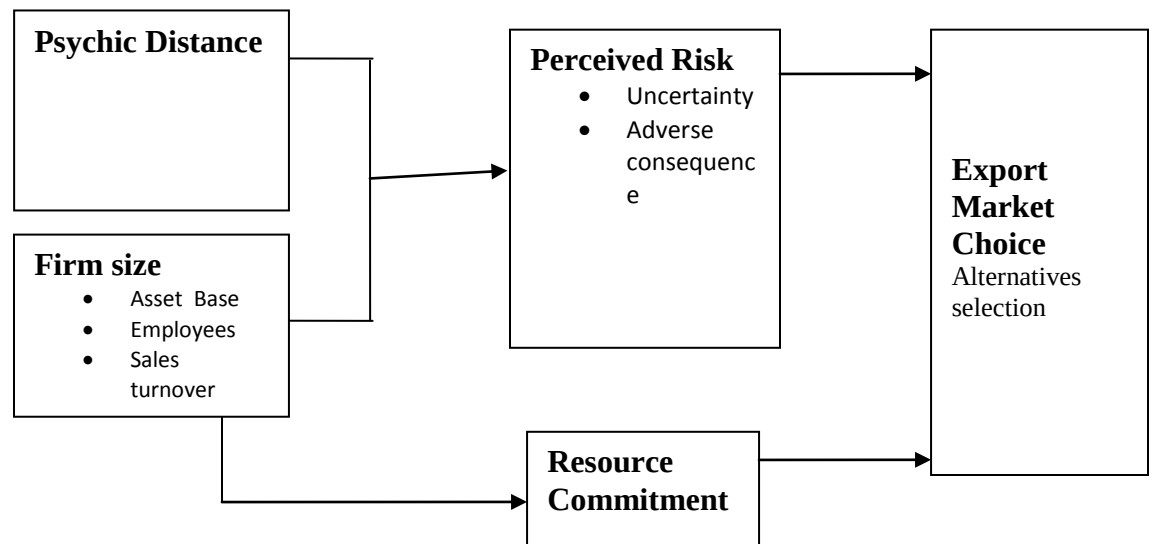
For the past five years running from 2000 to 2005, the European Union topped as Uganda's export market destination. However, for the last three consecutive years of 2006, 2007 and 2008, the COMESA region has become the leading market destination of Uganda's Exports. In 2008, exports to COMESA countries resulted in total income of about US\$ 725.152 million representing 155.6% increase compared to the European Union market which brought in US\$460.218 million representing 74.5% increase (UBOS, 2009). This indicates a notable shift in the market destination of Ugandan exports from far markets to nearer and regional markets. This could be attributed to psychic distance, perceived risk in far markets and the need for higher resource commitment which the smaller Ugandan firms do not have.

The purpose of the study was to investigate the relationship between psychic distance, firm size, perceived risk and the market choice for Uganda exports. The study was guided by the following objectives;

- To establish the relationship between psychic distance and export market choice,
- To establish the relationship between psychic distance and perceived risk,
- To examine the relationship between psychic distance, firm size, perceived, risk, resource commitment and export market choice of Ugandan products,
- To establish whether psychic distance, firm size, resource commitment and perceived risk have an effect on export market choice.

The study may enable policymakers understand the reasons behind the export flows to certain markets. This will strengthen and improve export promotion programmes being carried out trade support to design effective programmes. The study explored how psychic distance influences export market choice. Some studies have focused on relationship between psychic distance and choice of market entry mode. This study therefore contributes to the academic debate on psychic distance, perceived risk and export market choice. Exporters may be able to understand which export markets are more suitable for their products. This is likely to influence their export strategies especially export market selection.

The Conceptualization



Source: Developed basing on Claver et al, 2007; Stottinger & Schlegelmilch, 1998; Forsgren & Hagstro, 2007; Hollensen, 2007.

Explaining the Model

The model is conceived from the literature, literature seem to indicate that Psychic Distance impacts on the level of perceived risk in the foreign market, which influences the choice of market the firm intends to venture into. (Claver et al, 2007). In addition, firm size also impacts on the perceived risk and the level of resources that a firm is willing to commit in a market of choice (Forsgren & Hagstro, 2007). The model tries to establish the relationship between psychic distance, perceived risk, firm size and resource commitment and how these impact on market choice of exports. Studies have used psychic distance to moderate choice of entry mode into foreign markets (Stottinger & Schlegelmilch, 1998). This model extends such debate by looking at whether psychic distance can influence the choice of the market. Psychic distance influences the level of perceived risk (Claver et al, 2007). Since risk is influential in choice decisions (Forsgren & Hagstro, 2007; Hollensen, 2007), the model intends to look at how, psychic distance being moderated by perceived risk influences choice of market. The model also looks at firm size and how firm size being moderated by resource commitment can influence the choice of the market to export to

The rest of this research is organized as follow; the review of related literature presents other scholars views about psychic distance, firm size, perceived risk, resource commitment and export market choice. The next section shows the methodology used in data collection, analysis and presentation. Findings of the study and their interpretation. The last section contains the discussions, conclusions and recommendations of the study.

Review of Related Literature

This section presents a review of related literature on psychic distance, firm size, perceived Risk, and export market choice. From the reviewed literature a number of views seem to suggest that psychic distance is related to the perceived risk in a market of destination, this is likely to

influence the choice decision of the market to go to. On the other hand, firm size is seen to be related to the amount of resources a firm is willing to commit in a given market and these resources required can influence the export market choice of destination.

Psychic Distance and export market choice

Psychic distance has been defined as “factors preventing or disturbing firm's learning about and understanding of a foreign environment”, however this was a redefinition from the earlier definition that considered psychic distance to be “factors that are preventing or disturbing the flow of information between the actual and potential suppliers and the consumers. This illustrates that the definition of psychic distance is still under review and requires further fine tuning as another definition by O'Grady and Lane (1996) attempts to define psychic distance as a firm's degree of uncertainty about a foreign market resulting from cultural differences and other business difficulties that present barriers to learning about the market and the decision to operate from such a market.

Evans, Treadgold & Mavondo (2000) attempt to appeal to the “psychic” elements which are the mind and soul and they therefore contend that psychic distance is about the differences in perceptions of managers that shape the understanding of the differences in culture and business practices existing in different markets. They seem to argue that all those factors that would cause managers to perceive market practices differently fall in the realm of psychic distance; they therefore consider language, business practices, political and legal systems plus differences in market infrastructure to constitute the wider definition of psychic distance.

The operationalization of psychic distance has largely focused on how different individual managers and or customers perceive the home and foreign market (Evans & Mavondo, 2000). Therefore psychic distance is operationalized by looking at differences in language, business practices, political and legal systems, education, economic development, marketing infrastructure, industry structure and culture.

There are other attempts that have been made in defining Psychic distance, Zhu and Yang (2004) consider psychic distance as a variable measuring the perceived similarity across countries and composed of various dimensions including geographic distance, cultural distance, development level, and membership and/or neighborhood effects. This definition of psychic distance seems to be adopted by Stottinger & Schlegelmilch (1998) who consider psychic distance as a degree of similarity or dissimilarity that makes some export markets more attractive than others. The assumption is that exporters are less likely to take up and/or continue business relations with countries that are perceived to be dissimilar (i.e. show a high psychic distance). Moreover, it is argued that a sense of cultural proximity and thus a lower psychic distance toward a foreign market will encourage exporters to venture into such a country. Zhu and Yang (2004) in their definition seem to include neighborhood effects and membership. This definition can be extrapolated to look at the neighborliness of countries and their membership to a regional trade bodies and how these influence the choice of export market.

There is an argument that exporting requires immense company learning efforts and resources and these increase with psychic distance to the target export market, some exporters perceive this as risky in some way and therefore, setting off by tackling psychically more distant markets would be something that exporters would avoid due to the perceived risk involved in such a

market. In fact, Malhorta, Sivakumar and Zhu(2009) in their study of target market selection found out that most firms from developing countries would prefer to chose countries which are close in geographical distance to their home country. In addition such firms are likely to target markets with cultures, administrative structures and economic conditions relatively similar to their home countries This is because, not only does psychic distance affect export promotion strategies that can be employed by the export but also the nature and accessibility of distribution channels in a given market.

In another study Lado, Martinez-Ros and Valenzuela (2004) found out that the degree of similarity to home county, which is an indication of a smaller psychic distance makes some foreign market more attractive than others. They established that the psychic distance between a domestic and foreign market play a guiding role in selection and strategic decision in the internationalization of firms which includes their decision on which markets to export to. Small knowledge intensive firms have been found to internationalize in psychically close markets, but psychic distance has not been found to have a great impact on firms that considered to be “born-globals” nevertheless there are other factors that could be influencing the decision on which export market the exporter should chose (Ojala & Tyrvaenen, 2009)

Perceived Risk and Export Market choice

Perceived Risk is a concept that has studied in an effort to understand how risk influences and predicts consumer behavior in certain markets and in the consumption of certain products (Hornibrook & Fearne, 2003)

Other studies focused on reducing this perceived risk to influence strategy both at firm and industry level. Firm level strategy amongst exporting firms involves which export markets should be chosen. In operationalizing perceived risk, Hornibrook & Fearne (2003) consider uncertainty and adverse consequence to constitute perceived risk. This conceptualization focuses on consumer behavior towards buying particular products, they contend that when a consumer is faced a range of alternatives of products he can buy, he would have to consider the risk involved which can be classified as inherent risk and handled risk; inherent risk being that risk that describes a person’s perception of risk associated with a particular category, whereas product specific risk, or handled risk, is specific to the item being considered. Since exporters are also faced with alternative market choices, the exporter would consider the risk involved in a given market before he makes a decision of which market he can export to. This makes it likely that perceived risk might influence the choice of export market.

On the other hand, Stone & Gronhaug (1993) conceptualized perceived risk by looking at a number of dimensions, they considered perceived risk to include; Financial risk, Social risk, Psychological risk, Time-related risk, Physical risk, and Performance risk as they relate to a given venture.

Perceived risk has also been defined as the amount of money fear could be lost in engaging a particular market, this fear could be increase depending on the resources available to a firm, it is thus notwithstanding to note that the firm size will influence the perceived risk in a given export market. Resource and capital availability reduces the perceived risk in a chosen export market, in addition, market knowledge which could be influenced by psychic distance will have an impact on the perceived risk, and firms with knowledge about psychically close markets consider and

perceive such markets to be less risky (Forlani, Parthasarathy & Keaveney, 2008). In their study, Forlani et al.(2008), they found out that firm size is negatively correlated with perceived risk, this shows the bigger the size of the firm the less the perceived risk its managers will feel in a given market of choice.

Psychic distance and perceived risk and export market choice

Hollensen (2007 pp 54), notes that one of the general market risks that hinder the process of internationalization is psychic distance, he notes that exporters are less comfortable confronting market conditions and challenges existing in markets that they consider to be psychically distant. This could cause exporters to consider exporting to markets they will have perceived to be less risky and in most cases these are the psychically close markets.

In the internationalization process, reduced perceived risk which is determined by psychic distance would lead to increased resource commitment by a firm (Forsgren & Hagstro, 2007). Exporting activity being part of the internationalization process could therefore be influenced by the psychic distance. Exporting involves choosing an export market; exporters could therefore choose such markets that are perceived to be psychically close in order to reduce on the perceived risk involved in the market. Exporting companies invest in markets that are perceived to be close and these are the markets that are at a closer psychic distance but not necessarily geographic distance. In choosing which entry modes to adopt in different markets, Blomstermo Sharma and Sallis (2006) studied the service sector, they found out that different services categories that is soft and hard services adopt different entry modes depending on the risks involved, the found out that in markets where the psychic distance is perceived to be high and thus a perceived high risk, firms tend to adopt low control entry modes while in markets where exporters have had prior experiences and thus less psychic distance and perceived risk, exporters tend to adopt high control entry modes that give them an upper hand in the control of their export business. Malhotra, Sivakumar and Zhu (2009) found out that managers make market entry decisions by making a trade-off between the risks involved in the foreign market and the returns expected. Whereas psychic distance presents a risk to the managers, sometimes the market potential presents opportunities that markets are endearing to exploit.

Firm size, resource commitment and export market choice

The concept of Firm size has been conceptualized to refer the number of employees that a firm employs and also the amount of capital that a firm has invested. Depending on the nature of industry, the different variables have been given varying influence on the size of the firm, in the service industry where employees (human resources) are of greater importance, firm size has been measured largely depending on the number of employees, however in the manufacturing sector, capital (equipment, technology and financial capital) are given greater importance in determining the size of the firm. Whereas larger firms would be interested in mature markets, small firms would be interested in developing and growing markets where they are comfortably compete for growth and market opportunities(Griffith et al, 2003; Sekarya, Eckman & Hyllegard, 2007).

Claver et al (2007), conceptualized firm size to refer to financial and managerial resources available to a firm, they seem to consider financial resources of the firm by looking the sales volume, this however makes it complicated as to whether they studied firm size in terms of the level of sales volume, none the less they contend that firm size is associated with level of

resource commitment in a given market. In the study of firm size, Lado et al (2004) seemed to contend that larger firms going into new markets have more resources that can be put to such markets with less sensitivity to risk and this facilitates and improves their competitive advantage in the market. Sustar & Sustar (2005) found out that there is an association between the size of the firms in Slovenia and the choice of internationalization strategy. These strategies could include among others; market selection strategies.

Uganda firms are globally considered to be small and medium enterprises, these firms are likely to be less interested in mature and competitive markets in Europe or the America, they are comfortable doing business in developing markets of Eastern and Central Africa and thus making them their markets of choice.

Firms in Uganda can be considered as micro, small and medium size enterprises depending on the number of employees working for the firm. Baale & Hisali (2009) the majority of Ugandan firms (67%) engaged in exporting are ironically considered large employing about 100 employees, however, this size is small when considered to firms in export markets such as European Union and the United states. In addition to the above, firm size in Uganda keeps fluctuating from micro to large firms, this size constraints affects how much a firm is willing to commit in a given market.

Buyinza (2009) notes that the growth of firm size boosts export of the firm decision by 8 percent, this could due to the increased labour expertise and capital that is required in the implementation of the firm's decisions. Exporting firms must among other decisions make the decision regarding which market to export to. This decision may be influenced by level of capital required to venture in a chosen market and also the required human expertise necessary to handle the exporting activity.

In this study, Buyinza (2009) found out that firm size and the level of education of managers had a significant influence on the export decision. Knowing that education increases exposure of managers to foreign markets, this exposure not only reduces the psychic distance of the export managers but also the perceived risk involved in the foreign market. It can therefore be deduced that the perceived risk of foreign markets reduces with increase in size which can affect the choice of market to export to.

Uganda's small firms engaged in textile production were finding it difficult to do market studies about their potential buyers, making it difficult for them to exploit the US market even when the country was legible for the AGOA initiative with the United States. Such firm would feel comfortable serving regional markets without overstretching themselves for distant and developed market. (USAID, 2001)

Research Methodology

This section presents the procedure and the approach that the researcher used in studying the relationship between, psychic distance, firm size, perceived Risk, and export market choice. It presents the research design, the targeted sample, the data collection and the data analysis methods used. It also includes the measurement of variables and the constraints faced in the process of doing this study.

The research design was quantitative in nature and it used a cross-sectional research design in which the data collected was primary in nature pertaining to the period of the study. Since choosing an export market is an ongoing activity, a cross sectional research design was considered appropriate. The sample population was 100 exporting firms that had participated in the Presidential Exporters Award 2008 from which a sample of 80 firms was targeted according to Krejcie and Morgan (1970) method of determining random sample size for research activities. These exporters were selected based among others their ability to diversify in different markets. Therefore in this study of Export market choice; this sample presented the list of firms that have made diversified export market choice. The selected firms were randomly picked. 80 questionnaires were issued to these firms, 3 questionnaires were never returned as it proved difficult to get them from the respondents due to various reasons, and 5 questionnaires were filled but not useable for the analysis since they were not fully filled. Primary data was collected from the selected exporting firms. A structured and self administered questionnaire was used to collect the data from the respondents who included; export managers, assistant export managers, marketing managers among others. Data was analyzed using Statistical Programme for Social Scientists (SPSS) version 17.0. Data was analyzed using correlations and regressions with an aim of establishing the relationship between variables and the causal effects of the variables.

The research instrument and Measurements of Variables

The researcher used a self administered questionnaire. The variables were measured as follows;

- Psychic distance was measured by looking at differences in perceptions as regards language, economic systems, business practices, political and legal systems plus differences in market infrastructure. It was based on a 5 Likert-scales ranging from very similar to very dissimilar. This is in line with Evans, Treadgold & Mavondo (2000); & Stottinger & Schlegelmilch (1998)
- Firm size was measured by looking at the number of employees that the firm is employing. This is in line with Griffith et al, (2003) and Claver et al (2007). The study also used annual sales/turnover and total assets in determining firm size. This was in line with BID Report (2008) that studied firm size of enterprises in Uganda. Both sales turnover and capital base were in ranges of; below 12 million, 12-360 millions and over 360 millions Uganda shillings
- Perceived risk was measured by considering the level Uncertainty and adverse consequence of choosing a particular market. Scales used were adapted from Hornibrook & Fearn (2003).
- Resource commitment was measured using items adopted from Daugherty, et al (2001).
- Export Market Choice was operationalized by looking at alternative choices, i.e. respondents were asked as to whether they exported to (1) regional markets (2) other markets (3) both regional and other markets.

Reliability and Validity of Instrument

Reliability of the instrument was assessed using the Cronbach Alpha values while the Validity was assessed using the Content Validity Index

	Anchor	Cronbach Alpha Value	Content Validity Index
Firm Size	3 Point	.6519	.666
Resource Commitment	5 Point	.7762	.667
Perceived Risk	5 Point	.8526	.700
Psychic Distance	5 Point	.8168	.786
Market Choice	5 Point	.6969	.625

The items in the research questionnaire were both valid and reliable as indicated by the CVI and Cronbach Alpha values which were above 0.5 in either case. The adequacy and correctness of the instrument was done using research experts/my supervisors who helped me to fine tune it.

Presentation and interpretation of findings

This section contains results from the data analysis phase. The results were obtained from the questionnaire which was administered to the selected exporting firms

Firm Characteristics

Table 4.2. Firm Characteristics showing the Annual sales turnover, Level of asset base, period for which the Firm has been operating, number of employees in the organization and the nature of products the company is dealing in.

Firm Characteristics		Count	Percent	Mean	St. Dev	
Annual Total sales or Revenue or Sales Turnover	Below 12m	19	26.4	1.85	0.60	
	12 - 360m	45	62.5			
	Over 360m	8	11.1			
	Total	72	100.0			
Level of Asset Base	Below 12m	6	8.3	2.19	0.57	
	12 - 360m	46	63.9			
	Over 360m	20	27.8			
	Total	72	100.0			
Period for which Organisation has been Operating	1-5 yrs	13	18.1	2.15	0.71	
	6-10 yrs	35	48.6			
	Over 10 yrs	24	33.3			
	Total	72	100.0			
Number of employees in your company	1 – 10	19	26.4	2.04	0.76	
	11 – 20	31	43.1			
	Over 20	22	30.6			
	Total	72	100.0			
Nature of products you are exporting	Raw Products	Agricultural	16	22.2	3.03	1.50

Agro-Processed Products	10	13.9
Industrial Products	23	31.9
Services	2	2.8
Others, specify	21	29.2
Total	72	100.0

The results from the table above show that most of the firms have annual sales turnover in the range of 12-360 millions Ugandan shillings, as these contributed 62.5%, a few firms had sales turnover of over 360 million which contribute to only 11.1%.

From the same table above, results illustrate that majority of the firms had an asset base between 12-360 million (63.9%) followed by firms with an asset base above 360 millions Ugandan shillings(27.8%) and the least number of firms had an asset base of below 12 million, 8.3%. The results in the table further show that majority of the firms have been in operation for a period of 6-10 years (48.6%) followed by those that have been operating for the period of over 10 years (33.3%). The least number of firms has been in operation for a period of 1-5 years (18.1%)

Table 4.2 also shows that the biggest number of firms employed between 11-20 employees (43.1%), closely followed by those employing over 20 employees (30.6%) and lastly by those firms employing 1-10 workers (26.4%). In relation to the nature of products that firms are exporting, the majority exported industrial products (31.9%), followed by those dealing in other categories of products (29.2%), those exporting agricultural products were 22.2% and lastly those dealing in agro processed products constituted 13.9%.

Individual Characteristics

Table 4.3.0 showing the Individual characteristics of the respondents

Individual Characteristics		Count	Percent	Mean	St. Dev
Gender	Male	46	63.9	1.36	0.48
	Female	26	36.1		
	Total	72	100.0		
Current Job Title	Export Manager	7	9.7	3.33	1.09
	Asst. Export Manager	13	18.1		
	Marketing Manager	1	1.4		
	Other	51	70.8		
	Total	72	100.0		
Age Group	Below 20	1	1.4	2.54	0.71
	21 – 30	38	52.8		
	31 – 40	27	37.5		
	41 – 50	5	6.9		

		51 & Above	1	1.4		
		Total	72	100.0		
Highest Level of Education		Certificate	6	8.3		
		Diploma	23	31.9		
		Degree	30	41.7	2.71	0.90
		Post Graduate	12	16.7		
		Other	1	1.4		
		Total	72	100.0		

From the table above, the majority of the respondents were male constituting 63.9% with the least number being female (36.1%). Of these employees, the biggest number of respondents was of the age between 21-30 years (52.8%), a smaller number of the respondents were below 20 years and above 51 years, as both the ages constituted just 1.4% each of the total number of respondents.

As regards the job titles, it is surprising that many of the respondents in these exporting firms were neither export managers nor assistant export managers. In fact the majority of the respondents had other job titles (70.8%) and export managers were constituted 9.7% and assistant export managers were 18.1%. this indicates that most of these firms exporting could be not having specific institutions geared towards the exporting activity.

In terms of the age of the respondents, the biggest number of respondents were aged between 21-30 years (52.8%), followed by those aged between 31-40 years (37.5%). Those aged below 20 years and above 50 years constituted 1.4 % each.

The table above also indicates that the majority of the respondents were degree holders by qualification constituting 41.7% followed by diploma holders who constituted 31.9%. This shows that the majority of the respondents was of a higher level of education and could understand the questions in the questionnaire and give an objective and informed response. There was a smaller number of certificate holders and other qualifications as they constituted 8.3% and 1.4% respectively.

Table 4.3.1 showing the number of firms exporting to Markets outside Africa

<i>Markets outside Africa</i>	Count	Percent	<i>Asian Countries</i>	Count	Percent
European Union	47	65.3	China	21	29.2
USA	34	47.2	Japan	6	8.3
Valid Asia	18	25.0	Hong Kong	3	4.2
Middle East	13	18.1	Singapore	2	2.8
South America	11	15.3	Others	1	1.4

The analysis shows that most Ugandan exporters are exporting to the European Union (65.3%) and the least number of firms export to South America and Middle East with 15.3% and 18.1% respectively. On the other hand, within Asian Market, Ugandan exporters are mostly exporting to China (29.2%) followed by Japan with 8.3% and a smaller number of Ugandan firms export to export to Singapore (2.8%)

Table 4.3.2 Showing the number of firms exporting to the different countries within the Middle East and the European Union

<i>Middle East Countries</i>	Count	Percent	<i>European Countries</i>	<i>Union</i>	Count	Percent
United Arab Emirates	16	22.2	United Kingdom	34	47.2	
Israel	4	5.6	Germany	5	6.9	
Valid Saudi Arabia	2	2.8	Netherlands	1	1.4	
Others	11	15.3	Belgium	4	5.6	
			Others	2	2.8	

Table 4.3.2 above shows that for Ugandan firms exporting to the Middle East, majority export to United Arab Emirates (Dubai) with 22.2% whereas within the European countries, most firms export to United Kingdom with 47.2%. However the least number of Ugandan firms export to the Netherlands (1.4%)

Relationship between the variables

Table 4.4.1 showing the nature of the relationships at play among the study variables presented using the Pearson (r) correlation coefficient.

	Firm Size	Resource Commitment	Psychic Distance	Perceived Risk	Export Market Choice
Firm Size	1.000				
Resource Commitment	.661**	1.000			
Psychic Distance	-.401**	-.378**	1.000		
Perceived Risk	-.287*	-.207	.429**	1.000	
Export Market Choice	.365**	.378**	-.609**	-.583**	1.000

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

The results in Table 4.4.1 shows a significant negative relationship between Psychic Distance and Export Market Choice ($r = -.609^{**}$, $p < .05$), implying that wider levels of Psychic Distance relate with low possibilities of Export Market Choice.

The results further indicate a significant positive correlation between psychic distance and perceived risk ($r = .429^{**}$, $p < .05$), implying that high levels of psychic distance in a given market

indicate high levels of perceived risk in that market. On the other hand low levels of psychic distance correspond with low levels of perceived risk. However, this relationship was found to be weak. In other words low levels psychic distances are associated with low levels of perceived risk.

From the analysis, it is showed that firm size is negatively correlated to psychic distance($r = -.401^{**}$ $p < 0.5$) which indicates that the larger size of an export firm the shorter the level of psychic distance.

The study shows that perceived risk and export market choice are negatively correlated ($r = -.583^{**}$ $p < 0.5$). This illustrates that low levels of perceived risk relate with high possibility of export market choice

From the table above resource commitment is positively related to export market choice ($r = .378^{**}$) indicating that higher resource commitments are associated with higher levels of export market choice

Regression Model

Table 4.5.1 showing the regression model that indicates the extent to which the Resource Commitment, Psychic Distance, Perceived Risk and Firm Size determine the export market choice.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	.618	.439		1.407	.165
Resource Commitment	.110	.113	.127	.978	.333
Psychic Distance	-.396	.106	-.417	-3.728	.000
Perceived Risk	-.354	.109	-.345	-3.245	.002
Firm Size	.056	.132	.056	.424	.674
Dependent Variable: Export Market Choice					
R Square	.541		F Change		15.31
Adjusted R Square	.505		Sig.		.000

Sig. should be equal to or less than .05 for significance

Results in the table above indicate that the variation in Export market choice are explained by 50.5% of all the variables; psychic distance, perceived risk, resource commitment and firm size (Adjusted R Square = .505). In addition, it was observed that only two variables namely; Psychic distance and perceived risk were found to have a significant effect on the export market choice. Of the two, psychic distance is the most significant (Beta = -.417, sig. < .05), and its effect on export market choice is such that increasing psychic distance leads to a reduction in export market choice. Similarly, perceived risk also was found to have a negative effect on export

market choice (Beta = $-.345$, sig. $<.05$) implying that as perceived risk increases, the export market choice reduces.

Discussion of Results, Conclusions and Recommendations

This section presents the discussion of the findings and conclusions from the study. It attempts to compare and contrast the findings and what scholarly works have said before

The findings indicated that psychic distance has a negative correlation with export market choice. This could mean that the higher the level of psychic distance in a given market, the less likely that exporters will chose that market. This in fact is in agreement with Hollensen (2007) who points out that physical and psychological closeness to an international market eases the decision to select such a market because it will be perceived to be relatively similar to the market where the exporter is coming from. The physical closeness could be interpreted to mean the physical geographical distance while the psychological closeness could mean the perceived closeness in terms of economic policies, political systems and legal systems among other. Babichenko (2006) seems to agree with Hollensen (2007) in his study amongst Estonia firms, he found out that the diminishing psychic distance between the Baltic countries and the Russian Federation was partly responsible for the increased foreign direct investment in Estonia. These findings are further supported by Malhotra, et al (2009) who suggest that firms from developing countries prefer to choose markets/countries that have similar cultures as their home country and that the same firms also prefer to target countries that are in closer geographical distance to their home country, this could due to the fact that most firms in developing countries perceive such distant markets and markets diverse cultures to be risky, requiring greater resource commitment and managerial expertise. Alexander et al (2007) also found out in their study of retail expansion that retail firms were more likely to have operations in horst countries where the home geographical distance and language differences were shorter and minimal respectively. They further established that similar monetary systems like the adoption of a same regional currency encouraged retail firms to open up operations in their neighboring countries. However, their findings were having a contradiction in which they found out that some retail firms having chosen the “psychically far” markets were seen to be performing better than in the psychically close markets. This finding nonetheless doe not underscore the consideration of psychic distance in choosing the market to operate from. This is because success and failure once in the chosen market could be determined by other factor

The findings also showed that psychic distance is positively correlated to perceived risk, which means that that the higher levels of psychic distance correspond with higher level of perceived risk. The findings therefore seem to suggest that when the psychic distance is high in a given foreign market, the exporters are likely to perceive such a market to be less risky. This is in line with Alexander et al (2007) who found out that psychically distant markets are likely be perceived more risky than psychically close markets. Greater psychic distance between countries in fact creates uncertainties and cost to firms as they try to integrate this distance in their strategies (Malhotra et al, 2009). From the findings, it was also observed most exporters were exporting to European Union, which could mean that these countries are seen to have a shorter psychic distance compared to say South America which had the least number of firms exporting to such markets. This could be due to the fact that cultures, the language, the political and legal systems in these countries are more different from those in Uganda which increases the perceived risk in those markets. These findings can be further illustrated by the fact that within the

European Union, exporters export more to the United Kingdom; this could further be explained by the relatively similar political, legal and acceptable business practices of the UK and the Ugandan business environment. In the study of service entry modes, Blomstermo et al (2006) found out that psychic distance impacted on the decision to use a high control entry mode or the less control entry mode. They assert that as psychic distance increases, it increases the likelihood of adopting a low control entry mode; this could be due to the higher risk perceived due to the increased level of psychic distance. This finding could be relevant in understanding the reasons that cause Uganda exporters to choose some markets and leave others. However, Malhorta et al (2009), further suggests that in some very attractive markets, the psychic distance might not be considered, exporters would be willing to take the risk of entering such markets because of their attractiveness and potential to grow. This could explain why some exporters are now rushing to Southern Sudan notwithstanding the diverse cultural, language, political system differences.

Findings illustrated that among the independent variables, psychic distance and perceived risk had a significant relationship with export market choice, and on the other hand firm size and resource commitment were seen to have a relatively weak relationship with export market choice. However, Evans and Mavondo (2002) note that there is a high possibility of stereotyping about psychic distance in relating it to export market considerations. This stereotyping according to their findings never considers the different conditions prevailing in given markets; this could therefore mean that export market choice is not entirely determined by the level of psychic distance in that market, these factors include perceived risk as put forward by Babinchenko (2006) who in his analysis of Western investors interests in Estonia found that their risk propensity was also responsible for their decisions of not investing in the market, the long perceptions about the Russian Federation market and its historical communist conditions drove away investors. In addition he notes that lack of information about the market, standards and the quality prescriptions, duties and quotas coupled with high cost of production in Russia including the wage levels had contributed to less penetration of Estonia investors in Russia, this could mean for examples that firms with little resource capacity could not engage in this market considering the risks involved and of course the cost of production. The lack of information about market could actually have widened the psychic distance and increased the perceived risk to the level that such firms could hardly export or invest in the Russian market. As regards firm size and resource commitment, these were not found to have significant relationship with export market choice, this is however in contrast with the findings of Malhotra, et al (2009) and Lado et al (2004) who seem to assert that firms which are large enough and with enough resources are able to commit enough resources to new markets and able to wedge against the market risks in those markets. In fact, that this points to the fact that firms with large asset base and human resources would be willing to higher expatriates who are more conversant with the intended export market so that they reduce on the psychic distance that local managers could be having without

In summary, findings indicated that psychic distance, firm size, resource commitment and perceived risk have a significant effect on export market choice. Each variable is seen to either a direct or remote effect on the export choice. Scholars including Hollenson (2007); Babichenko (2006); Koch (2001); and Malhotra, et al (2009) seem to contend that psychic distance affects the exporter's market strategy considerations including the choice of which market to export to. The findings seem to suggest that firm size and resource commitment do not have a direct effect on

the export market choice. Ojala & Tyrva n, (2009) argue that it is not solely psychic distance that influences the choice of the export market but rather other factors such as the export market size, opportunity seeking behavior and actions taken by managers that influence such a decision. On the contrary, Blomstermo et al (2006) seem to argue that psychic distance increases the perceived risk in the export market of choice. He argues that large firms can overcome the challenges of psychic distance and this is supported by Buyinza (2009) who argues that smaller Ugandan firms were unable to exploit the United States market due to the fact they do not have enough resources to commit to such a big and developed market even when they had a preferential arrangement under the AGOA initiative. It can thus be deduced that firm size affects the Export choice of the market

Conclusions

This study makes the following conclusions from the findings;

The findings indicated that psychic distance is negatively related to export market choice and in fact this finding was collaborated by scholarly views of other scholars. The study further concludes that psychic distance is positively related to perceived risk and this finding was supported by literature. Firm size and resource commitment were found not to have any significant relationship with export market choice. This finding however, was challenged by other scholars' views who suggested that the size of a firm is related to the amount of human, technical and financial resources a company is willing to commit to any market and as such firms with larger sizes and can commit substantial resource and venture into riskier markets that smaller firms with less resources can not dare choose to export to.

Finally, of all the variables studied, it was psychic distance and perceived risk that were found to have a direct effect on export market choice of Ugandan firms. Firm size and resource commitment could be remotely affecting the choice of export markets that Uganda firms venture in.

Recommendations

From the findings, the study recommends the following action points

- Export firms can on their own invest in activities that can reduce psychic distance, these could include; participating in international trade exhibition in countries perceived to be psychically distant and also encourage or recruit psychically sensitive employees such as employees or export managers who are internationally exposed, multilingual and can understand other languages and cultures in the foreign market.
- Exporters should embrace the practice of insuring their export businesses in markets where they perceive high risks. This would guarantee that their business would not be adversely affected in case of abrupt changes in the foreign market. In addition Ugandan exporters can partner with local enterprises in the foreign market that are familiar with the local market conditions to reduce on the perceived risk arising from unfamiliar market situations
- The trade and investment promotion organizations should invest in programmes that are aimed at reducing the perceived differences between the home market and the export markets. These programs could include sponsoring exporters on trade missions in psychically distant markets to them exporters acclimatize with cultural, economic, social and business environments in these markets

- The policy makers can encourage and negotiate preferential trade arrangements and encourage regional integration arrangements that aim at reducing psychic distance and perceived risk by harmonizing economic, legal and business practice positions. This would go a long way in reducing the level of dissimilarity that would be prevailing between the home market and the export markets.

Limitations of the Study and suggested areas for further research

In some studies, there has been differing interpretations of the psychic distance as some scholars restricted themselves to a narrow view of cultural distance, however latest studies have fine tuned this variable to include other issues such legal environment, acceptable business practices that were all captured in this study. Since this study focused on the choice of export market, it did not study the performance of firms once in the chosen markets, future research could study the impact of psychic distance on the later performance of firms in the psychically close or distant markets i.e. whether the exporters' performance in those markets could be determined or influenced in one way or the other by psychic distance.

There is a need to carry out a less generalized study to establish the impact of psychic distance in specific export sectors such as service exports or industrial products with the aim of establishing whether its influence in choosing markets is variedly spread across the different export sectors. Future research could also study the nature of managers of export firms in Uganda and their ability to manage the perceived risk emanating from the psychic distance in foreign markets. This is because some literature pointed to the study of psychic distance on individual level rather than macro or organizational level since psychic distance is experienced by managers. Future studies therefore could focus on whether firms run by local managers experience wider psychic distance than those run by foreigners

References

- Alexander, N., Rhodes, M., & Myers, H. (2007). International market selection: measuring actions instead of intentions. *Journal of Services Marketing* 21/6 (2007) 424–434
- Babichenko, J. (2006). Psychic Distance effects for Russian Market: Estonian and Western Experience. *Baltic Journal of Market Vol. 1 No. 2, 2006 pp* 213-226
- Bbaale, E., & Hisali, E. (2008). Firm Level Productivity and Exporting in the Uganda's Manufacturing Sector. Downloaded on November, 23rd 2009 http://www.uneca.org/eca_programmes/trade_and_regional_integration/documents/Macro_24nov08/Firm-level%20paper.pdf
- Blomstermo, A., Sharma, D., & Sallis, J., (2005). The Choice of foreign market entry mode in service firms. *International Marketing Review Vol.23 No. 2, 2006 pp* 211-229
- Bridson, K., Byrom, J., Evans, J., & Medway, D. (2008). Revisiting retail Internationalization Drivers, impediments and business strategy. *International Journal of Retail & Distribution Management Vol. 36 No. 4, 2008 pp.* 260-280
- Buyinza, F. (2009). Uganda Manufacturing Firms' Productivity and Export Performance. Johanssen Kepler University, Linz Austria
- Daugherty, Patricia, J., Autry, Chad, W., Ellinger, Alexander, E. (2001). Reverse logistics: The relationship between resource commitment and program performance. *Journal of Business Logistics,*

- Evans, J., & Mavondo, F. (2000). The Relationship between Psychic Distance, Adaptation of the Retail Offer and Organizational Performance. *Visionary Marketing for the 21st Century: Facing the Challenge ANZMAC 2000*
- Forlani, D. Parthasarathy, M., & Keaveney, S. M. (2008). Managerial risk perceptions of international entry-mode strategies. The interaction effect of control and capability. *International Marketing Review Vol. 25 No. 3, 2008 pp. 292*
- Hagstro, P. & Forsgren, M. (2007). Ignorant and Impatient Internationalization? The Uppsala model and internationalization patterns for Internet-related firms. Critical perspectives on international business. *International Marketing Review Vol. 3 No. 3, 2007 pp.*
- Hollensen, S. (2007). *Global marketing (4th Ed)* Prentice Hall, Edinburgh Gate, Harlow Essex CM 2JE, England
- Hornibrook, S. A., & Fearne, A. (2003). Managing perceived risk as a Marketing strategy for Beef in UK foodservice industry. *International food and Agribusiness Management Review Vol 6 Issue. 3*
- Javalgi, G. R., Griffith, D.A., & White, S. D. (2003). An empirical examination of factors influencing the internationalization of service firms. *Journal of Service Marketing. Vol. 17 no.2 pp185-201.*
- Koch, A. J. (2001). Selecting overseas markets and entry modes: two decision processes or one? *Market Intelligence & Planning 19/1 65-75 MCB University Press*
- Lado, N., Martinez-Ros, E., & Valenzuela (2004). Identifying successful marketing strategies by export destination. *International Marketing Review Vol. 21 No.6 pp 573-597*
- Malhorta, S., Sivakumar, K., & Zhu, P., (2009). Distance factors and target market selection: the moderating effect of Market potential. *International Market Review Vol. 26 No.6, pp 651-673*
- Nshekanabo, A. (2009). COMESA topples EU market for Ugandan exports. *The East African Business Week. Buiness Magazine*
- Ojala, A., & Tyrvaenen, P. (2009). Impact of psychic distance to the Internationalization Behavior of Knowledge-intensive SMEs. *European Business Review. Vol 21 No.3 pp 263-277*
- Quer, D. Claver, E., & Rienda, L. (2007). The impact of country risk and cultural distance on entry mode choice: an integrated approach. *Cross Cultural Management: An International Journal Vol. 14 No. 1, 2007 pp. 74-87.*
- Sekarya, S., Eckman, M., & Hyllegard, K. H., (2007). Market Selection for International expansion. Assessing opportunities in emerging Markets. *International Marketing Review Vol. 24 no. 2 pp 208-238*
- Schlegelmilch, B. & Stottinger, B.B. (1998). Explaining export development through psychic distance: enlightening or elusive? *International Marketing Review, Vol. 15 No. 5, pp. 357-372,*
- Stone, R. N., & Gronhaug, K., (1993). Perceived risk: Further Considerations for Marketing Discipline. *European Journal of Marketing. Vol 27. No.3 pp 39-50.*
- Sustar, B. & Sustar, R. (2005). Size matters: the effect of European Union membership on firms in Slovenia. *Marketing Intelligence & planning. Vol. 23 No.5 pp. 505-514*
- Tihanyi, L., David, A., Griffith, Craig, J., & Russell (2005). The Effect of Cultural Distance on Entry Mode Choice, International Diversification, and MNE Performance: A Meta-Analysis. *Journal of International Business Studies, Vol. 36,*

Regional Conferencing - An Operations Research Approach to Optimize Socio-Economic Impact

Dorothy Nduku Hodson

Abstract

Global conferencing is a multi-billion dollar business generating revenue, creating service employment and most importantly information and knowledge to drive the global economy. Regionally in EAC, conferencing is increasing led primarily by government and public institutions. A challenge is in ensuring the conferencing products/services have a positive socio-economic impact on regional economies. Operations Research (OR) enables us model productive processes for efficient, effective and economic results. How can we use OR to optimize the socio-economic impact of regional conferencing?

The study used an OR framework to analyze a marketing product – specifically Regional Conferencing. This framework used a functional approach to examine key OR processes. The outcome was specific OR tasks based on organization/business strategy, operations strategy and specific OR tasks (e.g. output or product planning, transformation design, work design and scheduling). An OR technique was therefore used to increase effectiveness of management decision-making and thereby socio-economic impact of a marketing product – Regional Conferencing. A technology servicing operations strategy was selected with key operational tasks of conference scheduling, numbers, process & delivery format selected (demand forecasting, capacity planning, efficient processing and work flow designs). Details of these were further developed as key outputs for the framework analysis. Some benefits and limitations were noted and discussed in framework application and outputs. Finally, a recommendation for adaptation of the framework to include environments, other functional interactions and budgets with other control measures was made and a proposed process model presented by the author. The research design was exploratory and involved desk research methodology to collect and analyze secondary data (quantitative and qualitative). Findings are presented in a narrative, tables and flowcharts. The study benefits conference organizers (private and public), OR researchers, marketing practitioners and citizens of EA region. Research time was about 7 weeks by Ms. Dorothy Nduku for Marketing Strategy Services as independent researcher.

Introduction

Africa is a large continent with a young growing population which has opportunities and challenges. The East African Community (EAC) is one of the fastest growing regions with a growth rate above the Africa average and second only to West Africa, pointing to a development-oriented region with potential. It is a Customs Union with plans to develop in future to become a political union. EAC hopes and aspirations are evidenced in the resources and responses expended in developing and maintaining the Union. Operations Research Society of East Africa (ORSEA) regional conferences are part of this effort reflecting the drive towards integration of academic and professional resources to improve the lives and environments for citizens of the community. As a discipline Operations Research (OR) is used to improve management and decision making. This paper seeks to use OR techniques to improve management decision making.

Problem

There is a drive towards regionalism with a final goal being union at continent level. Trade and commerce are important components. Conferencing as a product provides, information, products/services & networks. Globally and regionally there are many approaches to managing and locating conferencing. With the regional agenda and in light of socio-economic challenges, how can we use OR to design a framework for analysis and decision with regard to providing an effective regional conferencing product? Specific objectives are to identify socio-economic challenges and present an OR framework for regional conferencing. Research questions are what are main socio-economic challenges and the proposed OR approach? The study methodology uses desk research in an exploratory design. Secondary data both qualitative and quantitative is collected and analyzed using models and a framework, trends and percentages with presentation in narrative and a flowchart. Study significance is the use of an OR technique to enhance a regional marketing product – conferencing and address socio-economic challenges as well as opportunities. This can be of benefit to OR academics and practitioners, multi-disciplinary functional teams, decisions makers in private, public and non-governmental organizations.

Literature Review

Definitions: Conference: “a large formal meeting where a lot of people discuss important matters such as business, politics or science especially for several days”. (Longman 2000) Some specific aspects:

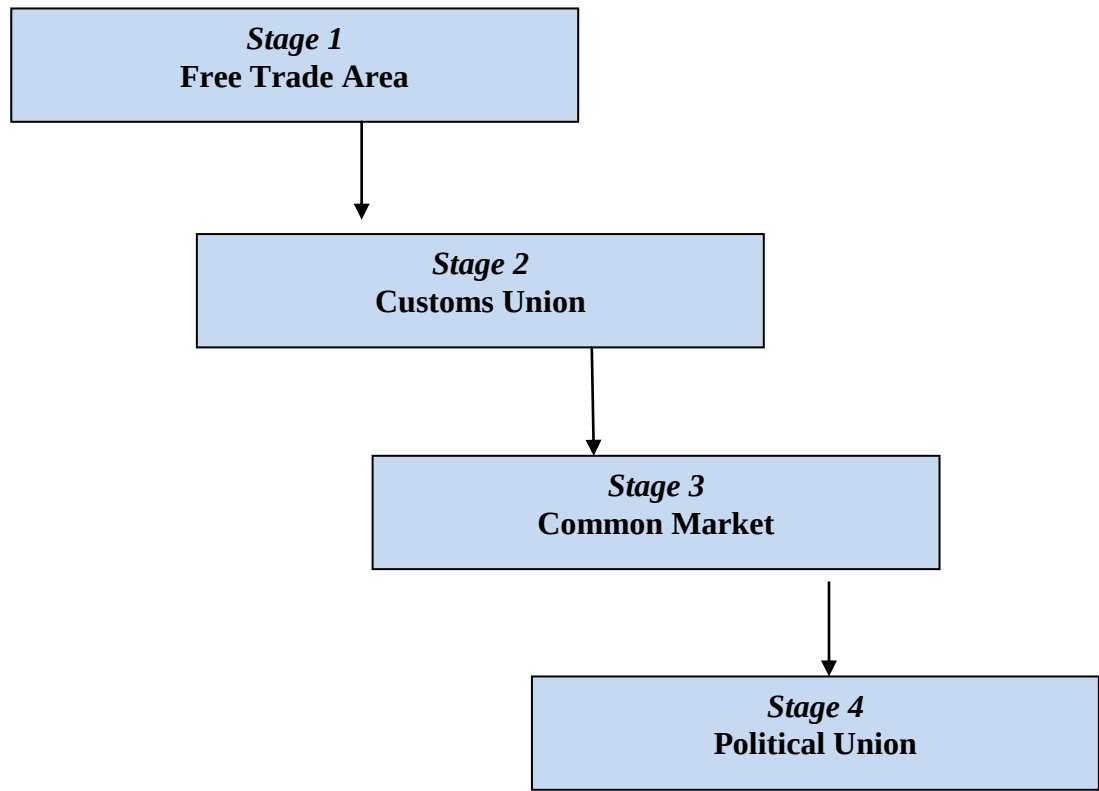
- Large formal meeting: this implies scale and indicates the management angle i.e. there are many methods of working, but meetings specifically are organized for face-to-face interaction, presentation, discussion and brainstorming.
- Multiple representation: this is key to ensuring fair representation
- Subjects: business, politics or science – this is a good issue to discuss in this and subsequent papers as it determines the agenda.
- Duration: several days – this is important as important matters require attention from senior representatives who often have busy schedules. Adequate time is required as numbers are large, process is formal and subject is complex.

Marketing definition: conferencing is part of the communication mix which has: advertising, personal selling, sales promotions, public relations and publicity and direct marketing (Kotler 2000). Conferencing can be part of the promotions mix which would mean elements are developed to persuade or enable consumers purchase products/services. It's closely aligned to exhibitions, shares features with personal selling opportunities and is often used in pr as event marketing. Benefits of conferencing as a sales promotions tool are targeted, direct selling as well as the opportunity to demonstrate product/service benefits. It requires expert knowledge and follow-up to close sales and link-up with other elements of the marketing mix. Conferencing also allows for integration of other communications elements such as advertising, developing promotional materials, networking (pr) and using direct mail etc which optimizes impact. Conferencing therefore has features of most elements in the communications mix and it's advisable to correctly classify it for more targeted and effective communications. For this paper the marketing definition is a sales promotion tool focusing on its use to promote trade and generate FDI (for example) along with other identified socio-economic challenges and opportunities.

Models

A. Development of unions (Dahringer, Mulbacher & Leihs 2001)

Diagram 1: Stages of Development of Unions

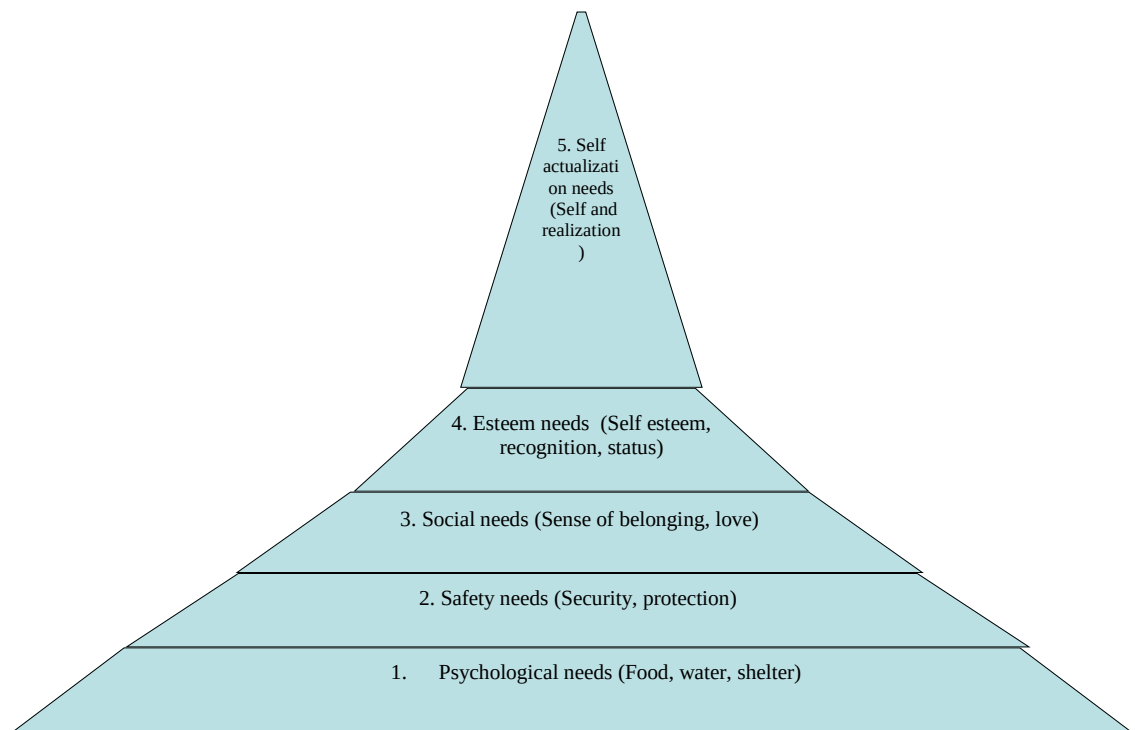


Currently EAC is presumed to be between Stage 3 and Stage 4 – transiting from a Common Market to a Political Union. All the Conditions for a Common Market may not have been fulfilled and groundwork is being laid for legal and political issues. The issues of trade and FDI were agenda items for formative stages 1 and 2 i.e. Free Trade Area and Customs Union could have been dealt with then. Clarification is important as the market information indicates unresolved issues from earlier stages can have negative impacts on operations of the union at later stages (e.g. with the European Union). For now we can consider the requirements for Stages 1 to 3 as priority for trade and FDI and therefore and assumptions will be these have been or are being fulfilled.

Socio-Economic Environment – Models, Practice And Framework

Maslow's Theory: Hierarchy of needs (Kotler 2000) – this sought to explain why people are driven by particular needs stating there are different types of needs classified according to importance. Unless the basic and most pressing basic needs e.g. food, shelter are met, other needs e.g. social needs such (as belonging to the EAC) are less important.

Diagram 2: Maslow's Hierarchy of Needs



Herzberg's Theory - Satisfiers and Dissatisfiers (Kotler 2000): these will be instrumental in successful integration and smooth running of EAC. Satisfiers are positive factors that will motivate action and participation e.g. specific trading categories and opportunities, while dissatisfiers are negative and will limit and hinder operations e.g. complex and confusing trading protocols. Conferencing at regional level can discuss and iron out these issues.

Table 1: Africa and EAC Socio-economic Environment: Opportunities and Challenges (Lufumpa, Kouassi & Sanga 2011) *See also Appendix 1

<u>Challenges</u>	<u>Opportunities</u>
1. High inflation, poor fiscal and current account balances at Africa, EAC and national level.	1.High GDP growth in Africa and EAC
2. Unfavorable and skewed rankings of business environment.	2.Joint improvement of business environment in Africa and EAC
3.Small trade volumes globally, at Africa and EAC	3. Common market of producers and suppliers that can be consolidated for volume and competition.
4.Tied trade controlled by major regions	4.Globalization and choice of suppliers and markets
5. High demand for foreign exchange and energy.	5. Demand for strong local currencies and sustainable energy.

6. Young, unskilled dependant populations with large tracts of unusable land.	6. Young, educated, growing population with significant and adaptable land masses.
7. Stagnant infant economies based on agriculture and increasing consumption of imported goods and a highly dependent service sector.	7. An existing agricultural base, potential for increasing primary processing and a growing service sector.
8. Undeveloped roads and IT infrastructure	8. Increasing investment in infrastructure and capacity.
9. High money supply, free market exchange rates	9. Demand driven economies with high returns and increased credit access.
10. A restless and unfulfilled population with unmet basic needs	10. A large market at basic needs hierarchy stage which can be met, with potential to meet other higher order needs.

Academic Conferencing (Wikipedia 2012)

Academic conferences enable researchers present and discuss their work. Together with journals or print conference materials, they are important meetings for exchanging information. Typically, conferences have various short and concise presentations (10 to 30 minutes) followed by a discussion. The academic papers are printed and circulated with conference proceedings as a main output. Conferences invite keynote speakers or special guests, usually to tie in or emphasis a theme. Additional features are panel discussions, round tables on various issues, questions and answer sessions (Q & A), symposiums, seminars, exhibitions/displays and workshops.

Presenters and participants are asked to submit short abstracts and full papers of 6-15 pages for review and acceptance. Presentations are then given. Formats vary with large gatherings that can break-up into work-shops or run concurrently as parallel sessions. Social or entertainment activities such as tours and receptions are important networking activities. Affiliated or interested parties can have scheduled meetings after the main conferencing sessions. Other related organizations may also choose to promote products and services with opportunities for selling directly to participants.

Academic (scientific) conferences fall into three categories:

- Themed conference: small, specific topic
- General conference; larger, wider focus, variety of topics, by regional, national, or internationals, held annually or regularly.
- Professional conference: large conferences, not limited to academics.

In organizing an academic conference, societies or researchers may do this directly or out-source to conference organizers. The process begins with a call for abstracts or papers giving details for participants. This is now increasing being done online. Themes, timelines, paper guidelines, accommodation, fees and contacts are provided.

This is the general format for Academic conferencing. How can this be described as a research problem? The socio-economic environment reveals challenges and opportunities. Regional conferencing can use OR as a discipline to address the challenges. The study seeks to enable

regional conferencing examine and respond to its environment. The problem is in the environment (challenges) and the process of delivering the conferencing product/service. Instead of merely observing general rule of thumb decision processes for an important product, it is hoped that a generic OR process model can be used to model the conferencing product, thereby optimize its preparation and delivery in light of environmental variables. Focus therefore is less on product development and more on the EAC market and its needs.

Table 2: EAC Regional Conferencing – An Operations Research Framework
(Halpin et al 1992) * See Also Main Framework Outputs in Table 3 below

OR Task	OR decision criteria	OR decision	OR Output
1.Operations Strategy	Technology strategy options (8 options)	Technology servicing	OR strategy choice
2.Demand & Constraints (socio-economic challenges)	Inflation, poor business environment, low trade volumes, global controls & indebtedness, skill/knowledge base & low productivity, narrow sector base, poor infrastructure, weak fiscal policy, high unmet basic needs (food etc)	Priority e.g. basic consumer needs, sector productivity, increased trade volumes etc	A market based ORSEA conference profile
3.Implications on operations processes	How to meet priority demand and meet regional conferencing requirements	Socio-economic challenges to be addresses	List of challenges
4.Evaluation of operations tasks	List of complete operations tasks (over 10) Demand forecasting, capacity planning, efficient processing and work flow designs.	4 main tasks: conference schedule, number of participants, process & format	Requirements for the 4 key operations tasks
5.OR support in business strategy	Regional conferencing to support trade and regional integration (e.g. a low cost strategy - full market coverage)	Technology servicing support	Alignment of strategies
6.Performance standards	Generic: theme, papers and presentations, ancillary events	Priority themes, output formats & events lists	Annual rotational events
7. Limitations	Desk research using secondary sources	OR Paper	OR Report
8.Priorities	Regional requirements and service delivery expectations	Integration & challenges	Conferencing support
9.Requirements and impact:	Exploratory research design to assess the current regional conferencing product in the light of regional socio-economic requirements	Paper, findings and recommendations	Input and Application of findings
10.Limitations	OR can be used as a beginning for	Measure of impact	Action +

and consequence	further research and also monitoring and evaluation purposes.	of challenges (quantitative)	further research

Table 3: EAC Regional Conferencing – Operations Strategy and Tasks (Example)

Operations Framework Item	Operations Framework Output
Operations Strategy	<i>Technology servicing:</i> this strategy can be selected to meet servicing complexity for academic knowledge based products such as conferencing. The strategy will allow technology to enhance service delivery in the selected operations tasks.
Key Operations Tasks	<i>Conference schedule:</i> based on demand analysis the key socio-economic challenges that need to be addressed e.g. basic needs (food, shelter, water, clothing etc), sectors and productivity (agriculture, industry, manufacturing and mining), trade volumes (key imports and exports), business and trading environments (trade practice, protocols, regulations, taxes etc). Technology servicing would then be used to analyze, optimize or minimize and make key decisions. From a marketing angle demand or market potential is important.
	<i>Conference numbers:</i> technology servicing in terms of capacity planning will involve utilizing databases of potential participating groups and individuals. As noted it's a cross section of public, private and non-governmental agencies. In marketing terms further analysis and targeting can be done to determine business or customer segments after estimating demand. This will guide details on frequency, and numbers in terms of conference planning.
	<i>Conference format:</i> once demand is estimated, numbers and participation determined, it would be opportune to develop the conferencing product to meet this demand. Technology servicing enable up-scaling due to increased reach and flexibility. This makes it possible to have themed conferences, regularly and in different venues.
	<i>Conference delivery process:</i> these are the key stages that start from the call for papers, to submissions, review and holding the event. Technology servicing can be used to enhance efficiency and effectiveness of the process from online calls to submit and dissemination of conference proceedings. For the actual event details such as selection of venue, guest relations, tour and travel arrangements can be streamlined and delivered efficiently. An interesting angle could be in using technology for enhanced information sharing while guaranteeing security. i.e. enhancing academic integrity, fraud prevention, plagiarism and false representation by checking the conference products, process and participants as well as follow-up on conference outputs. Feedback from participants can also be obtained and processed easily.

Discussion of Findings and Implications

The key benefit observed is that the framework begins with strategy. Also it has a heavy operational focus with assessment and outputs in terms of operations tasks. However the limitations are: the current framework starts with strategy, but no specific objectives are drawn. This is usually a good guide to activities (operations tasks). It is also inward-looking focused on OR. All disciplines interface with other functional activities and this should be reflected as it's a corner stone operations/production concept (open and closed systems). Though performance standards are stated, these are not measureable and no timelines exist. There is no external environment analysis which for this theme was important in determining how OR can meet environmental needs. The key tasks selection is arbitrary as there is no guidelines as to which tasks are important and why. Also there are no cost implications when OR is focusing on optimization and efficiency, usually to reduce costs. For all steps in the framework there is no decision criteria, this is a column I inserted as well as specific outputs (columns B and D).

This model is beneficial in that it's good to have methods to improve on existing conferencing and meet market needs, otherwise some problems seem overwhelming. Also it indicates OR is a solutions oriented discipline and that is positive. However OR is not top of mind when planning for conferencing and it is information that's often "filed away" not in ready use. The framework is very technical and difficult especially for non-scientific discipline researchers. There's too little current information available in general and public media. As a functional professional, I had to look for and literally "force" a link. A clear link of OR branches and links is useful for clarity for professionals from other disciplines.

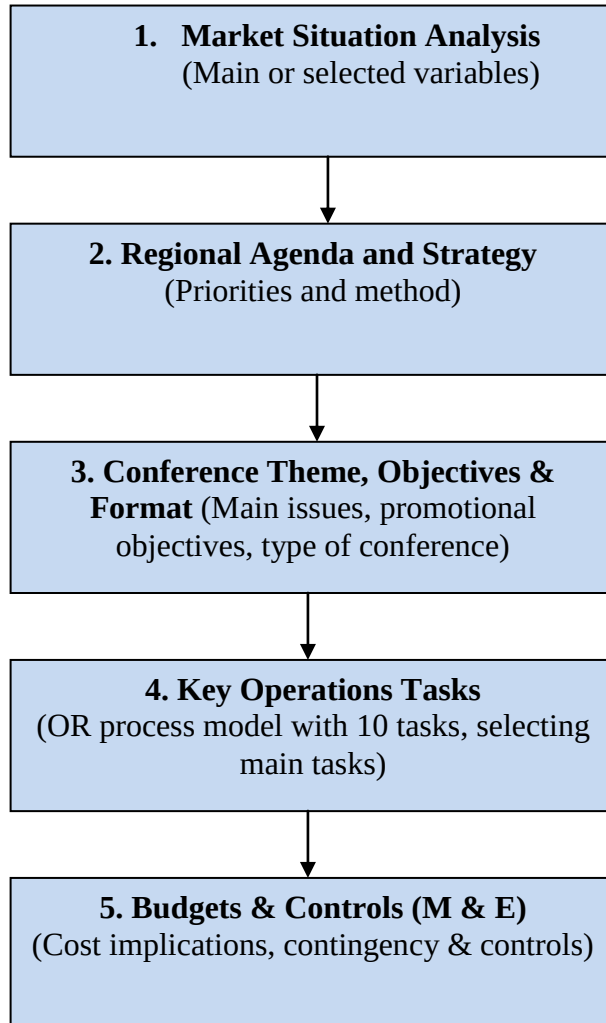
Conclusions and Recommendations

My conclusions are whereas the framework is useful, OR may need to consider adapting it to incorporate:

- Environments
- Other functional interactions
- Budgets, controls and M & E activities

Proposed EAC Regional Conferencing – An Operations Research Framework

Diagram 3: EAC Regional Conferencing Model (Dorothy Nduku Hodson 2012)



References

- Dahringer, Mulbacher & Leihs, *International Marketing: A Global Perspective* (2001), Addison Wesley, Massachusetts, USA
- The Economist* (Team et al), *Pocket World in Figures 2011 Edition* (2010), Published by The Economist In Association with Profile Books Limited, London, UK
- Halpin et al (1992), *Planning, Analysis of Construction Operations* (1992), John Wiley, New York
- Kotler, P. (1998, 2000), *Marketing Management – The Millennium Edition/International Edition*, Prentice-Hall Inc., USA
- Longman Dictionary of Contemporary English – The Living Dictionary* (New Edition 2003), Pearson Education Ltd, London, UK
- Lufumpa, Kouassi & Sanga (2011), *Africa Statistical Year Book 2011*, African Union Commission (AUC), African Development Bank (ADB) and UN Economic Commission for Africa.
- University of Dar-Es-Salaam, (2012), www.udsm.ac.tz Dar-es-Salaam, Tanzania

Appendices

Socio-economic Analysis: Africa and EAC (2002 – 2010) (Lufumpa, Kouassi & Sanga 2011)

Table 4: Socio- economic Analysis - Africa

Socio-economic variable	Comment
1.GDP and Growth	1.4 USD trillion, with 4.9% growth in 2010 and 3.1% in 2009
2.Inflation, fiscal and current accounts	Inflation averaged 6 to 7 % from 2002 to 2006 rising to 10 & 12% in 2008 to 2009. There is now a decline to 7 & 8%. Fiscal balances are negative from 2002 to 2003 with growth up-to 2008 and decline there-after.
3.Ease of doing Business	The Island nations and North Africa seem attractive for conferencing, doing business and trade (cross-border). Central and Southern Africa are also ranked favorably.
4.Africa trade	Africa share of world trade is small at 3.2%, a growth from 2002 where it was at about 2%. This determines attractiveness as a conferencing destination and is skewed in favor of Western and Asian economies. It reduces the ability of African economies to compete effectively in a global market place as discussions are centered in areas of economic power. Africa's debating position to leverage negotiating power may have to be premised other options such as quality, differentiation and specialization and not trade volume.
5.Nature of trade	Main trade partners are China, North America and Europe indicating possible conference markets. Major trade goods, indicative of types of conferencing are imports of machinery and equipment, manufactured goods, food. This is consistent with general stage of economic development for African economies. Exports are oil & gas at 44% and some agricultural goods (no statistics). There is little diversification and a few key buyers. This means conferencing is skewed to favor sellers from the Western and Asian regions.
Other developments	Though Africa has a dependency on bio-fuels, there are conferencing opportunities for energy sector in alternative energy. Trade analysis in volume may not always dictate opportunities and discussions on ground. Also, emerging issues are not catered for. Despite huge growth in internet and mobile telephony, Africa penetration rates are globally comparatively low with fewer opportunities for conferencing for this large and growing sector. Numbers and statistics therefore require market based and qualitative assessment of actual markets for validity and application

Table 5: Socio-economic Analysis - East African Community

Socio-economic variable	Comment
1.Population and land area	Population growth experienced rapid growth between 1980, 1990 and 2000, also early part of 2000 to 2004 (compounded rate of 40%, 31% and 12%). This has since slowed to a constant 3% annual growth rate, slightly above the Africa rate of 2%. Total regional population is 13% of Africa. Land area is only 6% of Africa total though there are countries with fairly large land area in the region. Median age is 18 years, a year below Africa median of 19. So EAC is a region with a young and growing population meaning ample human and land resources for socio-economic development
2.GDP growth	Total GDP for the region is USD 74 billion, growing at a rate of 7% compared to Africa's rate of 5%, meaning the region has very attractive comparative growth prospects. However percentage contribution to Africa total GDP is 5%.
3.GDP Per Capita	GDP per capita growth rates are variable ranging from 7 to 13% and averages at 8%. Planning at basic household expenditure with such high variability especially at micro-level may be difficult. The regional average growth rate is below that of Africa at 11%. There's also high variability at Africa level from -17% to 22%. This is additional income distress given low earnings.
4.Key sectors	Agriculture, industry, manufacturing and services are key sector with services having the biggest share, followed by agriculture, industry and manufacturing. Developments since 2002 reflect minimal changes in percentage share. Sector values are 20, 15, 7 and 36 USD billion respectively. Sector indexes for Agriculture and food production indicates increasing productivity. Data for industry/mining is limited with similar indications.
5.Infrastructure	Tourism arrivals, tarmac roads, fixed and mobile phone penetration: the region had a total of 3.6 million visitors annually, with growth of 30 to 100%. 19% of roads (average) are paved or tarmaced, with the smaller countries showing higher rates. Mobile phones have a 30% penetration rate (average).
6.Trade & Investment	ODA and FDI: ODA to the region is increasing but at a slower rate and is higher than the Africa average. FDI to the region records a performance below that of Africa in general. This means despite attractive prospects, the region is receiving fewer inflows than it could.
7.Intra Africa trade(COMESA)	Within the EAC trade volumes are small at 7% and 6% for imports and exports, while trade with Africa is larger at 12% and 13%. Most trade is external with the rest of the world. Integration could point to similar producers and suppliers for volume & creation of competitive advantage rather than comparative advantage and intra EAC trade. The trade balance figures are negative, so an aim could be to push for a positive trade balance position with appropriate trade partners.
8.Finances:	Broad Money Supply (M2 – Amount, Growth & Velocity): the economies record annual money supply growth of 10% and above, up-to 33%. Velocity is at 2 up-to 5 times annually.
9.Exchange rates	These are determined at national policy level. While all economies were affected by USD and EURO woes, little changes occurred in the shilling economies
10.MDG's	Poverty, Inequality & Extreme Hunger: The percentage of EAC citizens living under 1 USD a day ranges from 19% to 88%. There is a small percentage of

	national wealth controlled by the poorer/lower socio-economic groups at 4 to 9%. Malnutrition rates are at 30% to 60% - this indicates hunger and depravation, meaning of every three EAC citizens, one to two does not have access to adequate nutrition.
11.Doing Business	The regions rankings are not very favorable. These are qualitative measures of the variable business environment showing the need for improved rankings and greater harmonization of business practices for regional integration.

Determining the Extent of Financial Integration in East Africa Using Beta Convergence and Co integration Analysis

Erasmus S. Kaijage and Onesmus Mutunga Nzioka

Abstract

This paper investigates the extent of financial integration in East Africa over time by examining the degree of convergence in the stock markets. The paper further assesses long-run equilibrium of returns among the East African stock markets. The study was motivated by the current move by the East African member states to establish a monetary union in the region. The position on the stage of financial integration could offer a way of overcoming impediments to the development of the envisaged monetary union. Data analysis has been done using beta convergence and co integration method.

Findings of the study indicate that financial markets have some level of integration as evidenced by the beta coefficient of 0.61 and absence of long-run equilibrium. Based on these findings we conclude that, the integration of the East African stock markets is far from being successful. Further study using rigorous econometric analysis is recommended in order to be able to control for other variables not considered in this paper which affect the integration process. Alongside this, there is need for a study on sigma convergence, necessary to determine the dispersion of the investment returns.

Introduction

Capital market development is an important component of financial sector development and supplements the role of the banking system in economic development. In other words, Capital markets are needed as an alternative source of financing, supplementing commercial banks, which dominate the EAC financial sector with low competitiveness (Gaertner, Sanya, and Yabara, 2011). Specifically, capital markets assist in price discovery, liquidity provision, reduction in transactions costs, and risk transfer. They reduce information cost through generation and dissemination of information on firms leading to efficient markets in which prices incorporate all available information [Yartey and Adjasi (2007), Garcia and Liu (1999)] .

A large body of research has found evidence that capital market development contributes to economic growth, including in sub-Saharan African countries (Levine and Zervos, 1998; Adjasi and Biekpe, 2006b). Developed capital markets promote growth by mobilizing domestic savings and investments and by efficiently allocating mobilized resources to local companies. In addition, deep and liquid local capital markets can lessen vulnerability of an economy to external shocks, by reducing currency and duration mismatches in raising funds. Cross-country evidence shows that financial development can reduce income inequality by increasing the income of the poor (MFW4A, 2007). (Eichengreen and Luengnaruemitchai, 2004) suggest that there exists a certain minimum-efficient size of bond markets, because large issuance and trading volumes are more economical. Capital markets in the East African Community (EAC) face common challenges of low capitalization and liquidity, but to different degrees due to the low level of development in the markets. To this effect, the respective countries have been pursuing development of capital markets through regional integration.

Regional integration is a process through which states enter into a regional agreement in order to enhance regional cooperation through regional institutions and regulations. The objectives of the agreement could range from economic to political, although it has generally become a political economy initiative where commercial purposes are the means to achieve broader socio-political and security objectives. The agreement could be organized either on a supranational or an intergovernmental decision-making institutional order, or a combination of both. The convergence of investment returns explains financial integration in the sense that, financial markets are integrated when the law of one price holds. This states that assets generating identical cash flows command the same return, regardless of the domicile of the issuer and of the asset holder. Given this definition, financial market integration can be measured by comparing the returns of assets that are issued in different countries and generate identical cash flows. Identifying such assets is of course a difficult task.

When identical assets command different returns one would tend to conclude that financial markets are not integrated, for instance because legal barriers prevent capital from freely flowing between countries. Such barriers may reflect capital controls, tax codes, accounting and auditing differences, different bankruptcy law, different quality of judicial enforcement, etc. However, some caution is warranted. Countries may share a common legal and regulatory framework, but still identical assets may command different returns. Beyond legal barriers, there might be economic barriers, for instance situations of asymmetric information that induce investors to evaluate differently assets that are otherwise identical. We can therefore argue that, the East African countries have been pushing for the integration of the capital markets through a regional approach as a way of developing the capital markets. As such, this paper focuses on the stock market, because its more organized than the bond market, there is observed consistency in trading and hence the availability of data.

Research Problem

Financial markets are integrated when the law of one price holds. This means that, investment returns and prices of similar assets within different countries in a given region converge to a common figure. Beta convergence acts as a good measure of determining the extent of financial integration and so is the law of one price. Existing literature in general indicates that, there is evidence of increased beta convergence in the financial markets – stocks, bonds and treasury bills. The literature in this area is quite rich in Asia which is a key emerging market and Europe, more so the European Union (developed market). Further empirical evidence in the two markets points to faster integration/convergence within the money market compared to the stock market and the bonds market. However, narrowing to the case of the EAC, empirical findings discuss macro-economic variables but none focuses on the stock market. There is no empirical evidence on the existence of beta convergence within the EAC stock markets. This study, therefore seeks to determine the degree of beta convergence and existence of long-run equilibrium relationship in the EAC financial markets with specific focus on stock market returns.

Research Objectives and Research Questions

Given the above research problem, the objectives of the study were to examine the degree of integration in the East African stock markets, and to investigate long-run equilibrium of returns among the East African stock markets.

Subsequent to the above research objectives our research questions were formulated as follows:

1. To what extent has integration of the East African stock markets been achieved in the last five years?
2. Is there a long-run relationship in the returns of the East African stock markets?

Literature Review

The literature provides various alternative definitions of financial integration.

Baele et al. (2004) assume that the market for a given set of financial instruments and/or services is fully integrated if all potential market participants have the same relevant characteristics, i.e.:

1. They face a single set of rules when they decide to deal with those financial instruments and/or services.
2. They have equal access to the same set of financial instruments and/or services.
3. They are treated equally when they are active in the market.

The definition of financial market integration is closely linked to the law of one price. The law of one price states that if assets have identical risks and returns, then they should be priced identically regardless of where they are transacted. If the law of one price does not hold, then there is room for arbitrage opportunities. However, if the investment of capital is non-discriminatory, then any investors will be free to exploit any arbitrage opportunities, which will then cease to exist, thereby restoring the validity of the law of one price.

Brouwer (2005) argues that financial market integration is the process through which financial markets in an economy become more closely integrated with those in other economies or with those in the rest of the world. This implies an increase in capital flows and a tendency for prices and returns on traded financial assets in different countries to equalize. Ho (2009) shows that financial market integration could proceed with enforcement of a formal international treaty.

Types of Financial Integration

The literature, e.g. Oxelheim (1990) or Guha et al. (2004), distinguishes between total, direct and indirect financial integration. The total financial integration embraces direct and indirect integration. Total or perfect integration means that expected real interest rates are the same on the markets concerned. Where total financial integration is not perfect, the reason may be imperfect direct and/or indirect financial integration.

Direct financial integration, which is also called capital market integration, is expressed in deviations from the law of one price for financial securities. Under perfect direct financial integration this law obtains, and an investor can expect the same return on investments from different markets (and borrower the same loan costs), after the requisite adjustment has been made for risk. If the differential in expected risk-adjusted returns is greater than zero but less than or the same as the transaction cost, we can say that markets are disintegrated but are nonetheless efficient. Financial integration can also vary in strength from perfect integration to perfect disintegration or segmentation (Oxelheim, 1990). When expected real interest rates are not the same in the markets in question (not perfect integration), then the markets are said to be segmented. Financial integration includes not only integration of financial markets or services but can take other forms as well. These forms need not be interconnected nor are they advanced forms (stages) of the integration process. Liebscher et al. (2006) show that integration can take many forms and present various aspects:

- Monetary integration, either through currency unions (Europe, Western and Central Africa) or through dollarization, such as in Latin America and the Caribbean.

- Liberalization of the capital account.
- Subcontracting abroad of financial services or infrastructure, such as in the case of listing of securities on foreign stock exchanges.
- Foreign entry.
- Regulatory convergence and harmonization.

Measuring Financial Integration

Various measures exist in the literature for assessing the level of financial integration. The methods which are used most are connected with growing investment opportunities.

Financial integration is often measured following the approach adopted by Baele et al. (2004).

They consider three broad categories of financial integration measures:

- Price-based measures, which capture discrepancies in prices or returns on assets caused by the geographic origin of the assets. This category of measures is divided into two methods of measurement: yield-based and country effects.
- News-based measures, which measure the information effects from other frictions or barriers. If the global news has relatively bigger importance than local news, the degree of systematic risk should be identical across assets in different countries.
- Quantity-based measures, which quantify the effects of friction faced by the demand for and supply of investment opportunities.

Co integration of Stock Markets

In an era of increasing globalization, the transmission of movements in international financial markets is an important issue for economic policy, especially in periods where markets are highly volatile. The determination of diversification strategies by an international investor also depends crucially on the nature and magnitude of the relationships existing between different stock markets. Thus it becomes important for international investors to understand the interrelations among the various markets to diversify risk and to derive high return. A number of theories can be applied in carrying out co integration analysis; Wavelet theory and Fourier Transform.

Empirical Literature Review

Review of existing empirical literature points to adequate empirical studies, particularly within the European Union and Asia. This is so because these were the first markets to embrace the concept of financial integration. Some literature is also available on South Africa, West Africa and a bit on East Africa, the region with the least developed financial market relative to the rest of the regions mentioned above. Below we highlight some of the empirical studies across all the regions mentioned above;

Most of the empirical work done in this field has focused on OECD countries and East Asia. Kaminsky and Schmukler (2002) studied the dynamic aspects of international financial integration and suggested that equity prices tend to be more internationally connected than interest rates. Moosa and Bhatti (1997) provide conclusive empirical evidence on the high level of integration between goods and financial markets of Japan and six Asian countries by testing uncovered interest parity (UIP) and ex ante purchasing power parity (PPP). Bhoi and Dhal (1998) have attempted to empirically evaluate the extent of integration of India's financial markets in the post-liberalization period. According to them, there exists a fair degree of convergence of interest rates among the short-term money markets, credit and gilt markets – but the capital market

exhibits fairly isolated behaviour. Furthermore, they find that the integration of domestic and overseas financial markets is not robust.

According to Makin (1994), there is a consensus that UIP fails to provide any information about the degree of financial integration. This is based on concerns regarding time varying currency risk premia or irrational expectations about exchange movements. But UIP can be restated with the focus on the relationship between domestic and foreign interest rates, given expectations about movements in the exchange rate. In particular, if interest rates and exchange rates are non-stationary processes, then it could be interesting to see whether domestic and foreign interest rates have long-run co-movements.

There is some debate over whether it is the lack of financial integration that is contributing to the lack of intra-regional trade or whether the causation is the other way round. Eichengreen and Park (2004) subscribe to the former view and Fukao et al. (2003) and Ronci (2004) to the latter. However, these authors use different data, with Eichengreen and Park focusing on banks, Fukao et al. on FDI and Ronci on short-term credits. Simple correlations of trade and financial flows among the East Asia countries (China and Taiwan excluded through lack of data) undertaken by Cowen et al. (2006) for the period 2001-2004 suggest that correlations are positive but relatively small (compared to OECD countries). One year lags or leads have little effect so it is not possible to judge any causal impact. They conclude with the suggestion that East Asian financial and economic integration is likely to increase over the future, as it is lower than in regions where the barriers are lower, and the general trend is towards a reduction in barriers. Cowen et al. (2006) place a lot of importance on the lack of vehicles for mobilizing savings within the Asian region. Their principal argument is in favour of pension funds and indeed of pension reform that makes people more concerned to establish pensions.

Co integration studies that investigated long-run relationships focus on the extent to which nascent stock markets in Asian countries are internationally integrated and, in turn, have important implications to diversification potential in Asian stock markets (Chan et al. 1992; Hung and Cheung, 1995; DeFusco et al. 1996; Masih and Masih, 2001). Studies that have estimated short-run dynamic causal linkages seek to better understand the propagation mechanism driving stock market fluctuations in different countries, especially with respect to market crashes (Masih and Masih, 1997a, 1999; Ghosh et al. 1999; Sheng and Tu, 2000). These and other related studies (Chung and Liu, 1994; Arshanapalli et al. 1995; Cheung, 1997; Janakiramanan and Lamba, 1998; Dekker et al. 2001) employ vector auto regression (VAR) techniques, including Co integration, Granger causality, impulse response analysis, and forecast error variance decomposition. In general, the empirical evidence presented in these studies is mixed with respect to both long run relationships and short-run dynamic causal linkages.

Countries in Southern and Eastern Africa are working towards regionally integrated markets and trading platforms with central depositories and settlement systems that conform to common internationally recognized Group of Thirty (G30) standards (Appiah et al., 1998). In addition, a high proportion of countries in Sub-Saharan Africa have a long history of very low savings and deposit ratios (Kenny and Moss, 1998), and incomplete credit markets with inefficient financial intermediation.

In assessing real convergence in the East African region, research has paid more attention to real GDP growth. In a bid to establish if the EAC is a viable MU, Buigut and Valev (2005) investigated the symmetric nature of demand and supply shocks belying real GDP growth in partner states from 1980-2001. Theory asserts that partner countries within a monetary union should have monetary policies similar to that of the monetary union as whole and thus cannot apply monetary and exchange rate policies to respond to country specific shocks (Mundell, 1961; McKinnon, 1963). Results from this study showed that, short run shocks were not symmetric, but lagged supply shocks associated with trade patterns were. In addition the speed of adjustment to shocks and the effect of variability on real output (real GDP) also appeared to be symmetric with the exception of Uganda. In particular Uganda experienced large shocks and adjustments were very slow which could prove costly in a monetary union.

Although the findings could not confirm a viable monetary union at the time, they pointed towards a potential MU if there is deeper trade integration emphasizing the importance of well-functioning common market. This study utilized data ending just the time of EAC, but outcomes involving use of recent data sets have not been that different. In particular Opolot and Osoro (2009) who examine the synchronization of business cycles of real GDP from 1981 to 2007 across the region find peculiar differences. While business cycle co movements across the region have improved since the 1990's, they are still very low. Only Tanzania and Uganda have optimistic synchronizations within the region casting more doubt on assuming the monetary union at the moment. Further assessments of catch-up growth have been conducted based on per capita real GDP. Sigma tests carried out by IMF (2011) indicate that with the exception of Burundi, incomes across the region have grown closer over the last 15 years (1996-2010). All other countries' per capita incomes appear to be catching up Kenya. Findings by Opolot and Lavunda, (2009) further confirm this, but add Burundi to the group of 4. This dissimilarity in result could be explained by differences in data sample and might imply that in the recent years all other economies have grown much faster and their institutional structures and policies have become more similar compared to Burundi.

In regards to the nominal variables, investigations have mostly turned to exchange rate behavior. Buigut (2011) looks at both nominal and real exchange rates regions using data from 1991 to 2009. He finds partial convergence due to that fact that some countries exhibited show convergence in the short run. He is unable to find a common trend in long run for these EAC countries urging caution for taking on an MU.

Largely, studies have found no evidence of budget deficits (including and excluding grants) convergence in the region in the region (IMF, 2011; Opolot and Lavunda, (2009). Analyses of the evolution of the criteria have instead shown increasing patterns of dispersion and divergence across states. Findings concerning inflation rates convergence appear to be mixed. While some found divergence across states (IMF, 2011), others discovered convergence (Kishor and Ssozi, 2010; Opolot and Lavunda 2009). Even so in later case, the effect attributed more to the three original countries Tanzania, Uganda and Kenya. Upon isolation from trio, Rwanda and Burundi appear to exhibit inflation divergence. Yet others Buguit (2011) have found partial convergence. In general, there is very little research on the convergence of current account deficits and national savings. However, Opolot and Lavunda (2009) picked interest in the variables. Their panel unit root tests show convergence of the current accounts and national savings of the group of 5.

However a more detailed examination reveals that, affects appear to be attributed to Kenya, Burundi and Rwanda in the case of current accounts deficits. While for the case of national savings convergence is mostly attributed to Kenya and Rwanda. These findings are quite surprising given that Rwanda and Burundi have just recently emerged out of civil strife compared to Uganda or Tanzania. In addition it should not be forgotten that data range used is for earliest period of the EAC as a five block.

Critical review of the above literature, specifically the East African Region, indicates partial convergence of some countries largely attributable to the adoption of different/independent policies by the countries.

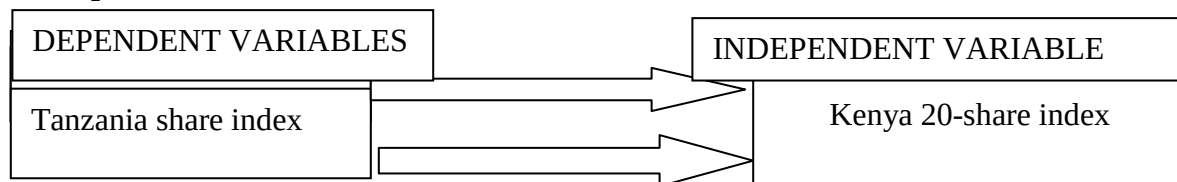
Research Gap

From the above literature there seems to be no empirical evidence of stock market convergence/integration and long-run equilibrium of stock market returns (measured using the respective stock indices) in East Africa, which serves as our motivation to explore for the empirical evidence in this study and add some knowledge based on our findings to the existing literature.

Conceptual Framework

The concept of financial markets integration discussed in this paper will be analyzed by examining beta convergence and co integration. Essentially, the focus is on the relation between the 20-share index of the Kenyan market as the benchmark market (our independent variable and both the Tanzania and Uganda stock markets as the dependent variables. Regression analysis on these three variables shall be seeking to determine the extent of the spread in the stock returns, in which case a spread of zero is interpreted to mean perfect integration while the value of the beta coefficient tells the degree of convergence. The ultimate objective from the established regression model is to establish whether there is a long-run equilibrium relationship between the stock returns (measured using the respective market indices) of the three key East African stock markets. Diagrammatically;

Conceptual framework



From the above conceptual framework we derive the following postulates;

- **Postulate 1:** The East African stock markets have achieved financial integration of degree zero over the last five years
- **Postulate 2:** There is no long-run relationship in the returns of the East African stock markets.

The two postulates which translate into our research questions are answered by analyzing the data in the data analysis section.

Data Analysis Models

The study employs the concept of beta convergence and co integration analysis in analyzing data in line with the set research objectives.

Beta Convergence

Beta (β) convergence is measured by the following regression with panel data:

$$\Delta Si,t = \alpha + \beta Si,t-1 + \sum_{l=1}^L \gamma_l \Delta Si,t-l + \epsilon_{i,t}$$

where Si,t denotes a spread of yields on a relevant portfolio investment between country i and a benchmark market at time t , and l represents lag. If financial markets are perfectly integrated, this spread should be zero as long as securities traded have the same risks and maturity structures, following the law of one price (“mean reversion”). Therefore, a negative β coefficient indicates mean reversion taking place across the markets, and an absolute value of the coefficient represents the speed of convergence at which the spread is dissolved and investment returns on securities in country i converge with those in the benchmark market. γ_l measure lagging effects from ΔSi in previous periods. A beta coefficient of 0 means there is no convergence taking place between the investment returns, that of any value above 0 but below 0.5 would indicate weak/low convergence while any value above 0.5 indicates strong convergence taking place between the investment returns.

Co Integration Approach

In the literature, one of the methods used to examine the long-run relationship between two variables, is the co-integration approach. Some of the empirical studies which implement this approach include; Serletis and King (1997) and Bley (2010) who investigate stock market integration across the EU. Manning (2002), Click and Plummer (2005), and Yu, Fung, and Tam (2010) apply the technique to assess integration of Asian stock markets.

This issue of testing long-run relationships was addressed first by Engle and Granger (1987). But the most popular test for co-integration was developed by Johansen and Juselius (1990) that tests for the presence of multiple long-run relationships. In this study we use this co-integration approach to examine the integration of returns in both Kenya/domestic and other East African markets. One of the pre-requisites for undertaking the co-integration framework is that the variables that are expected to have long-run relationship should be non-stationary at their levels and should be stationary at the same order (or difference).

The long-run relationship that we are examining here can be expressed as below

$$I = \alpha + \beta i^*$$

Where ‘ I ’ and ‘ i^* ’ are the returns in the East African markets of Tanzania and Uganda against the Kenyan market as the benchmark respectively. As specified earlier, first we check the stationarity properties of the variables and then test whether they are co-integrated by the maximum likelihood technique outlined by Johansen and Juselius (1990).

The essence of the co integration approach is to identify r , a number of co integrating vectors. If n variables with unit roots have r co integrating relationships, they have $n - r$ common stochastic trends. Thus if r equals $n - 1$, stock markets are perfectly integrated under one common long-run trend. Alternatively if r equals 0, all data series are independent (Kasa, 1992). Johansen and

Juselius (1990) derive two likelihood-ratio tests to infer on r , known as the trace statistics and the maximum-eigenvalue statistics.

Research Data used

The study used secondary data on market indices (as a measure of returns) on a monthly basis for the period January 2007 to August 2012. Secondary data was used because of its availability and reliability compared to primary data. The secondary data used was for Kenya, Uganda and Tanzania stock markets. Rwanda and Burundi were excluded because of unavailability of data. Essentially, the focus was on price-based measures of integration to determine the convergence of investment returns.

The main sources of the data are the Handbooks of Statistics on the respective securities and stock exchanges published by the stock exchanges themselves. In the next section we discuss the empirical results based on the multiple co-integration method.

Data Analysis and Findings

Given below is a presentation of results and findings obtained from data analysis applying multiple co-integration method to investigate the existence of long-run relationship in the returns of the three East African markets.

Beta Convergence

The first three columns in Table 1 show the estimated beta coefficients using the panel data with ordinary least squares (OLS), fixed effects, and random effects models. The beta coefficients, estimated at -0.61 in the panel regressions, are negative and significant. This is indicative of market convergence taking place. The fixed effects model implies that, there is no significant difference in the beta coefficient across the countries. Two columns on the right side of the table present the results of OLS regressions using individual spreads of Tanzania, and Uganda from the benchmark Kenyan market. The results are consistent with those from the panel data regressions except that the beta coefficient for Uganda is not statistically significant. In other words the individual regressions suggest that integration between the Ugandan and the Kenyan stock markets is stronger than that between the Tanzanian and the Kenyan markets, although the fixed effects model indicates there is no significant difference in beta convergence between Uganda and Tanzania. A system of three variables with co integration relations have been generated from the trivariate time series data with y^1 , y^2 and y^3 representing the three lagged differences.

Overall, beta convergence implies mean reversion taking place in the three stock markets.

Table 1: Beta Convergence

	Panel Regression			Individual Regression	
	OSL	Fixed Effects	Random Effects	Tanzania	Uganda
<u>- Kenya</u>					
y^1	-0.610	-0.610	-0.610	-0.520	-0.912
	(0.252)	(0.264)	(0.075)	(0.223)	(0.168)
Y^2	-0.132	-0.123	-0.132	-0.063	0.052
	(0.243)	(0.244)	(.074)	(0.301)	(0.161)
y^3	-0.235	-0.235	-0.235	-0.254	0.182
	(0.201)	(0.202)	(0.086)	(0.238)	(0.149)
Tanzania- Kenya	-0.001	0.000	-0.001	0.058	-0.007
	(0.159)	(0.150)	(0.068)	(0.184)	(.154)
Constant	0.519	0.045		0.462	0.718
	(0.603)	(1.326)		(1.069)	(0.568)

Co integration Analysis

The steps undertaken include;

- Verifying whether the data series are nonstationary, containing a unit root
- Selecting the number of lags used in the model.

For the first step, augmented Dickey-Fuller and Phillips-Perron tests are conducted on the stock price data.

The results indicated in table 2 below confirm that all data series are modeled as integrated of order one and appropriate for the co integration analysis. The same results are obtained whether or not the data are converted to the US dollar.

Overall, given the absence of a co integrating vector in the three stock markets, we conclude that there is no long-run relationship among the EAC stock markets. We have tabulated critical values for the test statistic up to three cointegration relations; i.e. $r = 0, 1, 2$. Besides the trace statistic, Johansen and Juselius [1990] have suggested the maximal eigenvalue statistic 2. This statistic has been named the trace statistic.

Besides the trace statistic, Johansen and Juselius [1990] have suggested the maximal eigenvalue statistic defined as $-2 \ln(Q; r|r+1) = -T \ln(1 - \hat{\lambda}_{r+1})$ for testing the existence of r versus $r+1$ cointegration relationships. Critical values for both test statistics and different specifications with respect to the inclusion of deterministic regressors are provided in the last three columns in table 2 below

Table 2. Co integration Tests

	Trace Statistics			Maximum value statistics		
Number of Cointegrating Vectors	Adjusted for Exchange Rates	Not Adjusted for Exchange Rates	5 percent Critical Value	Adjusted for Exchange Rates	Not adjusted for Exchange Rates	5 percent Critical Value
r=0	28.450	26.432	27.890	16.980	20.670	21.220
r=1	7.530	4.325	17.560	7.250	4.435	15.130
r=2	0.179	0.181	2.870	0.180	0.181	3.650

Conclusion and Recommendations

Conclusion

Based on the results above, we conclude that integration is still taking place but it is far from being perfect as indicated by the beta coefficient of -0.61. Therefore, our first research question is answered. The absence of long-run equilibrium based on our findings is good grounds for us to conclude that, the integration of the East African stock markets is far from being successful. As we put forward this argument, we do acknowledge that, there is an element of integration (as discussed above). However the issue of whether the markets are moving towards integration has not been addressed in this paper. We are of the view that, further research on the same is necessary, using sigma convergence.

Limitations of the Study

It should also be noted, the results may suffer from a spurious relationship: the estimated beta convergence may, to some extent, reflect each market's response to outside shocks of the active participation of foreign investors in these markets, rather than the convergence in the region. Secondly, due to the thinness of the markets in terms of number of listed companies and the small size of transactions, the data series is feared not to fully reflect the actual market performance.

Recommendations for further Research

Given that the co integration analysis indicates there is no long-run equilibrium among the EAC stock markets, estimated convergence in the stock markets needs to be subjected to further scrutiny by carrying out more rigorous analysis. We are of the view that, more robust findings can be established if the data series can be subjected to sigma convergence analysis. Such an analysis would address the issue of the dispersion of the returns (not discussed in this paper). We propose the use of coefficient of variation as an appropriate tool for this exercise unlike a linear time trend as applied by the World Bank study of 2010.

References

- Adam, K., T. Jappelli, A. M. Menichini, M. Padula, and M. Pagano, (2002), "Analyse, Compare, and Apply Alternative Indicators and Monitoring Methodologies to Measure the Evolution of Capital Market Integration in the European Union," Report to the European Commission.
- Adelegan, O. Janet, (2008), "Can Regional Cross-Listings Accelerate Stock Market Development? Empirical Evidence from Sub-Saharan Africa," IMF Working Paper 08/281 (Washington: International Monetary Fund).
- Adelegan, O. Janet, and Bozena Radzewicz-Bak, (2009), "What Determines Bond Market Development in Sub-Saharan Africa?" IMF Working Paper 09/213 (Washington: International Monetary Fund).
- Adjasi, C. K. D., and N.B. Biekpe, (2006a), "Co integration and Dynamic Causal Links amongst African Stock Markets," *Investment Management and Financial Innovations*, Vol. 4, pp. 102–119.
- Adjasi, C. K. D., and N.B. Biekpe, (2006b), "Stock Market Development and Economic Growth: The Case of Selected African Countries," *African Development Review*, 18 (1), pp. 144–161.
- African Development Bank (AfDB), (2010a), *Financial Sector Integration in Three Regions of Africa* (Tunis: African Development Bank Group).
- African Development Bank (AfDB), (2010b), *African Fixed Income and Derivatives Guidebook* (Tunis: African Development Bank Group).
- African Securities Exchanges Association, (2009), *African Securities Exchanges Association Yearbook 2009*. Available via Internet: <http://www.africansea.org>.
- Asian Development Bank (ADB), (2010), "Estimation of Cross-Border Bond Transaction Costs in ASEAN+3," Part I, *Asian Bond Markets Initiative Group of Experts Final Report*.
- Babetskii, I., L. Komárek, and Z. Komárková, (2008), "Financial Integration of Stock Markets among New EU Member States and the Euro Area," *Czech Journal of Economics and Finance*, 57, 2007, No. 7–8.
- Bank of France, (2006), "The Rapid Growth of the Government Securities Markets in Sub-Saharan Africa: The Case of WAEMU," *Rapport Zone franc 2006* (Paris: Banque de France).
- Bley, J., (2009), "European Stock Market Integration: Fact or Fiction?" *Journal of International Financial Markets, Institutions and Money*, 19, 759–776.
- Claeys, A-S, and A. Sindzingre, (2003), "Regional Integration as a Transfer of Rules: the Case of the Relationship between the European Union and the West African Economic and Monetary Union (WAEMU)," prepared for the Development Studies Association Annual Conference, 10–12 September.
- Click, R. W., and M. G. Plummer, (2005), "Stock Market Integration in ASEAN after the Asian Financial Crisis," *Journal of Asian Economics*, 16, 5–28.
- East African Community, "Treaty for the Establishment of the East African Community." Available via Internet: <http://www.eac.int/html>.
- "EAC Common Market Protocol." Available via Internet: http://www.eac.int/advisoryopinions/doc_download/362-eac-common-market-protocol.html.

- Eichengreen, B., and P. Luengnaruemitchai, (2004), "Why Doesn't Asia Have Bigger Bond Markets?" NBER Working Paper 10576 (Cambridge, MA: National Bureau of Economic Research).
- European Central Bank (ECB), (2010), *Study on the Establishment of a Monetary Union among the Partner States of the East African Community* (Frankfurt: ECB).
- Espinoza, R., A. Prasad, and O. Williams, (2010), "Regional Financial Integration in the GCC," IMF Working Paper 10/90 (Washington: International Monetary Fund).
- Feldstein, M., and C. Horioka, (1980), "Domestic Saving and International Capital Flows," *Economic Journal*, Vol. 90, No. 358, 314–329.
- Gaertner, M., S. Sanya, and M. Yabara, (2011), "Assessing Banking Competition within the Eastern African Community," unpublished manuscript (Washington: International Monetary Fund).
- Grimm, S., (1999), "Institutional Change in the West African Economic and Monetary Union (WAEMU) since 1994: A fresh Start after the Devaluation Shock?" *afrika spectrum*, 34, 1, pp. 5–32.
- Hoschka, T. C., (2005), "Developing the Market for Local Currency Bonds by Foreign Issuers: Lessons from Asia," ERD Working Paper Series No. 63 (Manila: Asian Development Bank).
- International Monetary Fund (IMF), (2008), *Regional Economic Outlook: Sub-Saharan Africa, April 2008* (Washington: International Monetary Fund).
- Magrini, S. (2004), "Regional (Di) Convergence", in Henderson, J. V. and Thisse, J.-F. (eds.) *Handbook of Regional and Urban Economics*,
- Neven D. and Gouyette, C. (1995), "Regional Convergence in the European Union", *Journal of Common Market Studies*, 33, 47-65.
- Overman, H. and Puga, D. (2002), "Unemployment clusters across Europe's regions and countries", *Economic Policy*, CEPR, CES, MSH, vol. 17(34), 115-148.
- Pellegrini, G. (2002), "Proximity, Polarization, and Local Labor Market Performances", *Networks and Spatial Economics*, 2, 151-173.
- Quah, D. (1993). "Empirical Cross-Section Dynamics in Economic Growth", *European Economic Review*, 37, (2–3), 1353–1375.
- Quah, D. (1996), "Empirics for Economic Growth and Convergence", *European Economic Review*, 40, 1353-1375.
- Quah, D. (1997), "Empirics for Growth and Distribution. Stratification, Polarization and Convergence Clubs", *Journal of Economic Growth*, 2, 27-59.
- Rey, S. (2001), "Spatial empirics for regional economic growth and convergence", *Geographical Analysis*, 33 (3), 195-214. Sala-i-Martin, X. (1996), "Regional cohesion: Evidence and Theories of Regional Growth and Convergence", *European Economic Review*, 40, 1325-1352.
- Sala-i-Martin, X. (2006), "The World Distribution of Income: Falling Poverty and Convergence, Period", *Quarterly Journal of Economics*, Vol. CXXI, 2, 351-397.
- Solow, R. (1956), "A Contribution to the Theory of Economic Growth", *Quarterly Journal of Economics*, 70, 1, 65-94. World Bank (1999), *Inequality: Methods and Tools*, World Bank's Web Site on Inequality, Poverty, and Socio-economic Performance, <http://www.worldbank.org/poverty/inequal/index.htm>
- Yin, L., Zestos, G. and Michelis, L. (2003), "Economic Convergence in the European Union", *Journal of Economic Integration*, 18, 188-213.

The Contribution of the Church to the development of Education in Kenya, Challenges and Opportunities

Erick Nyakundi Onsongo

Abstract

It is a truism that Christian faith and education are inevitable companions. Wherever living faith exists, there is a community endeavoring to sustain and transmit that faith. Still, an accurate description of education in the church today is almost impossible. In this paper I assert that Generalizations are meaningless. Churches appear to confront unique situations, though perhaps the greatest crisis is being experienced among the mainline bodies on how they develop and manage their educational institutions. Nevertheless, I would argue that while situations differ, the understandings, purposes and theological foundations upon which all Christian groups engage in education are shaking. While a host of builder's attempt, with varying degrees of success, to shore them up, there is a dearth of architects engaged in designing new educational structures.

The main objective of this paper is to demonstrate the contribution of the church to education; the church can no longer surrender to the illusion that child nurture, in and of itself, can or will rekindle the fire of Christian faith either in persons or in the church. We have expected too much of nurture at its very best, nurture makes possible for institutional incorporation. This paper focuses on the contribution of the church to education as often connected with the communal aspect of life. The values and norms that the church teach include social behaviors such as the respect for parents and elders, appropriately raising children, providing hospitality, and being honest, trustworthy and courageous, never the less the church sponsored education face several challenges which range from mismanagement due to struggle for control to lack of enough funds and curriculum development. The paper makes recommendation on how best to manage church sponsored educational institutions.

Key words: Education, Church, Religion, Christian

Introduction

Since the achievement of independence in 1963, the Kenyan government and the people of Kenya have been committed to expanding the education system to enable greater participation. This has been in response to a number of concerns. Among the main concerns have been the desire to combat ignorance, disease and poverty; and the belief that every Kenyan child has the right of access to basic education as a welfare provisions and that the government has the obligation to provide its citizens with the ability and opportunity to take part fully in the socio-economic and political development of the country and to attain a decent standard of living. Education has also been seen as a fundamental factor for human capital development. The effort to expand educational opportunities has been reflected in the various Policy documents and Development plans.

Within this broad policy framework of education, the expansion of learning institutions; Primary, Secondary and tertiary colleges has been one of the greatest achievements in the education sector. In the effort Kenya has achieved an impressive increase in adult literacy. The achievements in literacy have reflected the country's impressive progress in expanding access to education during the last four decades largely by establishing a comprehensive network of educational institutions

throughout the country. The substantial expansion of education has generally resulted in an increased participation by groups that previously had little or no access to educational institution

Historical records from the travels of [Johann Ludwig Krapf](#) and [Johannes Redman](#) reveal that Kenyans had access to education as far back as 1728 with a [Swahili](#) manuscript [Utendi wa Tambuka](#), (the book of Heraclius) attesting to the fact. The Church missionary societies, missionaries interacted with locals in the coastal town of [Mombasa](#) and set up one of the earliest mission educational institutions in the country at [Rabai](#) in 1846. With the expansion of the railway from Mombasa to [Uganda](#), the Missionaries expanded their work into Kenya's interior. An attempt to set up a educational institutions and mission at Yatta in 1894 was resisted by the [Kamba](#) tribe. The missionaries then penetrated into western Kenya and set up educational institutions and various missions. The first educational institutions in western Kenya were established at Kaimosi in 1902. The main agenda was to propagate the good news by creating a society that can read and write. The learning was basically on the Bible.

During the eighteenth century, the clergy managed education in Kenya. They built new educational institutions, financed, recruited and trained teachers, oversaw the implementation of the curriculum, taught catechism and approved new teaching approaches (Republic of Kenya, 1992). On the other hand the state supported the churches by granting land and dispensing annual subsidies to support the Native missions. By 1920, the missionaries were increasingly committed to education not only to meet the demands of converts but also forestall any attempts by the government to monopolize education (Sheffield, 1974). Overtime, the government set up their own educational institutions; to promote the colonial segregation policy for the Europeans, Asians and Africans as per the Fraser Commission, 1909. The Churches used educational institutions they had set up as an evangelizing medium, while the government initiated educational institutions were run on secular basis (Sheffield, 1973). The catholic fathers established the British system of learning in Kenya.

At independence in 1963, the Kenyan government recognized the role played by church missionaries in the promotion of education. It noted that there was need for support from the Christian churches to shoulder the cost of running the education sector. The educational institutions that were established by the church remained under the sponsorship of those churches but registered as public educational institutions. The Phelps-stokes Commission of 1924 had earlier strengthened this co-operation between the colonial government and the missionaries where the government was to let the religious initiated educational institutions in the hands of that church. Provision of education is seen as a vehicle for progressive development. That is why it is given prominence in the Kenya Education Act cap 211 (1968) Revised (1980).

Boards to superintend the management of public educational institutions and the Kenya Institute of Education to coordinate the training for teachers conduct research and prepare educational materials for the development of education. The Act allows an agreement to be made between the Ministry of Education and the sponsoring churches as regards the rights and responsibilities of the Church sponsor in management of educational institutions in Kenya (Banr, 1990). This affects the management of public educational institutions where churches that were managers of educational institutions before became sponsors of such educational institutions (Wachira and Kigotho, 2007). The church sponsored several educational institutions starting from Nursery

school to university among the training colleges and bible theological college include Thogotho teachers training college, Kilimambogo TTC, Friends Kaimosi TTC, mabanga Seminary among others.

The word sponsor is first used in section 8(1) of the Education Act, in relation to educational institutions formerly managed by a church which were transferred to a local authority. Here, the local authority was empowered to appoint the former church manager a sponsor if the community served by the educational institutions wished the religious traditions of those educational institutions to be respected. In section 11 of the Education Act, the voluntary organization, that is the founder of the educational institutions is given the right to nominate four persons to champion the sponsor's interests in the Educational institutions Board of Governors, if the educational institutions is on the second schedule. According to the Ministry of Education (Republic of Kenya, 2004) the Board of Governors Order amplifies section 11 which allows the sponsor to propose the chairman of the educational institutions Board who should be ratified by the Minister of Education. The Education Act also allows the sponsor to prepare and recommend for approval by the Ministry the learning resources for religious education in sponsored educational institutions (regulation, 5).

There are several educational institutions which have been started and operated by the church and they include the following higher education institutions fully chartered and offer their own degrees, others have registration certificates and a Letter of Interim Authority. The chartered institutions are the University of Eastern Africa, Baraton, Catholic University of Eastern Africa, Daystar University and Scott Theological College in Machakos. Those registered but awaiting a charter from the Commission for Higher Education are East Africa Educational institutions of Theology, Kenya Highlands Bible College, Nairobi Evangelical Graduate Educational institutions of Theology, Pan Africa Christian College and St Paul's United Theological College. They offer degrees of universities they are affiliated to abroad. In the third category are institutions that have been given a letter of authority to run degree programmes as they await registration and a charter. They are Africa Nazarene University in Ongata Rongai and Kenya Methodist University in Meru (Olel, 2006)

Statement of the Problem

According to the Education Act an educational institutions sponsor is allowed to nominate four (4) of the thirteen (13) members of the educational institutions Board of Governors and to propose the chairman who should be ratified by the Ministry (Republic of Kenya, 2004). This organ champions the sponsors' interest in educational institutions management. The historical roles where sponsors were the main developers and providers for educational institutions have changed. At this time, the missionaries were the main developers and providers for educational institutions they owned. They developed facilities and provided nearly all essential learning resources. These gave significant roles to sponsors in the management of educational institutions in Kenya. However, changes in the Education Act on educational institutions sponsorship seem to be causing some misunderstanding between sponsors, community, teachers and the Government. Some sponsors have been accused of interfering with the educational institutions' core business by closing down educational institutions indefinitely. In other instances, some have rejected and even evicted Principals posted to educational institutions by the Ministry (Cheruyoit, 2001). According to Gikandi (2005) some sponsors meddling in educational institutions

destabilize the instructive activities in the system. Could this be one of the causes for the falling standards in some church sponsored educational institutions? What are the contributions towards the development, operations and enhancement of academic performance of these educational institutions? This paper thus set out to investigate the contribution of the church to the development of the of education in Kenya setting out the challenges and opportunity.

Theoretical Framework

The paper was guided by the structural functionalism theory; Talcott Persons (1991). According to this theory, formal organizations consist of many groupings of different individuals, all working together harmoniously towards a common goal. It argues that most organizations are large and complex social units consisting of many interacting sub-units which are sometimes in Harmony but more often than not they are in diametric opposition to each other. Functionalism is concerned with the concept of order, formal work in organizations and in particular how order seems to prevail in both systems and society irrespective of the changes in personnel which constantly takes place.

The theory seeks to understand the relationship between the parts and the whole system in an organization and in particular identify how stability is for the most part achieved. Structural functionalism further advocates for an analysis of the perceived conflicts of interests evident amongst groups of workers. In this case the parents, sponsors, teachers and the Ministry. However, it is crucial to take into account conflicts of interests and differing value-basis in order to understand the organizations (Carr and Capey, 1982). The theory thus appropriately explains some conflicts between the head of institution and church sponsors in the management of public educational institutions in Kenya. The educational institutions as a social system have within it a series of sub-systems which interact with each other and the environment. The church which is the main sponsor should work harmoniously with the school administration for effective delivery of teaching. Such educational institutions sub systems include sponsors, teachers, BOG, PTA, students, support staff and the government. Their interactions should be harmonious for effective achievement of educational goals and this reduces the challenges in the institutions.

The Paper Methodology

The paper employed descriptive survey design. Survey design collects data on various variables as found in the system and deals with incidences and relationships (Verma and Verma, 2004). According to Kothari (2005), descriptive design describes the present status of a phenomenon, determining the nature of the prevailing conditions, practices, attitudes and seeking accurate descriptions. The design is therefore, effective for the paper as it describes the contribution of the church to the development of education in Kenya setting out the challenges and opportunities.

The Contribution of the Paper

Characteristically, only large, well to do churches with professional leadership have been able to meet adequately the full requirements of the provision of education, and even them, they have begun to question their results. The crucial ecology of institutions, public schools and church which once unconsciously supported education and made it viable. The best church sponsored educational institutions cannot accomplish what they once took to do most serious; the processes

of religious socialization have been systematically kept outside the purview of church sponsorship. The result has been catastrophic, for we all know that faith and values are not primarily the result of formal instruction. Indeed, the hidden character in our lives is often more influential than the formal curriculum of educational institutions. Character like Bishop Okullu of Anglican Church and Jomo Kenyatta a Catholic, Alexander Muge among others.

We have too easily link the ways of secular education with church sponsorship. Dependence upon the practice, rhetoric and norms of secular education is risky business, something unique about education in religious communities. Yet when we have faced new problems, our typical response has been to focus on church sponsored education even more sharply on formal teaching and learning, naively believing that it is possible with new knowledge and techniques to build a workable educational institutions for the church, train an adequate number of capable teachers, and provide more useful curriculum resources for quality education institutions.

According to Miller, (1960) the nature and expression of the church sponsored educational institution's relationship with religious bodies vary greatly. A few institutions are controlled by the denomination; others share only a nominal relationship. Some traditions have provisions for institutions to acknowledge an "historical" relationship, acknowledging the institution's founding by a religious tradition while declaring there is no current, direct relationship with the religious tradition. Most religiously affiliated institutions regularly and actively engage in shaping a dynamic relationship reflecting on changing needs in society, the church, and education they include Kamagambo Adventist College, Tabaka Missionary Hospital, Aic Kijabe and Tenwek Hospital they both offer training to nurses and teachers..

Education traditionally involved lecturing on the part of the teacher, new instructional strategies put the teacher more into the role of course designer, discussion facilitator, and coach and the student more into the role of active learner, discovering the subject of the course. In any case, the goal is to establish a sound knowledge base and skill set on which students will be able to build as they are exposed to different life experiences. Good teachers can translate information, good judgment, experience and wisdom into relevant knowledge that a student can understand, retain and pass to others. (Hull, 1992).

Missionary activity for the Catholic Church has always incorporated education of evangelized peoples as part of its social ministry. History shows that in evangelized lands, the first people to operate educational institutions were Roman Catholics. In some countries, the Church is the main provider of education or significantly supplements government forms of education. Presently, the Church operates the world's largest non-governmental educational institutions system.

As one contribution to this end, church sponsored education will need to reconstitute the theoretical paper of religion and education. New centers for church sponsored education need to emerge where scholars in numerous fields can engage in research and development around foundational issues. The challenge, however, is before all of us. These reflections are offered to stimulate our common task. The stakes are high, for education is central to the Christian faith community's life and mission.

The church sponsored curricular focus on the liberal arts and a solid commitment to general education challenges students to integrate learning from a variety of disciplines. Most institutions

require students to enroll in a prescribed number of hours of academic paper in religion or Social ethics. For other institutions, the paper of religion is optional. Co curricular religious activities are present on all institutions. These include worship, fellowship, and paper of the sacred texts of the religious tradition, service, and religious support. At one time nearly all institutions related to the Christian tradition required weekly or daily attendance at chapel such a requirement now is the rare exception rather than the rule.

In conclusion

The quality of the relationship between the church as the sponsor and the educational institutions is in constant redefinition. Hull, (1992) claims educational institutions are disengaging from their religious foundations, becoming more secular in their approach to education. Not all individuals agree fully with those perspectives. The relationships between Christian denominations and their institutions as being in a time when both church officials and institution leaders are reassessing the nature of the relationship in light of trends in churches, in institutions, and in society.

The Conversations among church and academic leaders has led to renewed understanding of what it means to be sponsored by the church and the contribution it has Hull,(1992) distinguishes three phases of the relationship between the educational institutions and the church traditions that founded them: a time of equality, when neither educational institutions nor church groups has an upper hand of the other in normal situations; and, the education institutions as senior partner, more in control of its own destiny. Most institutions are no longer dependent on the church for financial resources and leadership.

Recommendation

It is better to reform the church sponsored educational institutions system completely by creating student-centered educational institutions; the church sponsored educational institutions offers the teacher-centered traditional school system that imposes a standardized curriculum on students, the fundamental problem. This perspective strikes at the heart of the current public educational institution system. However, authentic learning can only occur when students are encouraged to take an active role in the learning process. They learn how to solve problems and collaborate with one another in various settings. Beyond acquiring knowledge, the students cultivate a capacity to think that will enable them to handle real-life situations. As generalists, these students will grow up to become adults who are able to rapidly adapt to a variety of situations in the challenging new world, earn a decent income and become happy and productive citizens of the future

Fundamentally the church sponsored educational institutions; their education system is designed to give children basic skills sets either to go to college or to be prepared for the workforce. But now the World is different and has become a service nation and the remaining manufacturing jobs are not enough to employ an entire contingent of people with no other skill sets or job training. The blue-collar work force is being systematically erased and educators now have to find a way to ensure that education is preparing its students to compete in a service based job market.

The technological advancement due to globalization should be embraced by the institutions themselves and the progression of the teaching staff should be made so that teachers can become strategic planners and educators. There is still an education disparity as the church sponsored educational institutions fight to keep up and for funding. The management skill sets seem to have

the highest disparity from an educational standpoint. There a lot more high skill jobs and not enough skilled workers

References

- Banr J (1990). *The Catholic Church in Kenya: A Centenary History*, Nairobi, Saint, Paul Publishers, Africa, Nairobi.
- Cheruiyot P (2001). Sponsor meddling affects schools, Special Report, Daily Nation Newspaper, 13th March, 2001.
- Gikandi W (2005). Influence of school Boards and Sponsor Churches, The Standard Newspaper, May 18th, 20p.
- Government of Kenya (1964). *The Ominde Commission Report*, Nairobi, Government Press.
- Government of Kenya (1980). *The Education Act Revised 1970*, Nairobi Government Press, Kenya.
- Government of Kenya (1994). *Education in Kenya*, Ministry of Education Information Handbook, Nairobi, Jomo Kenyatta Foundations. Group Ltd.
- Hughes SL (2006). *Human Nature and Management*. New York McGraw-Hill Book Co. Inc. p. 149.
- Hull, W. 1992. "The Crisis in Baptist Higher Education: An Historical Perspective." *The Journal of the South Carolina Baptist Historical Society* 18:3–22.
- Kang'ethe A (2007). Historical injustice in school management. Sunday standard Newspaper 29th, July, 2007.
- Kenya Episcopal Conference (2000). *Policy Document for Catholic Education in Kenya*, Nairobi, Oxford University Press. Kenya, Nairobi, Paulines Publications, Africa.
- Kothari CR (2005). *Research Methodology, Methods & Techniques*, 2nd Edition, New Delhi, New Age International (p) Limited Publishers, Limited.
- Miller, A. 1960. *Faith and Learning: Christian Faith and Higher Education in Twentieth Century America*. New York: Association Press
- Ministry of Education (1999). *The Koech Commission Report*, Nairobi, Government of Kenya Press.
- Ministry of Education (2006). *National Plans of Education*, Nairobi, Government press.
- Ministry of Education Science and Technology (2005). *Policy Framework for Educational Training and Resources*, Nairobi, Government Press. Missionary Society publishers.
- Muindi B (2008). Religious Education Instills discipline at Top performing Girls' school, Nation Media Group, 28th, July, p. 5, 2008, Kenya.
- Muller M, Ellison CE (2001). *Religious Involvement, Social capital and Adolescents' Academic Progress*; Washington D.C, Government Press
- Mwaniki G (2003). *Government paces on Free Primary Education Programmes*. Nairobi, Macmillian Publishers.
- Neal PD (1998). *Educational Administration and Organizational Behaviour*. Boston: Allyn and Bacon, Inc. p. 247.
- Newman, Cardinal John Henry. 1982. *The Idea of a University*. Notre Dame, IN: University of Notre Dame Press.
- Parsonage, R, ed. 1978. *Church Related Higher Education: Perceptions and Perspectives*. Valley Forge, PA: Judson.
- Sheffield RJ (1973). *Education in Kenya; An Historical study*, New York, New, New York Teachers' College Press.

- Sheffield RJ (1974). Education in Kenya: An Historical Study, New York, Teachers College Press.
- Verma KR, Verma G (2004). Research Methodology. Commonwealth Publishers. September, 2004, Nation Media Group, Kenya.

The Impact of ICT investment on Tourism Export in Tanzania (1995-2010)

Gema Mwikoko and Tumsifu Elly

Abstract

The study assessed the impact of ICT investment on tourism export in Tanzania for the period of 1995 to 2010. The study used time series secondary data whereas OLS model was subjected to STATA to investigate the causal linkage relationship between ICT investment and tourism performances for the stipulated time dimension. Findings revealed the presence of positive relationship between ICT investment and tourism exports. Furthermore, the study found that inflation and investment had a negative relationship with tourism export.

The study therefore, has called upon the government to control the inflation rate as it affect the exchange rate negatively Furthermore ICT use should be encouraged throughout tourism sector to enhance its growth. The study additionally identified the government role in particular, that should spend in worthwhile tourism investment.

Introduction

The importance of Information Communication Technology (ICT) in travel and tourism has increased over the past few years. The travel and tourism area is one of those industries that are able to gain enormous synergy effects from the use of technology such as the internet (Gratzer, 2003). Other sectors such as Small and Medium Tourism Enterprises are of great importance when they use Information system in trading and provide services to consumers. This use has far reaching effects on the performance of tourism firm performance and the strategic thereof (Elly, 2011). Due to the importance of information in tourism activities, Sheldon (1997) characterized it as a life blood and an essential competitive factor in the tourism system. It is through the communication process that suppliers of various goods and services reach the potential tourists and engage them throughout the whole customer services journey. UNACTAD (2000) proclaims that e-commerce and ICT represent an opportunity for developing countries to improve their relative position and permit development through productivity gains in supply chain management and is expected to represent about 20 percent of B2B in the World.

The revolution in ICTs has profound implications for economic and social development (Shanker, 2008). It has pervaded every aspect of human life be it health, education, economics, governance, entertainment etc. Dissemination, propagation and accessibility of these technologies are viewed to be integral to a country's development strategy. The most important benefit associated with the access to the new technologies is the increase in the supply of information. Information is shared and disseminated to larger audience and it reduces the cost of production. Knowledge is produced, transmitted, accessed and shared at the minimum cost. With the reduction in the transactional costs, there is also a reduction in the degree of inefficiencies and uncertainty and it has overcome the constraints of distance and geography.

The adoption of ICT in tourism industry is transforming the role played by tourism actors such as travel agents, tour operators, and conference organizers and booking agents. ICT system provides detailed and up to date information on the availability and prices of products and could also contribute to the increased volume of sales and benefits. The application of ICT in tourism is

inevitably leading to a process of disintermediation, and contributing to industry restructuring and innovation (Kamuzora, 2006).

The internet is one of the ICT tools that transports tourism information such as tourism information stored in files, or documents in computer. In early 19th century, it was the transport technology which facilitated the growth of tourism in Europe. Towards the end of 20th century, the internet had changed greatly the way people planned their travel activities (Kamuzora, 2006). Travel and tourism can be defined as an information business, because information is one of the most important quality parameters to support tourism industry as a service market. In few other areas are the generation, gathering, processing, application and dissemination of information are important for day-to-day operation as it is for the travel and tourism industries. In fact, tourism is a hybrid industry. More than other services, tourism services are increasingly dominated by information. However, the core product is almost a physical product (Gratzer, 2003).

It would seem that the tourism industry has been fairly proactive regarding the adoption of new technologies (Example the Internet). Recent advancements in telecommunication, Networking databases, data processing and electronic marketing provide new opportunities for tourism businesses and are significantly impacting on traditional tourism business models. The use of Information and Communication technologies (ICT) adds value to tourism services and products and support the development of the industry networks and cluster. ICT/E Business has the ability to impact the whole tourism value chain (example, information on destination, accommodation and transportation package tours and services) and affect process management and service delivery in the global tourism sector. (Hinson, 2007).

Tourism enterprises are increasingly using information system (IS) among others as a tool for competition. Thus, innovation in ICT and subsequent use among tourism firms and tourists are on increase (Buhalis as cited Elly, 2008). Tourism sector as being among the information intensive business has a great deal in usage of ICT and information system use. The growing business modal such as selling directly on the Internet, Web based travel agencies, Internet portal and other e-commerce application are making it possible for tourists and tourism firms to request and offer highly customized and dynamic products and services (Elly, 2011).

Establishment of ICT in Tanzania

The information communication and technology (ICT) sector was formed through the merger of the telecommunication and information technologies sectors in 2003. The mission of the ICT sector was to provide more affordable access to a range of ICT services to as many people as possible so as to enhance sustainable socio-economic development and to participate in the global networked economy. Also, the establishment of ICT caused a necessary change of the old license framework, which had been in place since telecommunication liberalisation in Tanzania was introduced the new license framework (AfriISPA, 2005) goal was to provide more affordable access to a range of ICT services, from voice to high-speed internet access to the majority of the people who can afford it. The old license framework was not flexible enough to couple with the ICT sector due to facilitating the monopoly of the Tanzania Telecommunication Company Limited (TTCL), which is owned by the government. Also, Data operators and ISPs were prohibited from providing Voice Over IP (VOIP) services.

Tourism in Tanzania

Tanzania is the country that has many tourist attractions. More than 25 per cent of Tanzania's land is covered with magnificent game reserves and national parks. There are 13 national parks, 29 game reserves, 40 controlled conservation areas and marine parks. Tanzania is also home to the famous Roof of Africa-Mount Kilimanjaro. Tanzania was awarded 7th position among 45 top destinations to be visited 2012 by the New York Times. The tourist industry currently supports 30,000 jobs and generates 25 percent of Tanzania's foreign exchange (the second foreign earner after agriculture). Tanzania expected to receive one million tourists by the end of 2011 and generate about USD1.7 billion (about Sh2.7 trillion) in revenue (TTR, 2010).

The newly published WTTC has indicated that the share of travel and tourism to Tanzanian economy is expected to drop to 7.9 percent by 2020 from 8 percent recorded in 2010. However, the investment in the sector is Tsh 864.8bn or 13.4 percent of total investment by 2010. Tourism sector currently generate about 17.5 percent of GDP. Tanzania earned up to 291.5 USD from travel and related activities in during the year ended 2010 (BoT, 2010).

The Tanzania Tourist Board (TTB 2010) embarked on an innovative strategy to help the growth of domestic tourism and attract more local tourists to the country's numerous tourism destinations by encouraging and promoting live musical performances and education. In order to achieve this objective, the TTB has expressed the need for both the public and the private sectors within the Tanzania tourism industry to work together to market the product and to strengthen the overall tourism services overall. The competitiveness in tourism lies in abundance and diverse wildlife, the spectacular landscape, scenery, and the existence of other economic sectors that has the potential to support tourism sector (NTP, 1999).

Statement of the Research Problem

Tourism export trade is among the ingredients that are very important in promoting international tourism and thereafter becomes potential source of economic growth for many countries in the world. Although the debate about the precise relationship between ICT and Tourism is still open, the continuing research on this issue has uncovered some important results. For example, Usoro (2007) reveal that there is potential contributions of ICT in the tourist industry and proposes that these contributions be used for future studies of less developed economies in hospitality and destination aspects of tourism. Also the study by Ogbu (2011) reveals that almost every tourism product can be sold online without the consumer necessarily visiting the place when making any choice since tourism products are not ready made goods. Booking of flights and hotel reservations can be done online through e-mail, telephone calls and other internet services thereby helping to reduce, if not remove entirely, the number of time spent processes of the old system.

Much as ICT provides relevancy to tourism industry, little is known about its contribution towards the growth of tourism sector in Tanzania. There is, therefore, a knowledge gap on this matter. So this study addresses the knowledge gap. Previous studies in this context did not explain the relationship between investment in ICT and tourism export, (Elly, 2011, Kamuzora, 2006

Research Objectives

The broad objective of the study was to determine the impact of ICT investment on Tourism export in Tanzania for the period from 1995-2010. Specifically, the study focused on the following:

- i. To determine the relationship between ICT investment and tourism export.
- ii. To determine the effects of inflation and investment on tourism export in Tanzania.

Research Hypothesis

Based on the stated problem, objectives of the study and the literature review, the following hypothesis were intended to be tested

- i. The increase in ICT investment would cause increase in Tanzanian tourism export
- ii. The increase in inflation rate would hinder the growth of Tanzanian tourism export
- iii. The increase in investment would hinder the growth of Tanzanian tourism export

Literature Review

The purpose of this section is to explore theoretical underpinning studies that explain the impact of ICT in tourism export. Specifically, the chapter present first the theories, and ends with empirical literature that are relevant to the study.

Factor Endowment and the Heckscher-Ohlin Theory

In the early 1900's, an international trade theory called factor proportions theory was proposed by two Swedish economists, Eli Heckscher and Bertil Ohlin. Hence it is known as Heckscher-Ohlin theory. The Heckscher-Ohlin theory stresses that countries should produce and export goods that require abundant resources (factors) and import goods that require resources in short supply. This theory differs from the theories of comparative advantage and absolute advantage since the latter theories focus on the productivity of the production process for particular goods. On the contrary, the Heckscher-Ohlin theory states that a country should specialise production and export using the factors that are most abundant, and thus the cheapest. As earlier theories stated, the country should produce goods most efficiently. This theory is relevant to this study because Tanzania is endowed with abundant tourist attractions; hence it exports more of tourism services. Robert (2005), in his book gives several examples based on the factor endowment theory, he stated that Brazil exports coffee because it has an abundance of the soil and climatic conditions required for coffee's production; the United States and Canada export wheat because they are endowed with an abundance of temperate-zone land, which is well suited for wheat production; and India and China are huge exporters of shoes and garments because they are heavily endowed with labour.

The Virtual Incoming Agency model

The virtual incoming agency model is a model that was developed as a results of a number of research projects undertaken in Italy as well as in Mediterranean Countries over the last five years, the virtual incoming agency (or VIA) is conceived as an evolution of the concept of DMO (Petti, 2009). According to the considerations above the virtual incoming agency is conceptualized as the organization in charge of the promotion and coordination of an integrated tourism system within a tourism destination - including the creation of the necessary cultural, organization and technological conditions to ensure its effective implementation - that relies on

ICTs to undertake its functions. It is a technological and organizational (ICT-enabled and ICT-native) model for the management of tourism destinations. Can thus be considered virtual incoming agencies all the public or public-private destination management organizations, that: have as mission the integrated promotion, valorization and development of a destinations' tourism industry; make use of integrated ICT systems (i.e. Destination Management Systems or DMSs) for the management and coordination of their activities; aims at attracting visitors and tourists and to develop destination's economy and social wellbeing (Petti, 2009).

The Butler Model of tourist resort development

Butler Model saw developed for the purpose of looking at the way that tourist resorts, grow and develop. The model states that the tourist industry, like all industry, is dynamic and constantly changing. Therefore, the Butler Model is a way of studying tourist resorts and seeing how they change over time and in relation to the changing demands of the tourist industry. The model can be break down into five distinct stages as follows; Discovery Stage where by a settlement is 'explored' or 'discovered' by a small number of people who later tell others about their experience. In time other people visit and local people seize upon the new economic opportunities provided by these visitors and provide services to meet the needs of these visitors or tourists; Growth and Development Stage where by more tourists arrive having heard about the place by word of mouth, articles in Travel Supplements in papers such as The Sunday Times, brochures or tourist guides. The extra tourists attracted by the publicity and people willing to visit somewhere new will lead to the building of new hotels, restaurants, shops and services to cater for the influx of people; Success Stage where more people visit the resort, the facilities are now fully utilized. At this stage mass tourism replaces what was once the original economic function of the settlement. This may cause some resentment with people in the town who have not benefited from the new industry or from the loss of distinct identity that the settlement held before. It may appear that the local culture is being diminished by a more international and non-unique culture compared to what may have existed before; Problem Stagnation Stage where popularity may be short lived. People may become bored with the resort once its initial appeal had waned. Little of the original natural environment will remain and negative comments about what it used to be like may lead people to find somewhere new to discover. The effects of falling tourism if a resort goes out of fashion leads to economic decline and the under-utilization of tourist infrastructure. The eventual closure of some of the businesses will lead to a rise in unemployment and Decline or Rejuvenation where the tourist resort having two options; either go into decline or rejuvenate and develop more sustainable strategies based upon lower visitor numbers (BFSC, 2012).

Tanzania ICT Investment

Information Communication Technology is regarded to be a powerful tool for socio-economic development (Nielinger, 2003). Tanzania has made remarkable progress in deploying ICT. In many areas this progress has been well received by the citizens and service providers who are striving to address unmet demand and competition in newly liberalised markets. Furthermore, Nielinger, (2003) argues that fixed lines phones present the most prevalent technology. Other ICT technologies include: mobile phones, Personal Computers and Emails. However, ICT diffusion in Tanzania started in 1990s.

The tourism sector alone accounts for more than two third of all investment in ICT (Nielinger, 2003). Due to its nature it requires intensive communications. ICT in Tanzania is mainly developed in Dar es Salaam which is a commercial city and Arusha as a tourist area.

Status of ICT in Tanzania

Tanzania's tele-density is low, with the number of fixed and mobile cellular lines currently standing at 12 telephone lines per 1000 people (i.e. a teledensity of 1.2) and the mobile and fixed-line telephone subscribers (per 100 people) in Tanzania was reported at 30.91 in 2008, (WB, 2010) The Telephone lines (per 100 people) in Tanzania was last reported at 0.39 in 2010, (WB, 2011). Tanzania's Public Switched Telephone Network (PSTN), using fibre optic, microwave and satellite-based links, is now over 95 percent digital. This paves the way for allowing the provision of new services enabled by ICT. The coverage of the network infrastructure is limited to urban areas and thus lack of telecommunications and other infrastructures in rural areas remains a basic impediment to the provision of new ICT services. Tanzania has a liberalised broadcasting sector with some broadcasting operators spread over vast area nationally and even regionally while others cover local geographical areas. Although at present the programme content of the television services falls short of the sentiments expressed in the Broadcasting Services Act, 1993, and consists of mainly imported material and sports coverage, this imbalance is being addressed by both the Tanzania Communication Regulatory Authority (TCRA), and the services providers of those services.

Internet availability

The Tanzania Communication Commission (TCC) has licensed nine companies to provide public data communication services including Internet bandwidth. These data operators have isolated initiatives of connecting their Points-of-Presence (PoPs) to the global Internet backbone. As a result, Tanzania lacks cheaper and high capacity connections to the global Internet (MCT, 2003). All connections, regardless of the data service provider, are small capacity international links that connect to the global Internet backbone in different countries such as Norway and the United States. Therefore, the limited international Internet bandwidth is scarce and extremely expensive. The lack of a national Internet Exchange Point (IXP) also means that much of Tanzania's local traffic to be routed via international routes. There are presently sixteen licensed ISPs in Tanzania providing between 10,000 and 15,000 dial-up accounts in the country with many more users via Company and Government LANS and Internet cafés. Available e-readiness studies suggest that there is a large unsatisfied demand in the country for Internet access.

Hardware and software

There is no local manufactures of ICT equipment in Tanzania. All local dealers or agents import these products. There are no standards guiding the imports of both hardware and software. Few local companies are developing computer application packages. Most of the software used by both public and private sectors is imported at considerable cost. The use of open-source software is on the lower side. Generally, Tanzania has a small emerging skilled capacity to support the ICT industry in developing, selling or supporting hardware and software.

ICT and Economic Growth

Development of Information Communication Technologies (ICT) has transformed the contemporary business environment. It has led to new digitalized information economy. ICT is broad terminology referring to multiple communication technologies which range from simple and complex namely cell phone applications (SMS), digital cameras, internet, wireless (WiFi and WiMANI) and digital radios. These technologies are creating new more competitive markets

phases. (Sharker, (2008) says that ICT infrastructure plays a vital role in the social political and economic development of every country. Pazi's study (2010) has indicated that there is a high positive correlation between economic development and ICT investment. Heather (1997) says that the countries that invest more in ICT infrastructure their economies grow and contributes to socio-economic development.

Tanzania Tourism policy and strategies

The first National Tourism Policy was adopted in 1991 to provide the overall objectives and strategies necessary for ensuring sustainable tourism development in the country (URT, 1999). Nearly a decade later, there have been considerable changes on the political, economic and social fronts within the country, which raised the need for regular review of the policy. The thrust of these changes have been towards stimulating efforts to expand the private sector, in tandem with the disengagement of the Government from the sole ownership and operation of tourist facilities. Knowing the potentiality of tourism sector as a strategy for poverty alleviation, the National Tourism Policy of Tanzania was reviewed in 1999 in order to cope with the dynamisms of the tourism industry.

The general objective of the policy is to assist in efforts to promote the economy and livelihood of the people, essentially poverty alleviation through encouraging the development of sustainable and quality tourism that is culturally and socially acceptable, ecologically friendly, environmentally sustainable and economically viable. It also sought to market Tanzania as favoured tourist destination for touring and adventure in a country renowned for its cultural diversity and numerous beaches.

Empirical Literature Review

In investigating the relationship between Information system Human resource and how they influence the capabilities for firm competitiveness, (Elly, 2011) used survey technique through a representative sample questionnaire. The population for the study comprised all Small and Medium Tourism Enterprises in Dar es Salaam. The finding showed that Information system human resource (ISHR) had a significant influence on performance of a firm that favours the development of Information System Human resource. The study found that the size of the firm has no influence whatsoever on competitive advantage of the firm.

Tiwari (2011), on his study on tourism, export and Foreign Direct Investment (FDI) as means of Growth, uses panel ordinary least square estimation technique to assess the impact of tourism receipt, export and FDI on economic growth of four Asian countries namely India, Pakistan, China and Russia from 1995-2008. The findings shows that there is a positive impact between tourism and growth but FDI has negative impact on economic growth but the impact of export of goods and services on economic growth are inconclusive. He concluded that tourism works as a complementary sector so, its role should be taken into account in the strategic and promotional policies adopted by the government and policy makers. The study by Kamuzora (2006), on E-Commerce for Development and e-tourism as a showcase, analyses ICT in tourism especially the internet as a tool for ICT for development in developing countries particularly Tanzania. It was a purposive survey study with International organizations dealing with tourism. 307 respondents were tourists involved and 100 tourists were interviewed. The finding shows that only 2.5 percent of the organizations accessed internet with broadband while the World average is 25 percent. The development in digital ICTs have revolutionalized many human activities especially the

internet is becoming more point of convergence in the tourism value chains for the distribution of information as well as transaction flows.

Considering the great contribution of tourism in development, Jiménez (2009) analyses how tourism and export as a means of Growth. The study expanded the existing research by considering both exports and tourism as potential influencing factors for economic growth. Using data from Italy and Spain over the period 1954-2000 and 1964-2000 respectively, both exports of goods and tourism exports were included in the same model. Standard co integration and Granger causality techniques were applied. The main results revealed that there is a significance of both exports and tourism towards long term growth with some peculiarities for each country. The trade of goods had been proven as a means of growth for countries in-bound tourism as non-traditional exports, also contributed to countries economic growth.

Ogbu (2011) examined the importance of ICT in the development of tourism in Nigeria. It was revealed that almost every tourism products can be sold online without the consumer necessarily visiting the place before making any choice since tourism products are not ready made goods. Booking of flights and hotel reservations can be done online through e-mail, telephone calls and other internet services thereby helping to reduce if not remove entirely the time wasting processes of the old system. It is therefore obvious that its adoption is necessary for proper inclusion of these benefits and for sustainable tourism.

Usoro (2007) observes that there is a need for an examination of the level of use of ICT tools for tourism in less developed economies who are in need of these tools (such as web tools) at least to compete in today's global market. The paper reveals from literature the potential contributions of ICT in the tourist industry and proposes that these contributions be used in future study in less developed economies to determine the supply of hospitality and destination aspects of tourism. Tahayori (2000) examined the role of information and communication technology in tourism industry and revealed that the exchange of information was very important at every stage in the sales cycles of the tourism product where by information must be able to flow quickly and accurately among the clients, intermediaries and each of the tourism suppliers involved in serving the client needs. As a result, ICT had become an almost universal feature of the tourism industry. Its power allows information to be managed more effectively, and transported worldwide almost instantly. As a result, it has had (and continues to have) a major effect on the methods of operation of the tourism industry. However, it had not affected equally all functions and sectors equally. It has the greatest impact on the marketing and distribution functions, while leaving others which need more human contact relatively untouched. Similarly certain sectors; such as the airlines, have been keen adopters of technology, using it to help to manage and streamline their operations and to gain strategic advantage.

Shanker (2008) in his study, "ICT and Tourism; Challenges and Opportunities" reveal that ICT has a potential impact on tourism business. Therefore, the role of ICT in tourism industry cannot be underestimated and it is a crucial driving force in the current information driven society. It had provided new tools and enabled new distribution channels, thus creating a new business environment. ICT tools had facilitated business transaction in the industry by networking with trading partners, distribution of product services and providing information to consumers across the globe. On the other hand consumers were also using online services to obtain information and

plan their trip and travel. Information was the key element in the tourism industry. ICT pervades almost all aspects of tourism and related industry. The use of Geospatial Information Technologies in the recent years across the globe for varied purposes is popularly known and Tourism industry has not been an exception in availing its advantages. It can be used by tourist professionals to define the boundaries of the proposed tourist site as well its surrounding areas and the communities living in it. It can also get information on roads linking to the sites and availability of other utilities like water, power, market etc. Such technologies are also useful for site management and monitoring.

Gorica (2000) examined the Impact of ICT in Tourism Emerge Market; and some Implications from the Case of Albania. The Questionnaire method was used for two groups. The first group was the group of touristic enterprises, while the second groups were tourists and citizens. The questionnaires contained some questions which demand a respondent to identify, in general, the role of ICT and of Internet. In particular, stop to tourist ventures, which revealed the changes they have undergone their businesses over time. Two hundred questionnaires had included businesses such as villas, hotels, travel agencies, travel agencies, bars and restaurants, resorts, etc. The second group included 200 citizens, and tourists encountered in the tourist areas. The study revealed that the use of ICT and the Internet has brought a revolution in the tourism industry. ICT and internet has brought facilities for customer service, and logistical management of enterprises. But not only that, ICT and the internet, have facilitated, and have cut many undertakings address the economic burden for commercials and advertisements and payments for marketing agents. Today, through ICT and internet marketing is provided with a minimum cost, and in many cases free of charge, through social networks. This means that the management of enterprises, after the entry of ICTs and the internet has changed the strategy. In addition to these, ICT and internet have brought about a better working condition to all operators providing services in the tourism industry, bringing better quality and fast services and faster in time and well placed to customers. In this way there are more benefits for themselves, because of the range of services, and ever expanding, in quality, as well as quantity, by offering opportunities for all social groups and social classes. In Albania, currently tourism, has taken an important role in the economy, although it is fragile, and not very stable during this transition period. Most of touristic enterprises in Albania, are not more than 15 years old a period that enough, for information regarding the benefit of ICT and the internet.

Technology has a great impact on different industries like tourism as Masoomah (2006) analyzed the contribution of Electronic Satisfaction in tourism industry, looking on how customers were satisfied with services offered on-line. It was a purposive survey study using both interview and questioners for data collection. The study reveled that online services offered were better than traditional travel agencies. E-tourism could satisfy tourists in each of the factors like good site design includes having fast friendly unclustered sites also contribute to customer satisfaction. Badnjevic (2006) examined the ICT awareness in Small Enterprises in Indian tourism branch. It was field survey study which uses both quantitative and qualitative ways such as questionnaires, interviews; simple observation and literature were reviewed. 40 companies were selected in different cities like New Delhi, Hyderabad, Bangalore and Bombay and were required to be using ICT in some ways and to be situated in city. The finding showed that the boom of Information Communication Technology (ICT) in India had brought a positive impact to the economy. The ICT level was found to be relatively high for developing country but low when considering the

opportunities in India. Other factors which affected ICT awareness positively were technological development trend and national economy. The negative factors were lack of education within companies, bureaucracy, physical infrastructure problems and social cultural norms of the particular country.

Papanis (2011) analysed the Role of alternative types of tourism and ICT strategy of Lesvos in promoting economic growth especially for tourism economy based regions. It was a case study used survey data collected from Greek and foreign tourists and were descriptive analysed. The findings indicate the critical role of alternative types of tourism for development of the tourism sector. It is due to its natural beauty of Lesvos Island is the primary reason for visiting. Religious tourism is a very important factor of tourist's development, and Lesvos attracts thousands of Greek pilgrims each year, who visit Saint Raphael's Monastery and Agiasos for the famous icon of Archangel and Virgin Mary.

The above reviewed studies by various researchers in ICT and Tourism development did not cover all aspects, therefore they left the gap which calls for other studies to be conducted. The impact of ICT investment for firm competitiveness and how the knowledge and skills in using these ICT tools such as internet can results to improvement in travel and tourism sector (Kamuzora, 2006; Elly, 2011). Others looks on how can tourism industry contribute to development of the country's local population (Papanis 2011).

From this observation, it is clear that the impact of ICT investment on tourism export in Tanzania has not been researched earlier hence there is no doubt about its importance.

Methodology

This study was quantitative in nature as it provides information and explanation that were adequate to answer the objectives. The study used descriptive method in answering the research questions. Annual time series data was used for the variables of tourism export and ICT import which were obtained purposively. The data were mainly secondary data covering the period from 1995 to 2010, and they were obtained from various data base sources such as BoT, UNCTAD, TIC, NBS and WB. The sources were planned to give a clear picture of Tourism export and how ICT contribute to it. The final stage of the study would again expect to use documents such as academic papers and relevant publication from different sources for data analysis.

The study made use of both descriptive and econometric analyses. It has deployed multiple methods whereby the usual OLS method can be used to each equation separately. To achieve the study objectives, some computer programs and statistical software such as STATA 10 has been used to assist in data analysis. The model that was used in this study based on the model that was developed by the Jordanian Ministry of Information and Communication Technology, which was used to measure the impact of ICT on Productivity. It is a regression equation which took the following form;

$$LP = \beta_0 + \beta_1 \text{Labor} + \beta_2 (K)_{\text{Ict}}/L + \beta_2 (K)_{\text{non-Ict}}/L + \beta_4 FK + \beta_5 \text{comp} + \beta_6 \text{ICT} + \varepsilon$$

Where:

LP= Labor productivity

(K) non-ICT/L: =Capital-Non-ICT per Labor (Non-ICT capital intensity to Labor)

(K) ICT/L=Capital-ICT per Labor (ICT capital intensity to Labor)

FC=Foreign Capital

Comp=Company Type

ICT=ICT =Index indicator (covers the ICT Adaption, Readiness, E-government and E-business); each one is a combination of sub indices.

ε = error term

Model specification

This study has deployed a model analysis in which the relationship between ICT and Tanzanian tourism exports will be analyzed using the following model;

$$TE = \beta_0 + \beta_1 ICT_{inv} + \beta_2 INF + \beta_3 INV + \varepsilon$$

Where

TE=Tourism export receipts (% of total exports)

ICT inv=Information and communication technology invested

INV= General Investment

ε = Error term

Estimation Techniques

To investigate the relationship between ICT and Tourism exports, STATA software package was used and different estimation techniques were applied

Unit Root Test

This methodology has been used many times in earlier works in the literatures to test for trend stationary. In this study the test for trend stationery were applied for all four variables that are found in the model. The Dickey Fuller (DF) test was applicable if error terms are uncorrelated. In case the error terms are correlated, DF test is useless.

Co-integration

The co-integration technique was used in this study to test for a long run relationship among the variables which are tourism exports, ICT investments, Inflation and Investment. If the linear combinations of the variables happen to be 0, then the variables were expected to be co-integrated (Said, 2008).

Error correction model

Error correction method was used in this study to estimate the speed at which a dependent variable (TE) returns to equilibrium after a change in independent variables. Therefore, this model was useful for estimating both short term and long term effects of one time series data on another.

Findings, Analysis And Interpretation

Distribution of the data

Prior to empirical estimation of the model in investigating the impact of ICT investment on tourism export, data transformation was carried out to establish the normality and stationary of the data. First the descriptive statistics for the data were undertaken for the variables in levels. The presence of means and medians can be studied for a normality assumption. Closeness to each

other will indicate that the distribution is normal. Therefore, Tables 1 summarizes the descriptive statistics for the series in levels. This shows that most of the variables satisfy the normality test.

Table 6 Summary of the descriptive statistics of the data

	TE	ICTinvest	Inflation	Investment
Mean	30.21813	5.330625	9.875	9.93
Median	29.38	6.045	7	8.55
Maximum	39.68	7.47	27	18.04
Minimum	20.02	1.4	5	6.08
Std. Dev.	5.533065	1.787186	6.520481	3.58
Skewness	-.0026906	-1.022167	1.470098	1.24
Kurtosis	2.340963	2.836047	4.180507	3.13
Observations	16	16	16	16

Source: Researcher's computation

Correlation matrix

The analysis to test linear relationship among the variables was conducted using a Correlation Matrix. The result of this test is presented in Table 2,

Table 7 Correlation matrix

	TE	ICT invest	Inflation	Investment
Tourism Export	1			
ICT (invest)	0.5826	1		
Inflation	0.3704	-0.2553	1	
Investment	0.0582	0.1499	0.3182	1

Source: Researcher's computation

The correlation matrix (Table 2) shows that most of the variables are positively correlated except for the relationship between inflation with ICT investment. There is a weak correlation between tourism exports and investment in Tanzania.

Unit root tests

This part presents and discusses the result of the unit root test on each of the variables in the model. The Augmented Dickey Fuller test for the presence of unit root is performed on the variables levels and the results are presented in Table 3,

Table 8 Results of Stationarity test

Variable	ADF test statistic at level	ADF test statistic at First difference	Order of integration
TE	-2.003 (0.2852)	-5.315 (0.0000)	I(1)
ICT invest	-2.195 (0.2079)	-5.751 (0.0000)	I(1)
Inflation	-4.194 (0.0007)	-	I(0)
Investment	-3.084 (0.0277)	-	I(0)

Source: Researcher's own computation

- i) McKinnon (1980) critical values are used for rejection of null hypothesis of the unit root.
- ii) Critical value for Augmented Dickey Fuller indicating significance at 5% and the bracketed number represent probability values.
- iii) I (0), I (1), means that the variable was stationary at level and after being differenced once, respectively.

The result above in table 3 shows that all variables are stationary. This implies that there is no unit root for a series to be stationary.

The co integration test

To test for co-integration among time series variables, a procedure developed in Johansen (1988) and applied in Johansen and Juselius (1990) was used. The maximum eigenvalue statistic was used to determine whether there was a co-integration among the variables. Thus co integration test indicates the presence of long run equilibrium among time series data. Result from the co-integration tests are presented in table 4 below,

Table 9 Johansen test for co intergration

Eigenvalue	LL	Trace stat	5% critical value	Maximum rank
	-112.7409	69.1697	47.21	0
0.95376	-92.7605	29.2089*	29.68	1
0.64349	-86.0564	15.8007	15.41	2
0.60189	-80.0697	3.827	3.76	3
0.25503	-78.1560			4

Source: Researcher's computation

Following the results in Table 4 above in which the maximal eigenvalue statistics are reported, cointegration is accepted at rank 1 and therefore indicate that there is long run equilibrium among the time series data.

Error correction model

The presence of co integration between variables as shown in table 4 suggests a long term relationship among the variables under consideration. Then, the Vector Error Correction model can be applied. Therefore, through building an error-correction model (ECM), the dynamic co-movement among variables and the adjustment process toward long-term equilibrium may be examined. The long run relationship between tourism export, ICT investment, inflation rate and investment in the period 1995 to 2010 is displayed in table 5 and 6 below

Table 10 Co-integration equations

Equation	Parms	chi2	P>chi2
_ce1	3	251.44	0.0000

Source: Researcher's own computation

Table 11 Vector error correction model results

	Coefficient	STD Error	Z-statistic	Probability
TE	1			
ICTinvest	-2.075011*	0.413704	-5.02	0.000
Inflation	-0.6229157	0.2278146	-2.73	0.006
Investment	-1.802287*	0.293568	-6.14	0.000
Constant	-27.72562			

Source: Own computation

Note: *= significance at 1 percent level of significance

In Table 6, all the coefficients, except for inflation coefficient were significant at 1% level of significance. The increase in the tourism export is associated with the increase in the investment. Thus, 1% increase in investment in the long run is likely to decrease tourism export by 1.8 percent. Also, for 1% increase in ICT investment can cause tourism export to be reduced by 2.08 percent.

Interpretation of the results

This section reports the econometric results on the impact of ICT on tourism export in Tanzania during the period under review. The general model shows that a variable of ICT investment is significant in explaining changes in tourism export except inflation and investment variable. Results are shown in Table 7 below,

Table 12 Estimated OLS results

Dependent variable: TE	Coefficient	STD Error	t-Statistic	Prob.
ICT invest	1.527149**	0.672098	2.27	0.042
Inflation	-0.2107**	0.154863	-0.88	0.037
Investment	-1.001**	0.3778	-2.65	0.023
Constant	26.73881	8.743215	3.06	0.01

Source: Researcher's own computation

Note: ** = significance at 5 percent level of significance

Diagnostic tests

The results of preferred model in Table 7 show that the goodness of fit is satisfactory as indicated by the R-squared of 69 percent. This result shows that the observed tourism export for the period of analysis is explained by the independent variables by 69 percent and the remained 31 percent is explained by other variables excluded by this analysis. These include poor infrastructure, low GDP growth, changes in exchange rate, low financial capital and political instability

In addition, model specification is significant since the probability of rejecting is zero given by Prob. (F-statistic) of 0.0020. This implies that the model is significantly explained by the explanatory variable hence acceptable in overall terms. There is also no indication of serious autocorrelation problem basing on the information given by the Durbin- Watson (D-W) statistic of 2.133544 which is equal to conventional mark of 2.

Interpretation of estimation results

The coefficient of ICT investment was positive and significant at 5 percent level. This indicates that one percent increase in ICT investment would lead to 1.52 percent increase in tourism export. This is substantially supported with economic theories whereby the increase in ICT investment will induce improvement in information and communication sector which is one of the contributors to economic growth of Tanzania. The result is also consistent with the hypothesis that increase in ICT investment will cause increase in Tanzania tourism export.

The coefficient of inflation is significant at 5 percent level and has a negative sign. This accepts the hypothesis that, increase in inflation rate will hinder the growth of Tanzania tourism export. Therefore, the result suggests that 1 percent increase in inflation rate will cause a 0.21 percent decrease in tourism export. The main reason for this could be the fact that the increase in inflation has a tendency to negatively affect exchange rate of the country. This situation tends to make domestic export to look cheap when they get exchanged with foreign currency. Factors that may cause inflation may be higher cost of production, low production, government higher expenditure, low availability of inputs and higher growing demand of goods and services.

The findings on investment are also significant at 5 percent level of significance, and have the negative coefficient. The results show that 1 percent increase in investment will cause a decrease of 1 percent in tourism exports. The explanation for a negative relation between tourism export and investment are due to the fact that many of investment coming to Tanzania are going to the mining sector. Liberalization policies on investment that started in 1990s in Tanzania and up today yield positive results. The stock of FDI is skewed to favour mining sector by 40 percent, manufacturing 22 percent and only 13 percent goes to tourism sector (TIC 2001). The investment in tourism sectors is like hotels which mainly use fixed cost which resulted to the delay to offset hence very minimal contribution to tourism export. Example of tourist hotel is Kilimanjaro Kempinski of which has less than 15 years since its establishment for it to payback. On top of that, investment shows to have a negative relation with tourism export. Some of the investments are worthwhile, as for instance, it would not pay much to invest in a hotel which is not close to the tourist attractions. But also some investment would take long to re-coop.

Conclusion and Recommendations

Conclusion of the study

The general objective of the study has been to determine the impact of ICT on tourism export in Tanzania for the period from 1995-2010. The findings after the analysis revealed that, ICT investment was statistically significant and positively related with Tanzania tourism export. It empirically supports the economic theories whereby the increase in ICT investment will lead to improvement in information and communication sector which is one of the contributors to economic growth of Tanzania. The result was also consistent with the hypothesis that increase in ICT investment would cause an increase in Tanzania tourism export. There is also a negative relationship between inflation and tourism export as the increase in inflation affects negatively the exchange rate hence makes domestic export to look cheaper and consequently having low

gains. The investment variable was significant although its contribution to the tourism export was negative. This was due to the fact that not all investments were worthwhile; for instance some of the touristic hotels are not built in the touristic attraction areas, hence it took longtime for them offset. Therefore, the study confirms the previous expectations that ICT has a positive impact on Tanzania tourism export.

References

- Badnjevic, J. and Pudukoka, L. (2006), *ICT Awareness in Small Enterprises in the Indian Tourism Branch*, Department of applied Information Technology, University of Gotoborg, Sweden
- Dosi, G. and Nelson, R. (1988), *Technical Change and Economic Theory*, Pinter Publishers Ltd, London, UK
- Elly, T. (2011), *Information System and Competitive Advantage: Empirical Evidence on the Market and Resource Based Views of Small and Medium Tourism*, Mkuki na Nyota, Tanzania
- Gorica, K. and Sevrani, K. (2000), *the Impact of ICT in an Tourism Emerge Market; Some Implication from the Case of Albania*, University of Tirana, Albania
- Gratzer, M. (2003), *Changes in the Travel and Tourism Industry caused by the Internet-Competitive Advantage for SME Accomodation Sector*. University of Wien, Austalia
- Heather, F. (1997), *Translation and Technology*, University of Loughborough, United Kingdom
- Hinson, R. and Boateng, R. (2007), *Perceived Benefits and Management Commitment to E-Business Usage in Selected Ghanaian Tourism Firms*, Accra University Publishing Center, Ghana
- Jiménez, I. and Pulina, M. (2009), *Tourism and Export as a means of Growth*, Christel Dettaaan Tourism and Travel research Institute, Nottingham University Business School.
- Kamuzora, F. (2006), *E-Commerce for Development, E-Tourism as a showcase*, Mzumbe Book Project, Morogoro, Tanzania
- Masoomah, M. (2006), *Electronic Satisfaction in Tourism Industry*, Lulea University of Technology, Sweden
- Nielinger, O. (2003), *Creating an Environment for ICT in Tanzania- Policy, Regulation and Markets*. Institute of Affaires, Humberg Germany.
- Ogbu, S. Idris, S. (2011), *Information and Communication Technology (ICT): A veritable tool for Tourism Development in Nigeria*. New Busa, Nigeria.
- Papanis, E. and Kitrinou, E. (2011), *the Role of Alternative Types of Tourism and ICT-Strategy for the Tourism Industry of Lesvos*, University of the Aegean, Greece
- Robert. (2005). *International Economics 10th ed*. Washngton: Thomson.
- Sajid, D. and Sarfraz, M. (2008), *Savings and Economic Growth in Pakistan; An Issue of Causality*, Pakistan Economic and Social Review, Vol 46, No.1, pp.17-36, Pakistan
- Shanker, D (2008), *ICT and Tourism; Challenges and Opportunities*, Indian Institute of Technology, India
- Sheldon, P. (1997), *Tourism Information Technologies*. Oxford: CAB
- Tahayori, H. and Moharrer, M. (2000), *E-Tourism; the Role of ICT in Tourism Industry, Innovation and Challenges*, Shiraz University, Iran
- Tanzania Internet Service provider Association Report of June 2005 on *African Internet Service regulation*

The Butler model of Tourist Resort Development by Barcelona Field Studies Center as retrieved in www.geographyfieldwork.com on Wednesday 22nd, 2012

Tiwari, A. (2011), *Tourism, Export and FDI as a Means of Growth: Evidence from four Asian*, Romanian Economic Journal

URT (1999), *Tanzania Tourism Policy*, Ministry of Natural Resource and Tourism.

URT (2001), *Tanzania Investment Report*, National Bureau of Statistics: Ministry of Investment and Empowerment, Dar es Salaam.

URT (2003), *National Information and Communication Technologies Policy*, Ministry of Communication and Transport.

URT (2008), *Tanzania Tourism Sector Survey Report*, Ministry of Natural Resource and Tourism, Dar es Salaam.

Usoro, A. (2006), *An Initial Exploratory Study into the Use of ICT in Tourism by Developing Economies as Supplied of Hospitality and Destination*, University of Paisley

World Investment Report of 2000 by UNCTAD

Appendix

APPENDIX I: Graphical representation of variables

Figure 1: Tanzania tourism export, 1995-2010

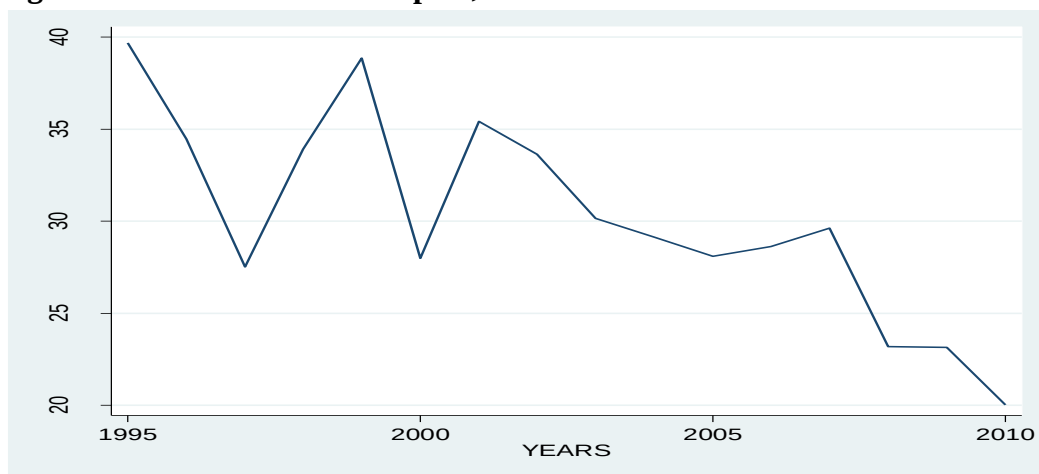


Figure 2: Tanzania ICT investment, 1995-2010



Figure 3: Tanzania inflation rate, 1995-2010

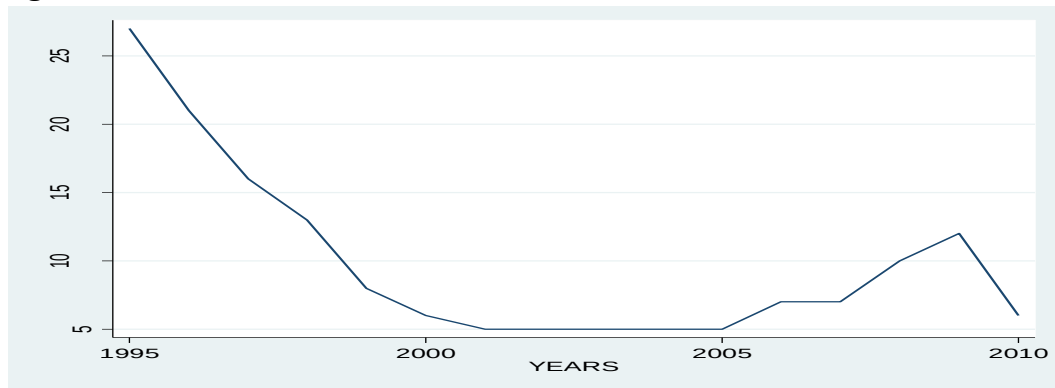
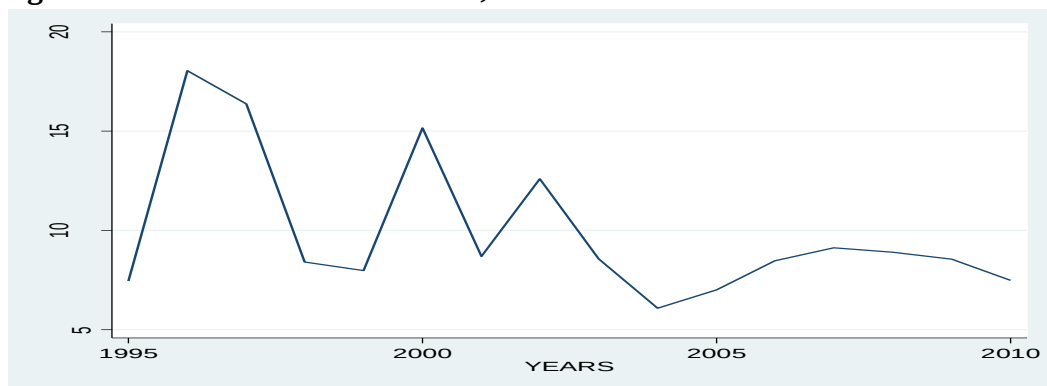


Figure 4: Tanzania investment rate, 1995-2010



APPENDIX II: Figures of variables, 1995-2010

Years	Tourism Export Rate	ICT investment	Inflation	Investment
1995	39.68	3.93	27	7.454044
1996	34.47	6.69	21	18.04186
1997	27.51	4.58	16	16.37
1998	33.92	6.05	13	8.401166
1999	38.86	7.47	8	7.984221
2000	27.99	6.49	6	15.16614
2001	35.43	6.04	5	8.69914
2002	33.64	5.74	5	12.59077
2003	30.16	6.51	5	8.563024
2004	29.14	6.44	5	6.080146
2005	28.1	6.24	5	7.003347
2006	28.62	5.54	7	8.46627
2007	29.62	6.9	7	9.129836
2008	23.18	1.4	10	8.901669
2009	23.15	2.14	12	8.549386
2010	20.02	3.13	6	7.490158

Public Road Transport Performance and Travellers Satisfaction in Urban Areas: The Case of Public Bus Transport in Dar es Salaam

Gerald Z. P. Tinali; and Severine S. A. Kessy

Abstract

The objective of this study was to examine the performance of public bus transport on travellers' satisfaction. A total of 140 bus commuters in Dar es Salaam region were interviewed. Questionnaire was employed as a major instrument in collection of primary data while documentation was used for secondary data. Regression analysis and Chi square test were used in analysis of data. Findings revealed that public bus transport performance in urban areas was very poor and travellers were highly dissatisfied with the kind of service the industry was rendering. Conclusively, the study has revealed that there is a weak positive relationship between user satisfaction and performance of public buses. The study recommends opening new routes especially in new areas and improving efforts to overcome traffic congestions.

Introduction

Transportation in urban areas has been very critical and of major concern in almost all mega cities in the world (Githui *et al*, 2008). Due to the rapid and uncontrolled urban growth and vehicle increase there has been a conspicuous impact both positively and negatively (Githui *et al*, 2008). Most commuters in various parts of the world express their level of dissatisfaction with the quality of services offered by urban public transport operators (Richard, 2005). In developing countries, public's travel demands in cities have increased leading to complexity in the provision extra capacity to handle and control the situation effectively (Githui *et al*, 2008). Problems of access to can be linked to economy problems, lack of equity in the provision of services, and poor or unaffordable transport links to enable mobility (Baker *et al*, 2009). Additionally, the issue of seat availability and geographical reach of public bus services seems to be a challenge due to low density of paved roads, unplanned growth, poor road surface and narrow streets (Kumar *et al*, 2008). People tend to complain about poor quality of roads, buses overcrowding, unpredictable irregular services and inadequate terminal facilities (Kumar *et al*, 2008).

Vikash (2003) argued that the demand for public transport during peak hours is very high compared to its capacity, thus leads to poor provision of service especially during these peak hours. There is therefore a big gap between transportation needs and the means to satisfy those needs (Olvera *et al*, 2003). Dar es Salaam city is one of the main cities in Africa faced by tremendous population growth accompanied by rapid and unplanned urban growth (Olvera *et al*, 2003). As population continues to increase and as the city continues to grow, more people live and work in the city and make more trips within the urban area, often over longer distances. Consequently, the limited capacity of existing transport infrastructure is stretched to the limit and thus, it has become a constraint to cope with the public demand for travel. Basing on these, the performance of public transportation in Dar-es-Salaam in social, economic and environmental aspects is thus distressing (Kanyama *et al*, 2005).

The most common form of public transport in Dar es Salaam are privately owned buses commonly known as “daladala” which play specific routes. The starting station and destination place are marked on the front of the vehicle. Most of the “daladala” workers

are not paid in salary basis but they receive commission or the excess amount after the owner has collected his required sum each day (Howe *et al*, 2000). Working under commission payment encourages loading too many passengers far beyond the bus capacity, which in turn leads to over speeding, poor parking and frequently vehicle stoppages to pick up or alight passengers on the way to their destinations (Howe *et al*, 2000). Boarding the “daladala” in different areas in the city such as city centre, Mbagala and Kariakoo is a competitive undertaking. Normally there are a scrambles to get on the bus especially during the peak hours. The public transport fee in Tanzania can be seen as small amount but it deters many of the urban poor from travelling, as a round trip would present up to 22% of their average daily wage (Olvera *et al*, 2003). Furthermore with current increase in public transport fares which was accelerated by an increase in fuel prices, combined with the deep downturn in the economy and prevalence of city congestions during peak hours, have raised questions about the performance of public transport in urban areas. Although this has been an issue of great concern there were limited documentations on how the performance of public transport in Dar es Salaam affecting travellers service satisfaction. This paper therefore examined how public bus transport performance influences the travellers’ satisfaction in Dar es Salaam.

Public Transport and Customers’ Satisfaction: Theoretical Perspectives

Public transport is a shared passenger’s transportation service which is available for use by the general public as distinct from mode such as taxicab, car pooling or hired buses which are not shared by strangers without private arrangements. Scholars have defined public transportation as a type of transportation focusing on the aspect of being accessible to the public and often financed by public bodies, and on the passive transport of people. White (2002) defined it as “a type of transport which includes all modes available to the public, namely scheduled bus services, coach and rail operators, taxis, private hire buses and coaches and those buses which are providing school services, irrespective of ownership”.

On the other hand, customer’s satisfaction is a measure of the degree to which a product or services meets the customers’ expectations and may lead to attitudes towards complimenting or complaining behaviour. Jauhari and Dutta (2009) defined customer satisfaction as “a notion of customers if they perceive the service experience to be in line with their expectations”. Customer satisfaction can be viewed as personal feelings of pleasure or disappointment from comparing a service perceived in performance or outcome in relation to customer expectations (Kotler, 2000). The most popular view of customer satisfaction in academia is that customer satisfaction is the judgmental borne out of the comparison of pre purchase expectations with post purchase evaluation of the product or service experience (Oliver, 1977). Ame (2005) pointed out that customer satisfaction may be conceptualized in two ways. It can be viewed as post evaluation judgment concerning a product or service for specific purchase occasion; on the other hand as cumulative customer satisfaction via overall evaluation based on total purchase and consumption experience with goods or service over time. In this study, customer satisfaction is conceptualized as the ability of public bus service performance in terms of public bus infrastructures and superstructures to meet travellers’ expectations in Dar es Salaam.

Different theories can be used to explain the relationship between public bus transport performance and travellers’ satisfaction. However, in this paper we used demand theory

expectation disconfirmation theory and service quality model. Demand theory is the analysis of the relationship between demand for goods or services and factors that affects that demand of such goods or services. The theory shows that the level of demand of public transport can have an impact on the quality of service to be offered by public transport. For example, during the peak hours the demand for public transport in Dar es Salaam is usually very high, resulting to poor provision of public transport services. During the peak hours bus operators carry more passengers than capacity of their vehicles, resulting to passengers' low level of satisfaction. The low level of satisfaction may be attributed to lack of comfortability and fear for accidents.

Expectations confirmation theory explains that expectations coupled with perceived performance, lead to post purchase satisfaction. This effect is mediated through positive or negative disconfirmation between expectation and performance. If a product outperforms expectations (positive disconfirmation) satisfaction will result. If a product falls short of expectations (negative disconfirmation) the customer is likely to be dissatisfied (Spreng *et al.*, 1996). Disconfirmation is therefore hypothesized to affect satisfaction, with positive disconfirmation leading to satisfaction and negative disconfirmation leading to dissatisfaction. In this regard, travellers' judgment on satisfaction originates from comparison of the level of performance perceived by travellers using an evaluative standard.

Service quality model is a multi-item scale developed to assess customer perception of service quality in service and retail business. The approach starts with an assumption that the level of service quality experienced by customers is determined by the gap between their expectations of the service and their perception of what they actually receive from a specific service provider (Parasuraman *et al.*, 1988). The service Quality Model proposes five dimensions upon which customer evaluate service quality. These are tangibles, reliability, responsiveness, assurance and empathy. It is argued that, if the service offered to customers constituents and meet the five dimensions of the service quality model, the customer perception towards the service offered will be positive. Likewise, in public bus transport, service quality may be evaluated by the difference between travelers' expectation of the service and their perception of service experiences.

Empirical Studies

Different scholars have come up with different views on performance of public transport and the satisfaction perceived by the users of public transport. For example, Friman and Fellelsson (2009) investigated on service supply and customer satisfaction in public transportation in six different cities in Europe. They interviewed 6021 respondents, which was approximately to 1000 respondents from each city. Friman and Fellelsson (2009) found that several correlation analyses showed that the relationship between satisfaction and services performance in public transport was far from perfect. However they only focused on seat availability, frequency of travel and travel time and left out other issues such as waiting time, behaviour of public transport operating staff, distance it took to reach the bus stop, conditions inside the public buses and conditions of bus stops which could have similar influence on customer satisfaction. This study was conducted in Europe whereby the situations of their public transport services are incomparable with that of developing countries. Thus, this paper aimed at bridging these gaps by highlighting the existing relationship between public bus transport performance and travellers' satisfaction.

Matzler *et al* (2003) conducted a study on the asymmetric relationship between attribute level performance and overall customer satisfaction in the automotive industry. The study used questionnaire and collected data from 259 customers in face to face interview. The study found that the impact of innovation project management and complaints handling on overall satisfaction is high when performance is low, but they do not affect satisfaction when performance is high. Also the study revealed that the only attribute that has a high impact on the overall satisfaction when performance is higher is customer care. This study mainly based on automotive industry. This study based on public bus transport rather than automotive industry.

Another study was conducted by Edvardson (1998) to examine the causes of customer dissatisfaction on public transport. The study compared customer complaints in writings with the customers own account and views of bus drivers. Edvardson (1998) found that quality shortcomings are in most cases recurrent thus companies should focus on aspects related to the drivers, punctuality and use of information coming from customers in the form of complains. Thus based on this study aspects related to drivers and punctuality was applied in the study so as to examine travelers' satisfaction.

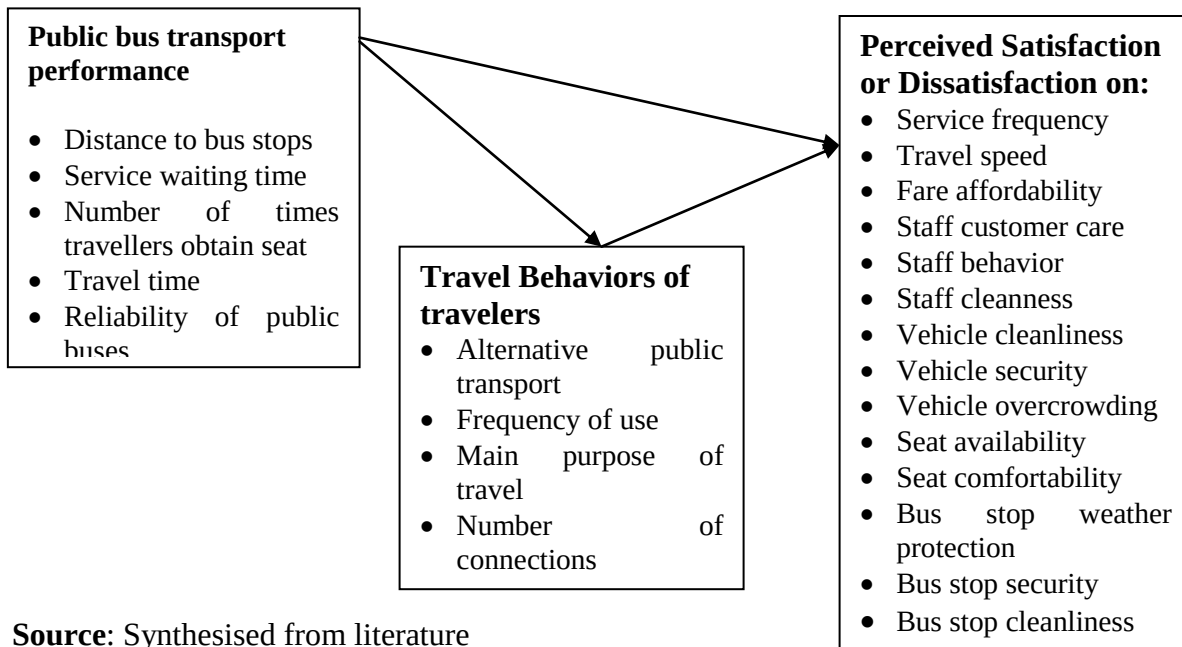
Eboli and Mazulla (2007) investigated service quality attributes affecting customer satisfaction for bus transit service in Cosenza, Italia. A total of 763 students were interviewed. Respondent were asked to rate importance and satisfaction with 16 service quality attributes which were bus stop availability, route characteristic, frequency, reliability, bus stop furniture, bus overcrowding, cleanliness, cost, information, promotion, safety on board, personal security, personnel, complains, environmental protection and bus stop maintenance. Although this study was conducted in developed country, the indicators for satisfactions used are also applicable in developing countries. Thus, some of the indicators were used as relevant for explaining the current study.

Most of the above studies were conducted in cities situated in developed countries which are different from cities in developing countries. Therefore similar studies conducted in developing countries were expected to explain the contrast. That justifies why this study was conducted in Dar es Salaam which may represent many other cities in developing nations.

Conceptual Framework

A conceptual framework presented in figure 1, summarises the reviewed literature on the relationship between performance of public bus transport services and satisfaction perception of public bus transport users. In this case, customer satisfaction is a dependent variable while public transport performance factors and travel behaviour are independent variables.

Figure 1: Conceptual model



Source: Synthesised from literature

Methodological Considerations

A total of 140 users of public transport were targeted in this study. All 140 questionnaires were returned filled, giving a 100% response rate. However, after further inspection and error detection, only 133 questionnaires were accepted for data analysis giving a response rate of 95% and seven questionnaires were discarded. The choice of this area was due to its convenient to a researcher in terms of time constraints, labour and financial resources that could not allow to choose samples from other regions in Tanzania. The city is also very vibrant in terms of economic activities which attract influx and movements of many people to different parts of the city. Personal interviews were employed in administering questionnaire so as to obtain the first hand information from the respondents.

A number of steps were taken to ensure validity of the study. First, the questionnaire was created based on literature reviewed. Also the questionnaire was pretested and different opinions raised were used to improve the quality of questionnaire. Data were collected from reliable sources from respondents with vast experiences in using public bus transport. Also, data were collected within a short time (one week) to avoid or minimize any major event changes that could occur. Reliability test was also used to determine internal consistence of the scale, which assessed the degree to which the items were homogeneous and how consistent individuals responded to items and questions. The reliability test was done using SPSS and the reliability scale shows Cronbach's alpha of 0.710 which indicates that there is strong degree of internal consistency of variables used in the study. Thus, Cronbach's alpha of 0.710 which was above 0.7 indicates satisfactory internal reliability of data.

The collected data were analysed qualitatively and quantitatively. The tools for data analysis vary depending on the type of data collected. Through the use of SPSS, the analysis of both descriptive and inferential statistics was performed. The study used regression analysis to

examine the relationship between performance of the existing public bus transport and average level of satisfaction. Further Chi square test was used to test dependence of different variables.

Findings

From the collected data, travellers' characteristics were based on gender, age group, education status and employment status. The results show that, 62.4% of the respondents were males and 37.6% were females. Also, 5.7% had ages below 18 years, 66.2% of the respondents were between 18 and 30 years and 28.6% represent respondents aged more than 30 years. A cross tabulation of gender and age shows that 4.8% of males and 6% of females were aged below 18 years old. Also 63.9% of males and 70% of females were aged between 18 and 30 years. In addition, 31.3% of males and 24% of females were aged more than 30. Thus findings implied that most travellers aged between 18 to 30 years commute using public transport ar.

The results on education status show that 9.8% of respondents had not attended any formal schooling, 34.6% had certificates, 15% Diplomas, 29.3% Bachelors Degree, 10.5% Master's Degree and 0.8% had PhDs. These findings show that travellers of different education were included in the sample. However, the study further indicated that public bus transport was mostly used by people with education level below the Master's Degree. Those with education level above the Master's Degree were assumed to posses their own vehicles for mobility and very rarely used public bus transport.

Findings on their employment status show that 30.1% of respondents were students, 18.8% were self employed, 36.1% were full time worker, 5.3% were housewife, 0.8% were retired workers and 9% were non workers. This distribution reveals that respondents who were pupil or students and full time workers represented a larger proportion of users of public bus transport. Also, public bus transport was observed to be the most popular mode of transport for most full time workers and students.

Travellers Behaviour

The study sought to find out the travel behaviour of users of public bus transport. Different behaviour indicators were targeted. These were travellers' preference of alternative mode of public transport apart from public bus transport, how frequency travellers used public bus transport, the main purposes of using public bus transport and the number of possible connections that travellers made per trip before arriving to intended destinations. The results show that 26.3% used Bajaj, and 35.3% of respondents were using motorcycle and 15.8% using other type of transport alternatives such as bicycles, private cars and foot. Findings in table 1 indicate that the alternative mode of public transport which travellers likely opted for apart from public bus transport was the motorcycle, which comprises 35.3% of total respondents

Table 1 Travellers Alternative Transport Mode

Type of Transport	Frequency	Percent
Tax	30	22.6
Bajaj	35	26.3
Motorcycle	47	35.3
Others	21	15.8
Total	133	100.0

From the findings 48.9% of public bus transport users use them more than twice a day, 40.6% twice a day and 10.5% only once a day. This shows public bus transport is used more than twice a day for majority of users. The findings further show that the primary purpose for most commuters of public bus transport was going to work which accounted for 45% of all respondents followed by 30% of respondents who said that going to school was their primary purpose of using public bus transport. However, 10.5% said that they used public transport for shopping purposes, 8.5% for making visits, 2.3% for leisure and 3% for other purposes. A cross tabulation showing travellers reasons for using public bus transport and their employment status indicated public bus transport choices depended upon travellers' employment status. That is, full time workers use public bus transport when going to their respective working places. Students they used public bus transport for going to school. House wives used public bus transport for shopping purposes, retired workers use public bus transport for visitation purposes.

Furthermore findings revealed that 21.8% of travellers do not need connections, 41% of respondents made two routes, 24.1% three routes and 12.8% more than three routes. Thus, findings indicate that most of travellers normally need to make at least one route in order to arrive at their intended destinations.

Table 2 Number of routes Travellers Made before Reaching Destinations

Number of routes	Frequency	Percent	Cumulative Percent
One	29	21.8	21.8
Two	55	41.4	63.2
Three	32	24.1	87.2
More than three	17	12.8	100.0
Total	133	100.0	

Performance of the Existing Public Bus Transport

The performance of the existing public bus transport was measured using the following variables: distance the traveller walked to reach at the bus stop, duration they spend at the bus stop before obtaining service, seat availability, travel time and reliability of the existing public buses. Findings show that 34.6% of respondents walked less than 500m to reach at the bus stop, 51.1% walked up to one kilometre and 14.3% walked more than one kilometre to reach the bus stop. This indicates that most public bus stops were quite far from traveller's residence. Thus many bus stops are located far away from traveller's destinations which had an impact on total travel time and also the perceived satisfaction of public bus transport.

Results on duration travellers spent at bus stops waiting for services revealed that about 8% of respondents waited for less than 5 minutes to get services, 46.6% waited for 5 to 15 minutes and about 39.8% waited for more than 15 minutes to get public bus transport services. These findings implied that most travellers waited for up to 15 minutes to get service.

Table 3: Duration a Traveller Spent at Bus Stop waiting for Service

Duration	Frequency	Percent	Cumulative Percent
Less than 5 minutes	18	13.5	13.5
5 to 15 minutes	62	46.6	60.2

15-30 minutes	33	24.8	85.0
More than 30 minutes	20	15.0	100.0
Total	133	100.0	

The study examined also how many times users of public bus transport got seat in relation to the number of trips they made. Few respondents (about 15.8%) replied that they got seat in every trip they used public bus transport, most of respondents (about 65.4%) said that they got seats once in every two or five trips and 18.8% never got seats whenever they used public bus transport. Thus public bus transport characterized by most of its travellers travelling while standing. Furthermore, findings revealed that 63.2% of all respondents took long time to travel using the existing public bus transport to reach the intended destinations. Although the travel time depended on the respective travellers' locations and distance to their intended destinations, it was observed that the long travel time was due to traffic congestions in the existing roads in Dar es Salaam.

Findings on the reliability of the existing public bus transport indicated that most travellers said that public bus transport was not reliable in their respective areas whenever they wanted to travel. About 65% of the respondents thought that public bus transport were less reliable, least reliable or poor and only 35% thought that public bus transport were either reliable or very reliable. The result shows that reliability of public bus transport in Dar es Salaam was very low. This was attributed to the distance through which public bus transport travel from the beginning of route to the end. For example, reliability of the "daladala" from Tegeta to Kariakoo, Mbagala to Kariakoo, and Temeke Mikoroshini to Mwenge was very low. Thus, the route distance could be one of the causes. Also high traffic congestions in many roads in Dar es Salaam city was the factor that reduced reliability of public bus transport because many of the public bus were stuck in traffic congestions.

Table 4: Reliability of Public Bus Transport

Reliability	Frequency	Percent	Cumulative Percent
Very reliable	5	3.8	3.8
Reliable	41	30.8	34.6
Less reliable	54	40.6	75.2
Least reliable	15	11.3	86.5
Poor	18	13.5	100.0
Total	133	100.0	

Travellers Satisfaction with the Existing Public Bus Transport Services

Descriptive analysis was performed in order to examine how respondents' perceived satisfaction on observed variable and specific service quality attribute. Travellers were asked to rate in the scale of 1 to 5 on their level of satisfaction with the identified public transport performance indicators. These indicators include service frequency, travel speed, fare affordability, in vehicle staff customer care, in vehicle staff behaviour, staff cleanliness and vehicle cleanliness. Other indicators were security, vehicle overcrowding, seat availability and conformability. The result on average level of satisfaction for these indicators is presented in table 6.

Generally, users of public bus transport were not satisfied on the performance of public buses. The results show that 64.7% of the respondents were dissatisfied with the services offered by

public bus transport and only 2.3% of the respondents were satisfied and none of the respondent was highly satisfied.

Table 6: Average Level of Satisfaction

Satisfaction level	Frequency	Percent	Cumulative Percent
Highly dissatisfied	10	7.5	7.5
Dissatisfied	86	64.7	72.2
Neutral	34	25.6	97.7
Satisfied	3	2.3	100.0
Total	133	100.0	

Relationship between Service Performance and Travellers satisfaction

The study examined relationships between service performance and travellers satisfaction by using regression model through assistance of SPSS. R in Table 7 is the linear correlation between the observed and model predicted value of the dependent variable. For our study, R is equal to 0.330 which depicts that there was a weak positive relationship between service performance and travellers satisfaction in the existing public bus transport. Moreover, the adjusted R square imply that only 7.4% of the travellers satisfaction was contributed by the service performance of the existing public bus transport as presented in Table 7.

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.330(a)	.109	.074	.588

a Predictors: (Constant), Performance of the existing public bus transport

Source: Field Data (2011)

The F test is statistically significant at 95% confidence interval. Table 8, provides evidence that p-value is less than 0.05 and thus a relationship exists between the two.

Table 8: ANOVA (b)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.372	5	1.074	3.111	.011(a)
	Residual	43.861	127	.345		
	Total	49.233	132			

a Predictors: (Constant), Performance of the existing public bus transport

b Dependent Variable: Average Level of Satisfaction

Source: Field Data (2011)

Conclusion and Implications

The study revealed that public bus transport service performance affects travellers' satisfaction. The findings are in line with the expectations-disconfirmation theory which explains determinants of travellers' satisfaction with the performance of the public bus transport. Also, the finding supports the service quality model which assesses customers' perception of service quality in service and retail business. Furthermore the study has revealed that there is poor relationship between public bus transport crews and their customers. Also, most travellers are forced to opt for public bus transport due to limitations in their income spending. The study

revealed that the poor service offered by public bus transport especially during peak hours was due to high demand of public bus transport services caused by low reliability of public buses in many areas of the city. This supported the demand theory which explains that the level of demand of public bus transport could have an impact on the quality of services to be offered.

Furthermore, the study has shown that the level of service performance of the existing public bus transport is not so much convincing for most users. Based on the findings public bus transport in Dar es Salaam is characterized by longer distances to reach the bus stops, longer time a traveller needs to wait before getting a public bus transport service and in vehicle overcrowding, as a result, many travellers travel while standing and those who are seated feel uncomfortable. Also, the performance of public bus transport in Dar es Salaam is characterized by longer travel time caused by high traffic congestion, especially during the peak hours. Also the study has revealed that a larger percent of travellers are dissatisfied with the level of existing public bus transport services. From these findings, the study recommends the following:

One of the challenges the study found was the issue of reliability of public buses despite the availability of public bus transport in many areas in the city of Dar es Salaam. However, this indicates that public bus transport cannot satisfy the available demand. Thus public bus transport operators need to invest in this sector. That is the number of supply should be increased so as to meet the emerging demand of public bus transport in urban areas.

Also, traffic congestion has become a stumbling block to more public buses operators. Thus policy makers are advised to take more serious attention by seeking more alternatives to overcome traffic congestions such as construction of flyovers and upgrading new roads.

Equally important, inefficiency of the service provided and poor operations reflects unkind treatment of customers by public bus crews. Thus, owners of public bus transport need to provide extra incentives and customer care orientations to their staff in order to encourage and motivate them for better performance.

With the newly expanding city many areas still lack public bus transport services, forcing people to walk on foot for more than a half a kilometre. Thus, in order to tackle the situation policy makers are advised to open new routes to those areas and allow public bus transport services to operate in those areas.

References

- Ame, A., (2005), *The Effect of Quantity on Satisfaction and its Consequences on Customers Behaviors Intention*, Unpublished PHD thesis, University of Dar es Salaam.
- Behrens, R. & Schalekap, H. (2009), "Public Transport Mode Satisfaction in Cape Town", *Findings of passengers intercept survey, Southern African Transport Conference proceedings, Proceeding No.29*, Pretoria
- Churchill, G.A, Jr., & Surprenant, C. (1982), "An Investigation into the determinants of Consumer Satisfaction", *Journal of Marketing Research*, Vol.19, pp.491-504
- Eboli, L. & Mazulla, G. (2007), "Service Quality Attributes affecting Customer Satisfaction for Bus Transit", *Journal of public Transport*, 10 (3), 21-34.

- Edvardsson, B. (1998), "Causes of Customer Dissatisfaction - Studies of Public transport by critical incident method", *Managing Service Quality*, 8 (3), 189-197.
- Friman, M. & Felleson M (2009). "Service supply and customer satisfaction in Public Transport: The quality paradox", *Journal of Public Transportation*, Vol.12, No.4 pp. 57-69
- Geetika & Nandan, S. (2010). "Determinant of customer satisfaction on Service quality: A study of railway platform in India", *Journal of Public Transportation*, Vol. 13, No. 1, 2010, 97-113
- Gronroos, C. (1984), "A Service Quality Model and its Marketing Implications" *European Journal of Marketing*, 18 (4), 36
- Haglund L., Stalhammar A. (2001). *Market and service oriented in public transport*, Karlstad, Karlstad University Press,
- Heylighen and Joselyn, C. (1992), *What is System Theory?*, www.pespmc1.vub.ac.be/systheor.html retrieved on Thursday, 15th September, 2011
- Howe, J., Bryceson, D., (2000), "Poverty and Urban Transport in East Africa: Review of Research and Dutch Donor Experience", *Report prepared for the World Bank*, IHE, Delft.
- Jauhari, V. and Dutta, K.(2009) *Services: Marketing, Operations and Management* New Delhi. Oxford University Press
- Kanyama, A., Carlsson, A., Linden, A. & Lupel, J. (2004), *Public Transport in Dar es Salaam: Institutional challenges and opportunities for a sustainable transportation system*, Stockholm: Totalförsvarets forskningsinstitut.
- Kothari, C (2004) *Research Methodology Methods and Techniques* 2nd Edition. Nairobi, New Age International Publishers
- Kotler, Philip (2000), "Marketing Management, New Jersey", *Working paper*. Prentice Hall, Inc. Pp36
- Kumar, A. & Barret, F. (2008), "Stuck in traffic: Urban Transportation in Africa", *AICD, Background paper*, World Bank, Washington, D.C.
- Matzler et al. (2004), "The asymmetric relationship between attribute level performance and overall customer satisfaction: A reconsideration of importance performance analysis", *Journal of industrial marketing*, Vol.33 pp. 271-277
- McClelland, K. (2000), *Conflict Theory*, web.grinnell.edu retrieved on Thursday, 15th September, 2011
- Oliver, R.L. 1996. *Satisfaction: A Behavioral Perspective on the Consumer*, Boston, McGraw Hill
- Olvera, D., Didier, P., Pascal, P. (2003), "Transportation conditions and access to services in a contest of urban sprawl and deregulation. The case of Dar es Salaam", *Transport policy*, Vol.10 No 4, pp.287-298
- Parasuraman, A., Zeithaml, V.A. & Berry, L.L. (1985), "A conceptual model of Service Quality and its implication for the future research", *Journal of Marketing*, Vol.49, pp 41-50
- Parasuraman, A., Zeithaml, V.A. & Berry, L.L. (1988), "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality", *Journal of Retailing*, 64 (1), 5-6.
- Richard Iles, *Public Transport in Developing Countries*, 2005.

- Spreng R. A, S.B. Mackenzie and R.W. Olshavsky, 1996, "A reexamination of the determinants of consumer satisfaction," *Journal of marketing*, Vol.60 No. 3, PP.15
- Stradling, S., Carreno, M., Rye, T. & Noble, A. (2007), "Passenger perceptions and Ideal urban bus journey experience", *Transport Policy*, 14, 283-292.
- Vikash, (2003) "Variegated Systems of Mass Rapid Transit: An innovation that changes the Familiar world of urban Transport", Map India, Transportation
- White, P. (2002), *Public Transport: Its planning, management and operation* 4th edition, London and New York, SPON Press.
- Wilson, L. & Geshaza, J.R (2004), "Transport and vehicle characteristics in the city of Dar es Salaam", *Southern African Transport conference proceedings*, Proceeding No 23, Pretoria, South Africa

Export Market Orientation, Innovation and Performance of Fruit Exporting Firms in Uganda

Godwin. M. Ahimbisibwe

Abstract

The purpose of this study was to investigate the impact of export market orientation and innovation on the export performance of fruit exporting firms in Uganda. The objectives of the study were: to establish the relationship between export market orientation and firm innovation; to establish the relationship between export market orientation and firm's export performance; to examine the relationship between firm innovation and firm's export performance; to establish the predictive potential of export market orientation and innovation on export performance of fruit exporting firms in Uganda. A qualitative cross sectional research design was adopted to undertake the study. A field study using simple random sampling was to select a sample of whose 3 top executives were key informants. The findings of the study revealed that there is a positive relationship between Export Market orientation, Firm Innovation and Export Performance. However when a regression model was conducted, it was observed that firm innovation was more powerful in explaining firm's export performance than export market orientation. It was therefore recommended that fruit exporting firms in Uganda should focus more on innovation if they are to enhance their export performance.

Keywords: Export market orientation, Firm innovation, Export Performance

Introduction

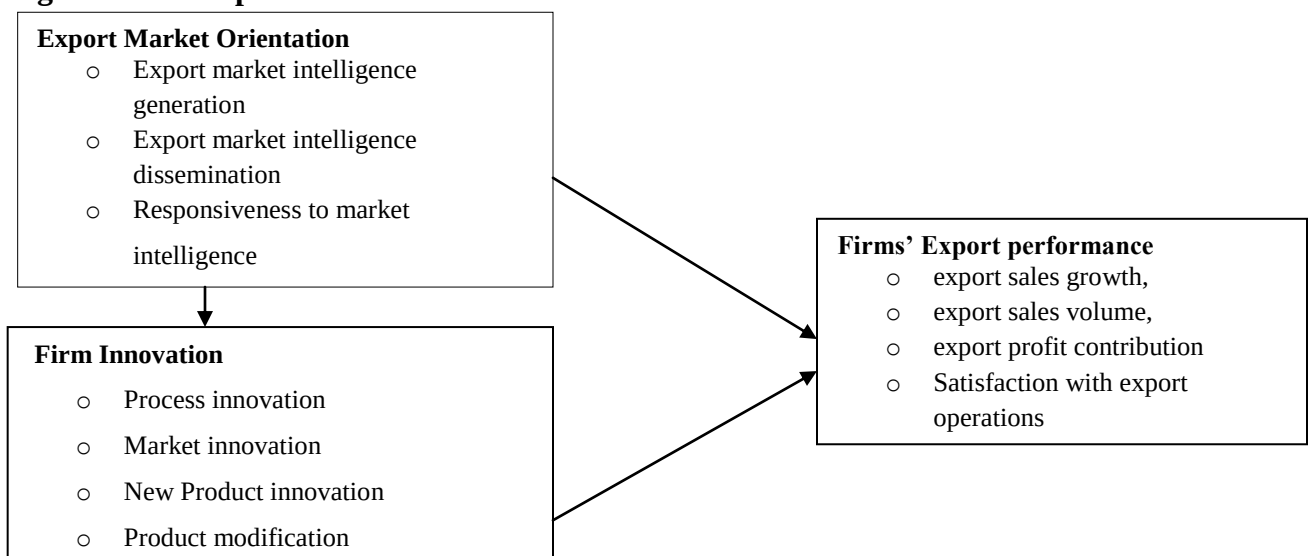
With the intensifying globalization of world economies, a good number of firms especially from developing countries have resorted to exporting as an essential activity for their future growth, profitability and survival (Sousa & Alserhan, 2002; Leonidas, 1995). This is mainly because exporting offers the simplest and cheapest means to expand and access foreign markets compared to other forms of international involvement such as joint ventures and overseas production (Tesform & Lutz, 2006; Bo, 2006; Morgan, 1997). However, the foreign markets are associated with a lot of uncertainty which necessitates firms to acquire export market information/intelligence concerning competitors, customers, prices, technology and government regulations, disseminate this information and act upon it (Bozic, 2006; Salavou, 2002; Sanjeev, Krishna & Chekitan, 2003; Codogan, Cui & Yeung, 2003; Jasmine and William, 2005). This behavior has widely been conceptualized by authors such as Codogan (2003); Alhakimi & Baharun (2009); Okpara (2009); Kohil & Jaworski (1993); Narvar & Slater (1999) and Sorensen (2005) as export market orientation. Accordingly, Cadogan, Cui & Li (2003); Zeljko (2007); Mehmet (2008); Hoq, & Norbani (2009) observe that with the adoption of market oriented behaviors, firms are able to generate information that is particularly important for their innovativeness as it helps them to come up with new and modified products, ideas, processes, and subsequently enter into new markets

With the increasing demand of both fresh and dried fruits in most developed countries such as USA and the EU, fruit exports from developing countries especially from the COMESA region such as Uganda, Kenya, Egypt, Swaziland, Ethiopia and Zimbabwe continue to register a tremendous growth in terms of value. Uganda as a country for example experienced a steady growth of its fruit exports from \$670,000 in 2002 to US \$ 1.9m in 2007 (UEPB, 2008). However this growth is still marginal compared to other fruit exporting countries in the COMESA region

such as Egypt, Zimbabwe, Swaziland and Ethiopia whose export values in 2006 were \$261, 930m, \$236,575m, \$16,471 m, \$8,594m contributing to around 7.9%, 0.55%, 0.29% 0.01% respectively to total world fruit exports (Trade Map, 2007). This upward trend in fruit exports has largely been attributed to the efforts that have been made by the fruit exporting firms not only to engage in information gathering and research that has enabled them to have a clear understanding of the needs of their customers but also the adoption of new production processes, methods and technology which has enabled them to compete favorably with other leading fruit exporting countries such as south Africa, China, Chile, Colombia and Mexico (Pietrobelli & Rabellotti 2008; East African Business Week, 2008).

Whereas the growth in Uganda's fruit exports is undisputable, most of the exporting firms still export raw, unprocessed fruits with little emphasis on value addition (Lyatuu, 2009, Namasinga, 2008). In addition, they lack improved storage, handling and transportation facilities that are critical in ensuring that fruits travel long distances and still maintain their freshness (Lyattu, 2009). Besides, most of them rarely engage in information search about the requirements of their foreign customers (Obura, Mayanja, Ikojo, and Cloete, 2007). As such Ugandans fruit export value that could have more than doubled seem to be growing at a slow rate and this has affected Uganda's ability to tap into the estimated US \$1.2 billion global fruit market (UEPB, 2008). Although the above scenario that characterizes the nature of fruit exporting firms in Uganda tend to point towards lack of export market orientation and low levels of innovation, there is limited research that has been conducted to assess the relationship between export market orientation, innovation and export performance in Uganda, particularly within the fruit exporting firms. Hence, this research is intended to narrow the knowledge gap regarding this area.

Figure 1: Conceptual framework



Objectives of the study

1. To establish the relationship between export market orientation and firm innovation
2. To establish the relationship between export market orientation and export performance of fruit exporting firms in Uganda

3. To examine the relationship between innovation and performance of fruit exporting firms in Uganda
4. To establish the predictive potential of export market orientation and innovation on the export performance of fruit exporting firms in Uganda

Literature Review

Export performance

Export performance can broadly be defined as the outcome of a firm's activities in export markets (Muhammed & Saleem, 2008). Cadogan et al. (2003) define it as the firm's degree of economic achievement in its export markets. Whereas there is a growing body of literature regarding export performance, its conceptualization and subsequent operationalisation has remained a thorny issue in exporting literature (Diamantopoulos, 1999; Muhammad & Saleem, 2008; Vusi & Kamilla, 2002). Consequently, several conceptual contributions have appeared seeking to come up with dimensions and measures of export performance. Leonidou et al. (2002) have identified that export intensity, export sales growth, export profit level, export sales volume, market share, and export profit contribution are mostly used measures of export performance. Ayse & Akehurst (2003) observe that export performance of a firm can be measured by using subjective and objective measures since research shows that both yield consistent results (Hart & Banbury, 1994; Olimpia et al. 2006). They noted that objective measures are concerned with absolute performance indicators whereas subjective are concerned with performance of a business in relation to its major competitors or relative to a company's expectations. However, Dodd et al. (2000); Carlos & Bakr (2002); Cadogan (2002); Cavusgil & Zou (1994) claim that in most cases collecting absolute information is often difficult as most firms do not wish to divulge such information. In brief, it seems clear that export performance is a multifaceted concept and that no indicator is sufficient to provide a reliable assessment of export performance. However it has been suggested that using a combination of both subjective and objective measures can enhance the possibility of accurately measuring the export performance of the firm (Al-Khalifa & Morgan, 1999; Olimpia, Chawit and Amonrat, 2006).

Export market orientation

Export market orientation remains one of the most recent concepts in international marketing as previous empirical studies of market orientation have been in the context of domestic markets (Olimpia, Chawit and Amonrat, 2007). However efforts have been made by authors such as Cadogan (2003) to integrate market orientation constructs such as market intelligence generation, market intelligence dissemination and responsiveness to market intelligence into international marketing hence the birth of export market orientation concept.

Various definitions of Export market Orientation have been advanced by a number of authors. According to Mokhtar et al. (2009), export market orientation is the extent to which the marketing concept is implemented. It is an organizational culture dedicated to delivering superior customer value which must be manifested in the activities and processes of a firm (Sorensen, 2005; Slater & Narver, 1998; Cadogan & Diamantopoulos and Mortanges, 1999). These activities according to researchers such as Teeuwssen, (2004); Mokhtar, Yusuf and Arshad, (2009) and Sanjeev (2003) Olimpia et al. (2007) (Brendan and Graham (2002); Bozic (2006); Alhakim et al. (2009) (Okpara, 2009). involve the organization wide generation of market intelligence pertaining to current and future customer needs in the foreign market, dissemination of the market intelligence across departments, and organization-wide responsiveness to it.

Export market intelligence generation concerns the activities associated with generating information about the firm's export customers' current and future needs and wants, competition in the firm's export markets, and other exogenous factors such as technological and regulatory developments (Erdil, Oya and Keskin, 2004 Alhakimi& Baharun, 2009; Norzalita & Mohd (2010). *Export market intelligence dissemination* concerns the formal and informal information exchanges which allow the information generated to reach appropriate export decision-makers (Olimpia & Amonrat, 2006). The importance of market export market intelligence dissemination is to provide 'a shared basis for concerted actions' by different departments. It has been pointed out by various authors such as (Kohil & Jaworski, (1990); Alhakini & Baharun (2009) that the competitive advantage of a firm in international markets lies largely on the ability of the firm to disseminate information and not in its access or acquisition. *Responsiveness to market intelligence* encompasses the design and implementation of all responses to the export intelligence that has been generated and disseminated with in a firm (Dodd, 2005). In this regard, Toften & Olsen (2003) point out that one way of developing organizational knowledge is when information outside the company is acted on by integrating and incorporating it within the organization. In agreement, Toften, (2005); Kohil & Jaworski (1990); Vyas & Souchon (2003) observe that for successful international operations firms need to act on the information that is normally acquired.

Firm Innovation

Various arguments have been advanced by different authors to explain what constitutes firm innovation. For instance, Hurley et al.(1998) and Aranda et al. (2001) agree that innovation is the capacity to introduce new process, product, or idea in the organization while Bigliardi & Dormio (2009) define it as a process that involves generation, development and adaptation of novel ideas on the part of the firm. Aranda et al. (2001) argue that although innovation is usually associated with radical advances in products and productive configurations, most successful innovations are based either on accumulated effect of incremental changes of products, processes or on creative combination of already existing techniques, ideas or methods. In this regard, Mole & Worrall (2001) observe that innovation can either be radical or incremental where radical innovations are new technologies, processes or new products that fill needs perhaps not yet recognized while incremental innovations improves what already exists. Nguyen et al. (2009); Bigliardi et al. (2009) Miguel & Elena (2009); Bozic (2006); Salavou (2002). observe that firm innovation can be reflected in the extent to which a firm can introduce new product, new production processes, modify the existing products and exploit new territorial markets and segments within existing markets . Some of these assertions have been supported by authors such as

Export Market Orientation and Firm's Export Performance

Various authors continue to acknowledge that one route to superior export performance is by firms adopting market orientated behavior in their export activities (Codagan et al. 2003; Olimpia, Chawit and Amonrat, 2006; Brendan & Graham, 2002). In the studies addressing the influence of export market orientation on export performance, the prevailing view is that the relationship between these two variables is positive (Codagan et al. 2003, Akyol & Akehurst, 2003, Sanjeek et al. 2003, Dodd, 2005,Kropp et al. 2005; Kohli & Jaworski, 1990). In this respect, Akyol & Akehurst (2003) observed that firms which focus on generating export market information are in good position to perform better in their export markets than the non market oriented ones because they possess a greater understanding of their customer needs and

preferences. As such, Hoq et al. (2009); Sanjeev et al. (2003); Kropp et al. (2005); Mehmet (2008) assert that these firms are likely to devise and adapt their products, services and processes that continue to meet the needs of the evolving market. In support of the above argument, Marisalvo (2010) asserts that the generation, analysis and dissemination of information about clients, competitors and technology exert a positive influence on company performance. Pitta & Richardson (2007) assert that companies that have a systematic process of market monitoring and market knowledge have the advantage of responding with greater speed and efficiency to market opportunities and threats which in turn culminates into continuous growth both in sales and profits that are necessary for firm survival.

Contrary to the overwhelming positive relationship, some authors have pointed out that there could be weak or no relationship between export market orientation and firms export performance (Dodd, 2005; Brendan et al. 2002; Simpson, & Baker, 1998; Mohd et al. 2009; Codogan et al. 2003). They argue that there are high costs associated with sustaining a market oriented behavior and this may outweigh the possible benefits to be gained by such firms. Also, Chao & Spillan (2010) suggest that market orientation is an inadequate prescription of organizational success since it ignores the creative abilities of the firm. Similarly, Stokes (2000) observed that successful firms tend to focus first on innovations to products and services, and later on customer needs as opposed to systematic information generation which may be costly and inadequate

Regardless of the above arguments, it should be noted that getting concrete information is essential in enhancing global competitiveness of firms operating beyond their national borders. However most firms from developing countries like Uganda lack the internal resources to acquire specific information related to their operations (Tesfom & Litz, 2006).

Export Market Orientation and Firm Innovation

It has been pointed by authors such as Bozic (2006); Hoq et al. (2009) and Salavou (2002) that there is a strong linkage between export market orientation and firm innovation. For instance Hoq et al (2009) view innovativeness as one of the core value-creating capabilities that drives the market orientation behavior. They propose that innovativeness is the medium for business success in the wake of appropriate intelligence gathering and decision making. As such, Henard & Szymanski (2001) speculate on a strong linkage between market orientation and innovativeness for achieving superior business performance outcomes. Sabri, Oya and Halit (2003) observed that firms have to pay more attention to the needs of customers in the prevalent business environment through generating and responding to information in the target market place. This information is particularly important for firms which may wish to come up with new ideas, products, process and even modify the existing ones (Hoq, & Norbani (2009) Salavou (2002) acknowledges that innovativeness largely depends on the firm's willingness to adopt export market oriented strategies by generating relevant market information, disseminating the information and acting upon it. The rationale behind this is that market responsive firms display a higher commitment towards rapidly evolving customer needs and constantly seek to ensure their satisfaction by offering more radical product innovations (Pelham & Wilson, 1996). Such response leads to production of products with greater value to customers thus strengthening the firm's competitive position and ultimately resulting in higher levels of profits (Salavou, 2002; Elenal, 2009; Hurley & Hult 2004; Erdil 2004; Cordagan et al. 2003)

Firm innovation and firm's export performance

Firm Innovation refers to the firm's ability to quickly introduce new products and to adopt new processes into competitive markets (Guan and Ma, 2003). Numerous authors such as Freel (2000); Ussahawaninitchakit (2007); Kirbach & Schmiedeberg (2006); Wright, Palmer & Perkins (2004); Simpson, Singuaw and Enz (2006), Rafeal and Ricardo (2007; Natalia & Ines (2005) have pointed out that innovation can affect firm's export performance both positively and negatively. For instance, Ussahawaninitchakit (2007) argues that firms in foreign business markets have exploited innovative capabilities to learn how to thrive in rigorously competitive environments, sustain competitiveness, and achieve export growth and performance. Elena (2009) In relation, Aranda et al. (2001); Mahesh & Neelankavil (2008) argues that in today's competitive environment, innovation remains one of the most core value creation activities and a competitive weapon for firms operating in international business. Ussahawaninitchakit (2007) Xayhone & Yoshi (2009) asserts that innovation has the capacity to increase and promote stronger export competitiveness that can ultimately lead to sustainable export performance. However, Ussahaninitchakit (2007), Freel (2007) acknowledge that innovation is characterized by financial constraint that may erode the positive outcomes in the long run.

Methodology

A cross sectional and quantitative research design was used to establish whether export market orientation and firm innovation enhance the performance of fruit exporting firms in Uganda. A correlation approach was employed to establish the relationship amongst the study variables. The total population consisted of 65 fruit exporting firms whose list was obtained from Uganda Export Promotions Board. The sample size consisted of 56 firms and this was established basing on Krejice and Morgan's (1970) table for determining the sample size of a given population. These firms became the unit of analysis and three top managers from each firm became the unit of inquiry for this study. Both primary and secondary data sources were used. Secondary data was collected through the review of relevant literature, internet, export bulletins from Uganda export promotions board while primary data was obtained using a questionnaire. Primary data was collected through self administered structured and unstructured questionnaires. The questionnaire was carefully structured to facilitate maximum response. The questionnaire employed a five likert scale to elicit the degree of agreement or disagreement. All variable under study were measured using appropriate constructs as adopted from literature. The Export market orientation measures were adopted from Cadogan et al. (2003) who measured it using export market intelligence generation, export market intelligence dissemination and responsiveness to market intelligence. The questionnaire developed by Cadogan *et al.*, (2001) was utilized in this study as it is the most recent and significant attempt to measure firm's export market oriented behaviors. The questionnaire was modified to suit the existing conditions in Uganda. **Innovation** measures were adopted from Nguyen & Pham (2009); Birgliardi et al. (2009); Minguel et al (2009) who conceptualized it as to what extent processes innovations, new product innovations, product modifications are introduced in the company and how the existing products are modified to suit the export markets. A 5 point likert scale was used to determine the level of innovativeness with 1 "strongly disagree" and 5 "strongly agree" Export performance was measured using subjective measures of export sales growth, export profit contribution, export sales growth, competitive performance and satisfaction with export operations which adopted from authors such Ayse & Akehurst (2003); Olimpia, Chawit and Amonrat (2006); Toften & Olsen (2003).

Subjective measures were used given the fact that most firms do not provide absolute figures of their performance. Cronbach's Alpha for testing reliability of the research questionnaire was used and it was observed that the questionnaire items were reliable. The cronbach's Alpha was above 0.600 which was satisfactory. The collected data was carefully scrutinized, cleaned, coded and analyzed. Data was extracted from questionnaires, entered into the computer using Epidata and analyzed using SPSS (statistical packages for social scientists). Data was manipulated using cross tabulations, regression and Pearson correlation coefficient. Cross tabulations were used to describe sample characteristics, multiple regression analysis was used to find out the predictive potential of independent variables (export market orientation and Firm Innovation) on the dependent variable (Firm's export performance) while Pearsons correlation was used to establish the relationship between the study variables

Findings and Discussions

Background Characteristics

To present sample background characteristics, cross tabulations and frequency distribution were used to indicate variations of respondents by gender, level of education, company age, nature of exports and number of employees. The results are presented in tables

Characteristics of the Respondents.

Table. 1: show the Gender and Level of Education of the respondents.

		Count	Percent (%)
Gender	Male	80	52.3
	Female	73	47.7
	Total	153	100.0
Level of education	Secondary	1	.7
	Diploma	5	3.3
	Degree	37	24.2
	Post Graduate	104	68.0
	Any Other	6	3.9
	Total	153	100.0

The findings revealed that 52.3% of the respondents were males while 48% of the total sample was females. The findings on the level of education of the respondents indicated that the majority of the respondents (68%) had attained a post graduate degree. These were followed by degree holders who constituted 24.2% of the total sample. 3.9% indicated that they had attained other qualifications like ACCA, CIM while the minority (3.3%) had at least a diploma.

Firm characteristics

Table. 2: Shows the Company age, Number of employees, Target customers and the Nature of Exports.

		Count	Percent (%)
Company Age	1-5 yrs	1	1.9
	6 - 10 yrs	4	7.5
	11 - 16 yrs	35	66.0

	Over 16 yrs	13	24.5
	Total	53	100.0
Number of employees	Less than 10	1	1.9
	11 – 30	3	5.7
	31 – 50	6	11.3
	51 – 100	43	81.1
	Total	53	100.0
Target Customers	International	6	11.3
	Both domestic and international	47	88.7
	Total	53	100.0
Nature of exports	Row products	4	7.5
	Semi-processed products	42	79.2
	Processed Products	7	13.2
	Total	53	100.0

The findings on firm characteristics in the table 2 above revealed that the majority of the firms (66%) had been in existence for a period of between 11-16 years. These were followed by those that had existed for over 16 years (24.5%) while the minority had only been in existence for a period between 1-5 years (1.9%) The findings also revealed that the majority of the firms (81.1%) employed between 51-100 workers. These were followed by those who had employed between 31-50 workers (11.3%) while the rest had employed between 11-30 workers (5.7%) and the minority (1.9%) had employed less than 10 employees.

In addition, it was revealed that most firms (88.7) were targeting both domestic and international markets while 11.3% of the firms interviewed were targeting only international markets. On the nature of fruits being exported, it was revealed that the majority of the firms (79.2%) were exporting semi processed products. 13.2% of the firms indicated that they were exporting processed products while only 7.5% of the firms under investigations were still exporting row products. This is a clear indication that most of the fruit exporting firms in Uganda lack the capacity to export processed products and have only concentrated on the exportation of raw and semi- processed products. Probably this explains why there is a slow growth rate of Uganda's fruit exports when compared to other fruit exporting countries such as South Africa, China and Mexico

Relationship between the Variables

The results for the correlations were examined using the Pearson correlation coefficient (r). The study variables being examined were Export Market Orientation, Innovation and Export performance

Table. 3: Relationship between the Variables

	<i>Mean</i>	<i>SDev</i>	1	2	3	4	5	6	7	8	9
Export market intelligence generation-1	4.37	0.57	1.000								
Export market intelligence dissemination-2	4.32	0.59	.251**	1.000							
Responsiveness to market intelligence-3	4.62	0.56	.283**	.212**	1.000						
Export Market Orientation-4	4.44	0.41	.722**	.702**	.698**	1.000					
Process innovation-5	4.30	0.45	.167*	.442**	.336**	.441**	1.000				
Market Innovation-6	3.90	0.65	.445**	.324**	.154	.437**	.243**	1.000			
New Product Innovations-7	4.30	0.41	.284**	.332**	.169*	.371**	.341**	.176*	1.000		
Firm Innovation-8	4.10	0.44	.225**	.294**	.300**	.377**	.707**	.299**	.275**	1.000	
Export Performance-9	3.99	0.62	.285**	.368**	.186*	.396**	.454**	.440**	.219**	.370**	1.000

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Export market orientation and firm innovation

The results in the table (3) showed a positive and a strong relationship between the export market orientation and firm innovation ($r = .377^{**}$, $p < .01$). These results imply that if a firm adopts an export market oriented behavior i.e. generates export market intelligence/ information disseminates this information and responds or acts on this information it will enhance its innovativeness. This is consistent with Salavou (2002) Pelham and Wilson (1996) who observed that market responsive firms display higher commitment to offering radical product innovations.), Hurley and Hult (2004) also noted firms may need information to respond to customer needs and preferences by introducing new and modified products, systems and processes that offer more value.

Export market orientation and export performance

It was also observed that there was a significant positive and strong relationship between export market orientation and firm's export performance ($r = .396^{**}$, $p < .01$). This implies that export market orientation can result into increased firm's export performance. These findings are consistent with the observations of Codagan et al (2003), Akol & Akehurst (2003), Sanjeek et al (2003), Dodd (2005), Kropp et al (2005) who observed that firms which focus on generating export market information are in good position to perform better in their export markets than the non market oriented ones as they possess a greater understanding of their customer needs and preferences.

Firm innovation and firm's export performance

The table above further revealed that there is a positive and strong relationship between firm innovation and firms export performance ($r=.370^{**}$, $p<.01$). This implies that if a firm is innovative i.e. being able to introduce new products, introduces new production processes, enter new markets or segments, there will be a corresponding increase its export performance. This is in agreement with Joaquin ,Rafeal & Ricardo (2007), Nguyen et al .(2009), Natalia & Ines (2005) who noted that innovative firm are likely to perform better than non- innovative firms mainly because through innovation, a company faces up to the changes in its marketing environment. Nguyen & Pham (2009) further support the existence of a strong positive relationship between firm innovation and firm's export performance by stressing that innovating firms have incentives to expand into other market which enable them to earn higher returns from their investment.

Predictive Potential (Multiple Regression Analysis Model of export market orientation, innovation and export performance)

In order to determine how the study variables predict the dependent variable, a regression model was developed using a multiple regression analysis. This model was adopted since there was more than one variable affecting the predictor. The regression model in the table below highlights the degree to which Export Market Orientation and the firm Innovation can predict firm innovation.

Table 4. Multiple Regression Model.

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model	B	Std. Error	Beta		
(Constant)	.391	.497		.786	.433
Firm Innovation	.651	.119	.458	5.465	.000
Export Market Orientation	.212	.124	.143	1.710	.089
Dependent Variable: Export Performance					
R Square	0.303		F Change	19.104	
Adjusted R Square	0.293		Sig. F Change	.000	

The regression results show that that the goodness of fit is satisfactory (Adjusted R Square = .293), implying that export market orientation, firm innovation explain 29.3% of variations in the performance of the fruit exporting firms. Thus, about 70% of the performance in fruit exporting firms remains unexplained. It was also noted that the Firm Innovation (Beta = .458) is generally more powerful at explaining Performance than Export Market Orientation (Beta = .143). However, the model also revealed that firm innovation is a significant predictor of export performance whereas export market orientation is not. This could possibly be explained by the assertions of Chao & Spillan (2010) who suggested that market orientation is an inadequate

prescription of organizational success since it ignores the creative abilities of the firm. Stokes (2000) also observed that successful firms tend to focus first on innovations to produce products and services, and later on customer needs as opposed to systematic information generation which may be costly and inadequate

Conclusions

The overall results indicated that there is appositive relationship between export market orientation and innovation and export performance among fruit exporting firms in Uganda. It was also observed that export market orientation and innovation are significant predictors of export performance; however, innovation was more powerful in predicting export performances than export market orientation among fruit exporting firms in Uganda.

Recommendations

Based on the findings, the regression model indicated that innovation was more powerful in predicting export performance. Thus fruit exporting firms should concentrate on innovation that is aim at introducing new products, modify the existing ones, acquire up to date technology, improve their production processes and venture into new markets. This will go a long way in enhancing their competitiveness on the world market.

In addition, it should be noted that although, export market orientation was not a significant predictor of export performance, it shouldn't be ignored, firms should emphasise information gathering, dissemination and responsiveness as this will enable firms to acquire accurate information about customers that will enable them to come up with innovate ideas, process and products that will enhance their competitive advantage in their export markets

Limitations

- The research was cross sectional in nature and did not capture the trends of change in export performance as a result of export market orientation and firm innovation overtime.
- Data collection took longer than anticipated due to the fact that the target respondents were managers who were always not in office and very hard to meet. The sample was a limiting factor in the study.
- The sample represented only 56 firms situated in Kampala and neighboring districts of Wakiso and Mukono and this limits the extent to which the findings can be generalized to the whole Ugandan market.

Suggestions for Further Research

- Therefore given these limitations, the research recommends that; a longitudinal study should be carried out to establish the trends of change on export performance as a result of firm innovation and export market orientation.
- Given 29.3% predictive potential of export market orientation and firm innovation on export performance, it is very clear that there are other factors that were not part of this research that influence the export performance of fruit exporting firms in Uganda. Thus research should be carried out to establish other factors that could be influencing the performance of fruit exporting firms in Uganda.
- Research should be carried out in other sectors such fish exporting firms, coffee exporting firms to assess how export market orientation and firm innovation influences their export performance

References

- Alhakimi W & Baharun .R. (2009). A synthesis model of market orientation constructs
- Aranda .A. Daniel, Minguela B and Rodriguez A. (2001). Innovation and firm size. An empirical study for Spanish engineering consulting companies. *European Journal of Innovation Management*. Volume 4. Number 3. 2001. pp. 133-141
- Ayse, A. and Akehurst, G. (2003). An Investigation Of Export Performance Variations Related To Corporate Export Market Orientation. *European Business Review*. Vol 15, 5-20.
- Bear, M., and Frese, M. (2002). "Innovation is not Enough: Climates for Initiative and Psychological Safety, Process Innovations and Firm Performance", *Journal of Organizational Behavior*, Vol. 24: 45-68.
- Bigliardi B. and Domio .A. Ivo. (2009). An Empirical Investigation of Innovation Determinants in Food Machinery Enterprises. *European Journal of Innovation Management*. Vol 12. No.2 Pp223-242
- Bozic. L. (2006). The Impact Of Market Orientation On Product Innovation. Croatian Economic Survey
- Brendan and Graham .(2002). Market Orientation and Service Firm Performance. *European Journal of Marketing* Vol 36 .No. 9 Pg 980-988
- Cadogan W, Cui C and Li .Y .(2003). Export market Oriented Behavior & Export Performance. The Moderating roles of Competitive Intensity of technological Turbulence. *International marketing review*. Vol 20. No.5
- Cadogan, J.W., Diamantopoulos, A. and de Mortanges, C.P. (1999). "Developing a measure of export market orientation: scale construction and cross-cultural validation", *Journal of International Business Studies*, Vol. 30 No. 4, pp. 689-707.
- Cadogan, J.W. and Paul, N.J., Salminen, Risto T, Puumalainen K, Sundqvist S. (2001). Key Antecedents to "Export" Market-Oriented Behaviors: A Cross-National Empirical Examination. *International Journal of Research in Marketing*. Vol. 18 No.3)
- Chao M and Spillan J.E. (2010). The journey from market orientation to firm performance. A comparative study of US and Taiwanese SMEs. *Management Research Review* Vol. 33 No. 5, pp. 472-483
- Dodd Catherine. (2005). Export Market Orientation and Performance. An Analysis of Australian Exporters
- East African Business Week (2008) [Uganda's fruit export potential under-utilized.](#)
- Freel, M. (2006). "Patterns Of Technological Innovation in Knowledge-Intensive Business Services", *Industry and Innovation*, Vol. 13 No. 3, pp. 335-58.
- Freel, M.S. (2000). "Barriers to Product Innovation in Small Manufacturing Firms", *International Small Business Journal*, Vol. 18, No. 2, Pp. 60-80.
- Han J.K, Kim . N, and Srivastava R. (1998). Market Innovation and Organizational Performance: Is Innovation a Missing Link? *Journal of Marketing* Vol. 62, Pp 30-45.
- Henard, D. H. and Szymanski, D. M. (2001). Why Some New Products Are More Successful Than Others. *Journal of Marketing Research*, Vol 38, No3, 362– 375.
- Hoq M and Norbani H. (2009). Innovativeness: Its antecedents and impact on SME business performance. *International Journal of Business and Management* Vol 4, No.11
- Hurley, R.F and Hult, G.T.M. (1998). "Innovation, Market Orientation and Organizational Learning: An Integration and Empirical Examination", *Journal of Marketing*, Vol. 62: 42-54.

ITC Trade Maps. (2007).

Jasmine E and M Williams. (2005). Export marketing information gathering and processing in small and medium-sized enterprises *Marketing Intelligence & Planning* Vol. 24 No. 5, pp. 477-492

Jaworski, B.J. and Kohli, A.K. (1993). "Market orientation: antecedents and consequences", *Journal of Marketing*, Vol. 57 No. 3, pp. 53-70.

Joaquin .A, Rafeal. L. and Ricardo. C, (2007). A Measurement Scale for Product Innovation Performance. *European Journal of Innovation Management* Vol. 9 No. 4

Kirbach .M and Schmiedeberg. C. (2006). Innovation and export performance; Adjustment and Differences in East & West Germany manufacturing

Kohli A. K., Jaworski B. J. (1990). Market Orientation: The Construct, Research Propositions, and Managerial Implications, *Journal of Marketing*, Vol. 54, No. 2, pp. 1-18

Kohli, A.K and Jaworski, B.J. (1990). Market Orientation: The Construct, Research Propositions

Krejcie, R. V and Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.

Liu, S.S., Luo, X and Shi, Y. (2002). "Integrating Customer Orientation in Organizations –in-Transition: An Emprical Study", *International Journal of Research in Marketing*, Vol. 19 367-382.

Mahesh C and Neelankavil P. James, (2008), Product development and innovation and innovation for developing countries; Potential and Challenges. *Journal of Management Development* Vol. 27 No. 10, 2008 pp. 1017-1025

Marisalvo. S. (2010). A Contribution to the Study of Innovative Companies in Brazil.

Mehmet H and Koksall. (2008). How export marketing research affects company export performance:Evidence from Turkish companies. *Marketing Intelligence & Planning* Vol. 26 No. 4, 2008 pp. 416-430

Miguel H. E and Elena D. B. (2009). Product Innovation in Small Manufacturers, Market Orientation and the Industry's Five Competitive Forces: Emperical Evidence from Spain. *European Journal of Innovation Management* Vol .12 No. 2 Pp 470- 491

Minguel .H. and Elena .D. (2009). Product innovation in small manufacturers, market orientation and the industry's five competitive forces Empirical evidence from Spain. *European Journal of Innovation Management* Vol 12. No 4

Mohd, Mokhtar and Arshad. (2009). Market Orientation Critical Success Factors Of Malaysian Manufacturers And Its Impact On Financial Performance. *International Journal of Marketing Studies*. Vol. 1 No.1

Mole, Kevin and Worrall (2001). Innovation, Business Performance and Regional Competitiveness in the West Midlands. *European Business Review* Vol 13, No.6

Namasinga. F. (2008). Great Potential in Country's Fruit Industry. The Daily monitor publications.

Narver, J.C and Slater, S.F. (1990). "The Effect of Market Orientation on Business Profitability", *Journal of Marketing*, Pp 20-35.

Natalia .V and Ines. K. (2006). The Importance of Innovation in The International Textile Firms. *European Journal of Marketing* Vol 41 No1/2 Pp 17-36.

Nguyen .A and Pham, N. (2007). Innovation And Export of Vietnam's SME Sector.

Norzalita. A and Mohd. Y. (2010). How Will Market Orientation and External Environment Influence the Performance among SMEs in the Agro-Food Sector in Malaysia? *International Business Research* Vol. 3, No. 3

- Obura O, Majanja K. M, Cloete L, Ikoja J. R. and Odongo. (2007). Assessment of Business Information Access Problems in Uganda. *The Canadian Journal of Library and Information Practice and Research*, vol. 2, No. 2
- Okpara. O. J. (2009). Strategic choices, export orientation and export performance of SMEs in Nigeria. *Management Decisions*, vol. 47. No.8
- Olimpia C, Chewit C and Amonrant T. (2006). Market Orientation, International Business Relationships and perceived Export Performance. *International Marketing Review*. Vol.24 No.2 pp 144-63
- Pelham A.M and Wilson D.T (1999). “Does Market Orientation matter For Small Firms?” Developing a Market Orientation, Sage Publications
- Pietrobelli and Rabellotti .(2008). The Global Dimension Of Innovation System And Enterprise Upgrading. Linking Innovation Systems and Global Value Chain. SLPTMD Working Paper Series No. 025
- Pitta D. A and Richardson L. (2007). A Comparison of the Market Orientation of Chinese and US Firms. *International Business & Economics Research Journal*. Vol 6, No.12
- Sabri E, Oya E and Keskin H.(2004). The Relationships Between Market Orientation, Firm Innovativeness And Innovation Performance. *Journal of Global Business and Technology*
- Salavou Helen. (2002). Profitability in Profit Oriented SMEs: Does Product Innovation Matter? *European Journal of Management Innovation*. Vol 5. No.3.
- Sanjeev A, Krishna E and Chekitan S. (2003). Market Orientation and Performance Of Service Firms: *Role Of Innovation*. *Journal of Service Marketing* Vol .17 No. 1
- Simpson, P.M., Siguaw, J.A. and Enz, C.A. (2006). “Innovation orientation outcomes: the good and the bad”, *Journal of Business Research*, Vol. 59 No 10. Pp. 1133-41.
- Sorensen .E. Hans. (2005). Development & Validation of Two Symmetric Component Measures of Market Orientation. ANZMAC Conference.
- Sorensen E.H. (2005). Why Competitors Matter for Market Orientation. *European Journal of Marketing* Vol. 43 No. 5/6, 2009 pp. 735-761
- Sousa M C. and Alserhan. A. B. (2002). An Investigation into the Antecedents of the Export Performance. Competitive Paper, University College Dublin
- Stokes, D. (2000), “Entrepreneurial marketing: a conceptualization from qualitative research”, *Qualitative Market Research*, Vol. 3 No. 1, pp. 47.
- Teeuwsen .B. (2004). Market Orientation. Pp 1-18
- Tesfom .G. and Litz. C. (2006) A Classification Of Export Marketing Problems Of Small And Medium Sized Manufacturing Firms In Developing Countries. *International Journal of Emerging Markets*. Vol. 1 No. 3, pp. 262-28
- Toften K (2005). The Influence Of Export Information Use On Export Knowledge And Performance; Some Empirical Evidence. *Marketing intelligence & planning*. Vol. 23 No.2 pp 200- 219
- Uganda Export Promotion Board. (2008). Uganda: Fruit Exporters Lose EU Deal.
- Ussahawanitchakit. P. (2007). Innovative Capabilities and Export Performance : An Empirical Study of Textile Business in Thailand
- Wright, R.E., Palmer, J.C. and Perkins, D. (2005). “Types of product innovations and small business performance in hostile and benign environments”, *Journal of Small Business Strategy*, Vol. 15 No. 2, pp. 33-44.
- Xayphon and Yoshi. (2009). Innovation, Export Performance and Profitability of Lao Garment Exporters *International Journal of Economics and Management* **3(2)**: 225 – 236

Zeljko. B. (2007). Influence of market orientation on business performance: A Case of Croatian Manufacturing Companies.

Management Accounting Change Systems and Practices Adopted by Large Manufacturing Companies in Nairobi, Kenya

Josiah aduda **and** Bangara Samwel Ndaita

Abstract

Better decisions and improved efficiency and effectiveness of existing operations is always attributed to the information provided by management accounting systems within the organization. Based on Drury's (2008) suggestion for practice and theory in management accounting, this study explores the practical sense of management accounting by particularly focusing on the potential influence of contextual variables on management accounting practices in Kenyan large manufacturing companies located in Nairobi. To compete successfully in today's highly competitive global environment, companies are adopting new management accounting practices, changing their manufacturing systems and investing in new technologies. This study focuses on the change in management accounting and how such changes have been adopted by large manufacturing companies in Kenya. This paper reports on a descriptive survey of management accounting change in Kenyan context. The findings indicate considerable changes in management accounting techniques within the surveyed companies. Both traditional and advanced management accounting techniques are practiced by the surveyed organizations. Advanced management accounting techniques notably; customer satisfaction, quality and innovation and on time delivery have been adopted, while traditional management accounting techniques notably; incremental budgeting, variable costing, standard costing and variance analysis, sales and return on investment are being maintained. Regarding changes in management accounting techniques the study established that majority of the responding organizations indicated change relating to introduction of new techniques as replacements, modification of information or output of MAS and introduction of new techniques where none existed. The study suggests that increased global competition, organization strategy and organization structure as contextual variables that largely facilitate management accounting change within the surveyed manufacturing companies. On the other hand, lack of adequate computing resources and lack of top management support were identified as the most hindrances to management accounting change within the surveyed organizations.

Key words: Management Accounting Systems, Practices, Adoption, Large Manufacturing Companies, Kenya

Introduction

The origins of today's management accounting can be traced back to the industrial revolution of the nineteenth century. The emergence of managed, hierarchical enterprises during this period such as armories and textile mills resulted in management accounting costing techniques being established to provide information on costs in an attempt to improve the cost structure. Further innovations in management accounting systems occurred in the early decades of the twentieth century to support the growth of multi-activity, diversified corporations. Several important operating and budgeting activities were devised to coordinate activities and allocate resources to groups. The most important management accounting innovation was the return-on-investment (ROI) that provided an overall measure of the commercial success of each operating unit and of the entire organization.(Kaplan and Artkinson,2007).

Management accounting change refers to a move from the way a particular management accounting practice or technique is applied. As such, management accounting change is found to consist of addition, replacement, output modification, operational modification and reduction (Sulaiman and Mitchell, 2005). Replacement of existing techniques and information output modifications have been found significant, with high frequency and importance. Management accounting change ranges from introduction of a comprehensive costing system, to tentative, partial and temporary change of a more modest type (Anderson and Young, 2001, Innes and Mitchell, 1990). Instances of change have also been found to involve the supplementation of information in existing performance measurement packages (Vaivio, 1999).

Management accounting change is not a uniform phenomenon. Consequently one might expect the causal factors of change to be varied and this has indeed been confirmed by management accounting researchers. It is evident that both the external factors (environmental) and internal factors (relating to the organization concerned) have influenced the recent development of new management accounting systems and techniques. According to Shields (1997), the potential change drivers are competition, technologies, organizational design and strategies. These drivers of change also indicate the differing roles which causal factors can have in the process of change. Change in environment also implies uncertainty and risk which create a demand for further management accounting change (Vaivio, 1999).

According to Johnson and Kaplan (1987), most of the management accounting practices that were in use in the mid 1980s had been developed by 1925 and for the next 60 years there was a slow down or even a halt, in management accounting innovation. They claim that over the years, organizations have become fixated on the cost and management accounting systems of 1920s that are obsolete and no longer relevant to the changing competitive and manufacturing environment. In the 1980s, major new challenges emerged for management accounting. Companies rediscovered the critical role that manufacturing plays in creating competitive advantage for their organizations. Quality in manufacturing and in product design became more emphasized, reduction in inventory levels and manufacturing lead times represented by just-in-time production and the introduction of computer controlled manufacturing operations. In this new manufacturing environment management accounting systems must be designed to support the drive for manufacturing excellence. Measurement systems must evolve to support efforts to increase quality and productivity, move to just-in-time and computer-integrated -manufacturing production systems and investment in new technologies. Since the mid-1980s management accounting practitioners and academics has sought to modify and implement new techniques that are relevant to today's business environment (Kaplan and Atkinson, 2007).

Organizations commonly utilize traditional management accounting techniques (TMATs), such as full costing, job order costing and process costing. Developments in management accounting in the past two decades provided more advanced management accounting techniques, including activity based costing (ABC), activity based management (ABM), target costing, value added accounting, cost of quality reporting, economic value added, life cycle costing, throughput accounting and back flush costing. These forms a set of contemporary management accounting practices. Each technique has its advantages and disadvantages and may be applicable under certain circumstances. Szendi and Elmore (1993) drew a distinction between contemporary and traditional management accounting practices. They found that new management accounting

techniques are being adopted while traditional systems are being maintained, thus suggesting that management accounting is in a transitional stage. The inclination of organizations towards new management accounting techniques has been explained as facilitated by management accountants whose behavior is innovative cognitive in style are more likely to initiate radical changes to the practices of their organizations (Emsley *et al.*, 2006).

In Kenya, liberalization of the economy opened door for intensive competition from overseas companies in 1990s in the domestic market. This has resulted to a situation where most firms are now competing in a highly competitive global market. Protection policy by the government limited the ability by foreign companies to compete in domestic markets. This implied that there were little incentives for firms to maximize efficiency, improve management accounting practices or minimize costs. However, in the mid 1990s many organizations including manufacturing firms began to encounter severe competition from foreign competitors that offered high quality products at low prices. Privatization of government controlled entities in the same period contributed to the change in the business environment.

Kenya's manufacturing firms are diverse in terms of the products that they are engaged in and size as determined by the number of employees in such firms. These firms range from small and medium sized to large. Large manufacturing firms are those employing more than one hundred employees and an annual turnover or production level in excess of kshs.500 million (International Finance Corporation,2002). Whereas these firms engage in production of a wide range of products, food and beverage, metal engineering and textile firms' account for 63 % of manufacturing value added (GOK, 2006).The sector was developed under import substitution policy (1967) but the policy emphasis now is export oriented industrialization. The sector is heavily relied on production of consumer goods. Government participation in manufacturing sector is smaller as compared to private enterprises due to privatization policy. Within the private sector, companies are owned and operated by both local and foreign investors. Most companies are subsidiaries of multinational corporations.

Large manufacturing firms sector has been selected for this study because it is claimed that the origin of today's management accounting systems can be traced back to the industrial revolution, therefore making it reasonable to assume that manufacturing firms will pioneer in the adoption of management accounting changes. Also, large manufacturing firms have adequate resources, hence easy to meet the implementation costs of adopted changes in management accounting systems.

Problem of Research

Business environment in Kenya has rapidly changed as a result of globalization. Since the liberalization of the Kenyan economy in 1990s this sector continues to experience both global and local competition. In this regard, the manufacturing firms are required to rethink and improve their processes. According to the directory of manufacturing industries ,the firms are classified as either; food, beverage and tobacco; textile, wearing apparel and leather industries; manufacture of wood and wood products; manufacture of chemical, petroleum, rubber and plastic products; manufacture of non-metallic mineral products; basic metal industries ;and manufacture of fabricated metal products, machinery and equipment.

The operating environment of manufacturing entities in which management accounting is practiced has faced dramatic changes with advances in information technology, highly competitive environments, change in customer demands and focus on quality. In many developed countries management accounting practice has introduced new cost and management accounting systems in order to cope with these changes in the operating environment. Such management accounting systems include; activity-based costing (ABC), activity-based management (ABM), target costing, product life cycle costing, quality cost management, customer accounting, and the balanced scorecard (BSC) approach to performance measures. For example, in Canada Libby and Waterhouse (1996) * reported a 31 per cent change in management accounting systems within a period of three years, refuting claims that management accounting is generally resistant. In the U.K Burns et al (1999) found significant changes in management accounting practices in the last decade. They argued that the change is in regard to the way management accounting is used and not necessarily introduction of new systems or techniques. A 1990 UK survey reported by Bromwich and Bhimani (1994) indicates that the cost management techniques most commonly used or planned to be used by UK firms were; ABC, cost modeling, and costs of quality. Other techniques were; target costing, strategic management accounting, and throughput accounting. The 1990 survey is consistent with Boer (2000) that found an emphasis on strategic management. A USA survey by Silk (1998) estimated that 60% of Fortune 1000 firms have experienced with the balanced scorecard.

However, there is little research on the adoption of these practices in developing countries for example, Cadez and Guilding (2007) surveyed manufacturing companies in Slovenia benchmarked with Australia on strategic management accounting usage, and they found a non-uniform adoption. Some techniques that have popularly high ranking in one country were relatively low in another country. They attributed this to contextual variables of difference in economies and cultures of the countries. Wallace, (1990) * found no different techniques in rich and poor countries or that Less Developed Countries (LDCs) import grossly inappropriate practices. No management accounting system is unique to LDCs has been found. Wallace (1990) claims accounting in LDCs is a tale of importation of western practices and institutions by transnational accounting firms.

Bromwich and Bhimani (1989)* argue that merely transplanting new management accounting systems devised in foreign settings for coping with a changing business environment is not totally satisfactory because of the diverse conditions under which different companies operate. They further argue that consideration should always be made of the political, economic, social and cultural environments that surround the firm. The evidence on the use of more contemporary and more sophisticated management accounting tools and techniques in emerging and/or developing nations remains mixed and is currently not suggestive of a “natural” evolution as argued by the above-mentioned authors (Van Triest and Elshahat, 2007)*.

Research Focus

The changes in management accounting systems entail a move from use of traditional management accounting techniques/tools to the use of innovative or contemporary management accounting practices. The changes may also encompass the way in which management accounting is used and not necessary adopting new management techniques.

Chenhall and Langfield-Smith (1998), surveying the Australian manufacturing sector, found that traditional management accounting techniques were found to be more widely adopted than recently developed techniques and that there is greater attention being paid to newer techniques in the future, especially activity-based techniques and benchmarking. Their concluding comments suggest that future research should be directed at gaining a better understanding of the factors that influence differences in the levels of adoption of recently developed management accounting techniques between countries.

Joshi (2001)* reports on a survey administered in 1998 among 60 Indian industrial firms. Overall, the level of sophistication seems high: 65 percent of the respondents use multiple allocation bases, and ABC adoption in the sample is 20 percent. Especially, the ABC adoption seems high, given that reported adoption rates in Western countries range between 10 and 20 percent (Brown *et al.*, 2004, p. 330) *.

Haldma and Laats (2002) * conducted contingency theory research in Estonia. Estonia regained independence in 1991 and has since undergone fundamental political and structural changes. These changes were found by the researchers to have influenced the operations of the companies there. The authors found some evidence that changes in cost and management accounting practices are associated with shifts in the business and accounting environment as external contingencies, and with those of technology and organizational aspects as internal contingencies. Of their sample, 7 percent use ABC. Multiple allocation bases for costs are used by 70 percent of respondents. Haldma and Laats (2002, p. 395) * also observe that within their sample, the “level of sophistication is of a cost accounting system tends to increase in line with company size”.

The survey reported by Garg *et al.* (2003) was conducted in 2003 and found traditional management accounting techniques are still widely used and new cost management techniques are not a priority. The survey also found that the most widely used techniques were operational budgeting, quantitative techniques, traditional costing, and overhead allocation. The techniques used widely were also ABM & standard costing, capital budgeting, breakeven analysis, and transfer prices. Other techniques which were newer management accounting developments such as the balanced scorecard, value chain analysis, and supply chain costing were not adopted as often.

Clarke *et al.* (1999) * studied the state of management accounting practices in Ireland. The data were collected from a questionnaire survey mailed to 511 Irish manufacturing companies. They found that ABC systems were not as widely used within Irish companies as within companies in the USA, the UK, and Canada because “the practice of management accounting in Ireland is marginalized.” In other words, Irish management accountants work as record keepers rather than innovators and decision facilitators, possibly due to supply and demand barriers. Also, the results indicate that ABC was not well understood by Irish management accountants.

Xiao *et al.* (2007) studied the use of Management accounting practices (MAPs) in China and attempted not only to establish if there had been an increase in the use of MAPs by businesses in China but also to examine if there was a difference in use depending on the businesses’ location in China, the industry type and the size of the business. They found that in general there had been an increase in the use of MAPs but that the various degrees of regional economic development in

China had little impact on that use; however, based on their observations, they concluded that larger firms and firms in the manufacturing sector are more likely to have implemented management accounting methods.

Waweru *et al.* (2004) conducted a research on management accounting change in South Africa. The research was done using a contingency theory framework within four retail companies to understand the processes of their management accounting systems change and to explore the rationales for such change processes. The findings indicate considerable changes in management accounting systems within the four cases. Such changes include increased use of contemporary management accounting practices notably activity-based cost allocation systems and the balanced scorecard approach to performance measures. The paper suggests that recent environmental changes in the South African economy arising from government reform/deregulation policy and global competition largely facilitated the management accounting change processes within the participating organizations. Mat *et al.* (2010) studied management accounting and organizational change in Malaysian manufacturing firms. They found that majority of responding companies had reacted positively to changes in the competitive business environment and advanced manufacturing technology. Significant changes in management accounting practices were also influenced by structure and strategy.

Studies done in Kenya have concentrated on the application of specific management accounting practices. A number of studies have been carried out in Kenya addressing the application of specific management accounting practices. Minja (1995), tried to find out whether divisionalised companies do measure performance for their divisions, the objective of performance measurement and the performance measure indicators used. He concluded that control, profitability, planning and strategy formulation, managerial performance, investment decisions and managerial remuneration were identified as the main objectives of performance measurement. The main measurement indicators were; accounting profit, return on investment, residual income and sales revenue.

Osewe (1998) studied the factors guiding the choice of performance measures in practice and association between organization characteristics and performance measurements. His conclusion was that most firms preferred financial measures to non-financial measures. Waweru (1999) carried out a survey on the application of management accounting practices by publicly quoted companies in Kenya. The findings from his analysis led to the following conclusions; budgeting was the mostly used practice, planning and control were indentified as the major purposes of management accounting reports, simple management accounting techniques were found to be preferred to complex techniques and management accounting theory related well with practice.

The studies have examined the kind of practices that organizations apply most (Wangari 2008, Arithi 2001, Nzule 1999, Waweru 1999, Osewe 1998 Gathumbi 1997 and, Minja 1995.).None of these studies has sought to explore why and how management accounting systems have changed and why new or innovative practices have or have not been adopted in Kenyan context.

This study is intended to bridge this knowledge gap. It is against this background that the following research questions arose; what changes have occurred in management accounting systems in the last two decades among large manufacturing companies in Nairobi, Kenya? What

factors facilitate/hinder management accounting system change among large manufacturing companies in Nairobi, Kenya?

The study will specifically seek to explore management accounting systems change among large manufacturing companies in Nairobi, Kenya; establish the management accounting systems adopted by among large manufacturing companies in Nairobi, Kenya; identify the factors that facilitate /hinder the management accounting systems change among large manufacturing companies in Nairobi, Kenya.

Methodology of Research

Research Design

This study employed a descriptive survey research design. A descriptive survey is a design used to collect data from members of a population in order to determine the status of that population with respect to one or more variables (Mugenda and Mugenda, 2003). Descriptive survey designs are appropriate where an understanding of the characteristics of a population in the way they use common practices are sought (Sekaran, 2007). The study focused on the large manufacturing companies located in Nairobi. This is because most of the large manufacturing companies are concentrated in Nairobi; hence they represented all the categories that were required for the study. It was found to be convenient in data collection given the available time.

Sample of Research

The population of the study comprised of all the large manufacturing companies in Nairobi. Large manufacturing companies are those employing more than one hundred employees and/or an annual turnover or production level in excess of kshs.500 million(International Finance Corporation,2002) As at June 2007, there were 2085 manufacturing companies in Kenya(GOK).Of this number ,759 companies were located in Nairobi.

A disproportionate stratified random sampling technique was used to select a sample size of 50 companies. This was considered adequate for this study because 50 are well above 30 that have been recommended as the minimum sample size for surveys (Saunders et al. 2000). In similar studies in manufacturing companies in Kenya (Nzule, 1999; Odongo, 2008) used sample sizes of, 35 and 30 respectively.The classification and sample selection is presented in table 3.1

Table 3.1 Sampling procedures.

Category	Total number in category	Proportion (%)	Sample size
Agro processing.	226	29.8	12
Wood and wood products.	74	9.7	6
Capital goods & spare parts.	28	3.7	1
Iron and still making	43	5.7	3
Electrical and electronics.	24	3.2	1
Construction & equipment.	54	7.1	4
Pulp and paper	114	15	7
Chemical processing	134	17.6	11
Ceramics and glass making	62	8.2	5
Total	759	100	50

The number of employees was used to determine the firm's size. Large manufacturing firms are those employing more than 100 staff according to the Kenya Industrial Research Development Institute (KIRDI, 1997). The KIRDI directory classifies the population into a size class code and the number of employees.

Instrument and Procedures

Primary data was used for this research. Data was collected through the help of a semi-structured questionnaire. Interviews were conducted to gain more insight on open-ended questions. The questionnaire was administered through the drop and pick later method accompanied with a covering letter explaining the purpose of the study and assuring the confidentiality of information provided.

The questionnaire was administered to executives in the financial departments (management accountants) or their equivalents that had firm knowledge of the cost and management accounting practices that have been adopted and used within their firms. The survey was organized covering the large manufacturing firms based in Nairobi, according to their number of employees selected from the KIDRI directory.

Data Analysis

The data was checked for completeness, coded and presented using tables. Demographic data of the firms used in the survey was presented in tables. Data was analyzed using content analysis for open-ended questions, descriptive statistics for data based on scales, regression- path analysis using Statistical Package for Social Sciences (SPSS) version 17.0 software for data relating to contextual variables influence on MAS change adoption. The analysis was tied to each objective so as to reach reliable conclusions.

Validity of the research instrument was established by presenting it to a panel of three accountants who had a long experience in management accounting to refine the content of the research instrument. Construct validity was tested by how well the collected data correlated to theory. Reliability of the research instrument was established through a pilot study in one of the large manufacturing firms that was not included in the study. The ambiguities, weaknesses and inconsistencies that were noted were corrected before the actual data collection.

Results of Research

A profile of the responding companies is presented in table 4.1 below. As can be seen from table 4.1 the majority of respondents are companies with a business life of over 20 years (93.8%); followed by companies that have been in existence for between 11-20 years (6.3%) and none of the respondent companies has a business life of less than 10 years. Out of the various industries engaged in this study, only 11 (34.4%) of them are local companies while 20 (62.5%) of the respondents are foreign companies operating in Kenya. Out of the 32 companies participating in this research, 34.4 % produce consumer products, 62.5% for industrial supply and 3.1% for both consumer and industrial supplies. Of the responding companies 18.8% have an annual turnover in millions of less than shs.500 million while 71.9 % have an annual turnover of over shs.500 million.

The sample for this study embraces large manufacturing companies. Large manufacturing companies are those having more than 100 employees (International Finance Corporation, 2002). The majority of the respondents indicated that they had 200-499 (53.1%) employees; followed by over 500 employees (25%); and 100-199 employees (21.9%).

In terms of industry category, it can be seen that majority of the respondents are from chemical processing (31.3%); followed by agro processing (25%); pulp and paper (12.5%); construction and equipment (9.4%); wood and wood products, iron and steel making and ceramics and glass making (6.3%) each; capital goods and spare parts (3.1%) with no response from the electrical and electronics industry.

Management Accounting Systems

Respondents were asked to indicate whether they use the 23 systems listed adopted directly from Libby and Waterhouse (1996) and whether such systems have been changed for the last 10 years. The findings are presented in table 4.2 below. From the table it can be seen that most of the respondent manufacturing companies in Kenya use most of the management accounting systems listed in the table. The mostly used systems entail; organizational performance measurement systems (65.6%); direct allocation of manufacturing overhead (59.4%); measures of performance in terms of quality, and use of more non-financial performance measures (53.1%); capital budgeting systems (50.0%); strategic planning systems (46.9%); operational planning (43.8%); budgeting, individual or team based performance measurement, direct allocation of other overhead and information reported more frequently (40.6%). While management accounting systems other than those listed in table 1 are indicted to be of minimal use by the surveyed organizations.

However, as regards to whether the systems have been changed in any manner for the last 10 years, it can be seen that the frequency of change is smaller than the frequency of use for most systems. Least changes are reported with respect to direct allocation of manufacturing overhead (15.6%); reward system-bonuses (15.6%); and organizational performance measurement systems (18.8%).

Table 1 Management Accounting Systems

Management Accounting system	Being Used		Have changed		Non response	
	Frq.	%	Frq.	%	Frq.	%
Budgeting	13	40.6	10	1.3	9	2
Operation planning	14	43.8	11	34.4	7	21.9
Capital budgeting	16	50.0	10	31.3	6	18.8
Strategic planning	15	46.9	10	31.3	7	21.9
Other planning systems	7	21.9	8	25.0	17	53.1
Individual/ team-based performance measurement	13	40.6	8	25.0	11	34.4
Organizational performance measurement	21	65.6	6	18.8	5	15.6

Measurement of performance in terms of quality	17	53.1	8	25.0	7	21.9
Measurement of performance in terms of customer satisfaction	12	37.5	9	28.1	11	34.4
Other performance measures	6	18.8	9	28.1	17	53.1
Direct allocation of manufacturing overhead	19	59.4	5	15.6	8	25.0
Direct allocation of marketing costs	12	37.5	8	25.0	12	37.5
Direct allocation of other overhead	13	40.6	8	25.0	11	34.4
Internal product transfers	9	28.1	6	18.8	17	53.1
Other costing systems	9	28.1	6	18.8	17	53.1
Reward systems – bonuses	16	50.0	5	15.6	11	34.4
Reward systems – pay for performance plans	12	37.5	10	31.3	10	31.3
Other reward systems	14	43.8	6	18.8	12	37.5
Information reported more frequently	13	40.6	7	21.9	12	37.5
Use of more non-financial measures	17	53.1	9	28.1	6	18.8
Information reported more broadly	6	18.8	10	31.3	16	50.0
Other changes to reporting systems	5	15.6	12	37.5	15	46.9
Other changes to systems that do not appear in this list	7	21.9	8	25.0	17	53.1

Source: Survey data

Change in Management Accounting Techniques

Descriptive statistics for change in management accounting techniques are presented in table 23. The results presented show a higher percentage use of traditional management accounting techniques; the results are consistent with the literature of the management accounting techniques that are applied in developing countries. Large manufacturing companies in Kenya still focused more on the use of traditional management accounting techniques. From table 2 the results show that the most popular traditional management accounting techniques used are; sales (N/A= 0%); standard costs and variance analysis (N/A=3.1%); residual income (N/A= 6.3%) and incremental budgeting (9.4%). This is consistent with the findings of Chenhall and Langfield-Smith (1998). The most popular advanced management accounting techniques are quality and innovation (N/A= 6.3%) and labour efficiency (N/A=9.4%). While the advanced techniques that have little adoption by Kenyan manufacturing companies are; beyond budgeting (N/A=75%); economic value added (N/A=37.3%); value chain costing and attribute costing (N/A=34.4%); target costing, lifecycle costing and balanced scorecard (N/A= 31.3%). This is consistent with the findings of Arithi (2001) which revealed that the balanced scorecard and value chain costing did not appear to have taken root among large manufacturing firms in Kenya.

Table 2 Change in management accounting techniques

Change in MAT	No change	new techniques	new techniques as	Modification of output	Modification of technical	Abandonment	mean	SD	N/A
	%	%	%	%	%	%			%
Incremental budgeting	18.8	9.4	18.8	25.0	6.3	12.5	2.7	1.9	9.4
Activity based budgeting	0	9.4	21.9	6.3	12.5	3.1	4.1	1.9	43.8
Zero based budgeting	12.5	3.1	21.9	3.1	0	0	4.0	2.4	56.3
Beyond budgeting	3.1	3.1	6.3	6.3	3.1	0	5.1	1.7	75.0
Full/absorption	25.0	9.4	21.9	3.1	9.4	3.1	2.5	2.3	18.8
Variable/marginal costing	18.8	6.3	21.9	18.8	9.4	0	2.6	2.0	15.6
Activity based costing	12.5	6.3	18.8	12.5	12.5	0	3.3	2.2	28.1
Residual income	37.5	12.5	15.6	9.4	6.3	0	1.5	1.8	6.3
Sales	43.8	9.4	15.6	15.6	9.4	3.1	1.5	1.6	0
Return on investment	25.0	12.5	15.6	12.5	9.4	0	2.3	2.1	15.6
Economic value added	9.4	6.3	15.6	0	21.9	0	3.9	2.2	37.5
Balanced scorecard	12.5	9.4	12.5	6.3	12.5	3.1	3.5	2.3	31.3
Standard costs and variance analysis	34.4	6.3	12.5	9.4	15.6	6.3	1.9	1.9	3.1
Customer satisfaction	37.5	3.1	15.6	3.1	15.6	0	2.0	2.2	12.5
Labour efficiency	31.3	9.4	15.6	12.5	9.4	3.1	2.1	2.0	9.4
Quality and innovation	28.1	18.8	15.6	3.1	12.5	3.1	1.9	1.9	6.3
On time delivery	31.3	15.6	15.6	3.1	12.5	3.1	2.1	2.2	12.5
Target costing	12.5	18.8	25.0	3.1	3.1	0	2.9	2.3	31.3
Lifecycle costing	18.8	9.4	12.5	9.4	6.3	0	3.1	2.4	31.3
Benchmarking	28.1	9.4	9.4	15.6	15.6	0	2.5	2.1	15.6
Just-In-time	15.6	12.5	12.5	18.8		0	3.0	2.3	28.1
Total quality management	25.0	12.5	15.6	6.3	15.6	0	2.3	2.1	12.5
Attribute costing	21.9	6.3	6.3	12.5	6.3	0	3.3	2.5	34.4
Competitive position monitoring	25.0	9.4	15.6	9.4	15.6	3.1	2.7	2.2	18.8
Competitor cost assessment	18.8	12.5	15.6	9.4	6.3	0	2.8	2.3	25.0
Competitor performance appraisal	18.8	6.3	15.6	12.5	6.3	0	3.1	2.4	28.1
Customer profitability	25.0	9.4	18.8	9.4	6.3	0	2.6	2.3	21.9
Balanced scorecard	9.4	9.4	18.8	9.4	3.1	0	3.7	2.3	43.8
Lifetime customer profitability analysis	9.4	9.4	18.8	9.4	12.5	0	3.5	2.2	34.4
Quality costing	12.5	18.8	6.3	12.5	12.5	0	3.2	2.3	28.1

Strategic pricing	18.8	6.3	12.5	15.6	6.3	0	3.2	2.4	31.3
Value chain costing	18.8	9.4	12.5	12.5	6.3	3.1	3.2	2.4	34.4
Average	-	-	-	-	-	-	2.9	2.1	-

Likert scale of 0-5: 0=No change; 1=New techniques; 2=New techniques as replacements; 3=Modification of information output; 4=Modification of technical operations; 5=Abandonment; N/A= Not applicable;

Source: Survey data.

Table 3 represents frequencies for management accounting change dimensions in each of the respondents' company. The results show that a majority of the responding companies have not made changes in the use of management accounting techniques (31.23%). Excluding this group, the most commonly occurring change is introduction of management accounting techniques as replacements (23.31%) and information output modification (14.81%). This is consistent with Sulaiman and Mitchell (2005). Introduction of new techniques (14.52%) was ranked fourth. Changes occurring in modification of technical operation of the MAS and removal with no replacements (abandonment) show the lowest percentages (13.93% and 2.2% respectively).

Table 3: Management accounting change dimensions

Dimensions of change	Frequency	Percentage (%)	Rank
No change	213	31.23	1
Introduction of new techniques	99	14.52	4
Introduction of new techniques as replacements	159	23.31	2
Modification of information or output	101	14.81	3
Modification of technical operation	95	13.93	5
Abandonment	15	2.20	6
	682	100.00	

Source: Survey data

Factors Facilitating Management Accounting Change

Competition: The descriptive statistics for all the indicators of competition variable as a factor facilitating management accounting change is presented in table 4 below. The results indicate that competition positively influence management accounting change and all the indicators seem to be equally likely with an overall mean of (3.67). However, competitor's action and competitors' markets/channels were found to have the greatest influence with a standard deviation of (0.99 and 1.19 respectively).

Table 4 Competition

Competition	Negligible %	Less negligible %	Moderate %	Intense %	Extremely intense %	Mean	S.d
Price competition	15.6	0	18.8	25.0	34.4	3.67	1.42
New product development	9.4	12.5	21.9	37.5	15.6	3.39	1.20
Marketing/channels	6.3	6.3	21.9	28.1	28.1	3.72	1.19

Competitor's action	3.1	3.1	18.8	37.5	31.3	3.97	.99
Competitor's markets	9.4	9.4	18.8	28.1	28.1	3.60	1.30
Average	-	-	-	-	-	3.67	1.23

Likert scale of 1-5: 1=negligible; 2=less negligible; 3=moderate; 4=intense; 5=extremely intense.

Source: Survey data

Manufacturing technology: Table 5 presents descriptive statistics for all variables in AMT. The results show that most of the respondents indicated that flexible manufacturing technology and computer aided manufacturing as the most important indicators with standard deviations of (1.22 and 1.36 respectively).

Table 5 Manufacturing technological advancements

Manufacturing technologies	Irrelevant %	Less irrelevant %	Moderate %	Important %	Extremely important %	Mean	S.d
Flexible manufacturing systems	6.3	9.4	9.4	34.4	37.5	3.90	1.22
Computer aided manufacturing	12.5	9.4	9.4	37.5	28.1	3.61	1.36
Just-In –Time	21.9	9.4	12.5	21.9	31.3	3.32	1.58
Computer –int. manufacturing	28.1	9.4	18.8	21.9	15.6	2.87	1.50
Others	6.3	0	0	9.4	6.3	3.42	1.72
Average	-	-	-	-	-	3.42	1.47

Likert scale of 1-5: 1=Irrelevant; 2=Less irrelevant; 3=Moderate; 4=Important; 5=extremely important.

Source: Survey data

Organization strategy: The literature has identified strategy as the most important factor in any organization for survival. This is evident with the results presented in table 6. Majority of the respondents reported an increased emphasis in their organizational strategy. The indicators were rated as either important or extremely important by most respondents. The results indicate that the customer focus strategies are emphasized more in the surveyed organizations, (for example, provide high quality products=68.8%, provide on time delivery =40.6% and make dependable delivery promises 34.4%). Except for, provide low costs (9.4%) and provide unique products (6.3%) none of the strategic variables was identified as irrelevant. Among these items provide high quality products, provide on time delivery and make dependable delivery promises are seen

as the most important strategies with standard deviations of (0.66, 0.79 and 0.80 respectively). Ideally, strategy is highly emphasized as it has an average mean score of (4.11).

Table 6 Organization strategy

Organization strategy	Irrelevant %	Less irrelevant %	Moderate %	Important %	Extremely important %	Mean	S.d
Provide on time delivery	0	3.1	9.4	37.5	40.6	4.28	.79
Make dependable delivery promises	0	3.1	12.5	40.6	34.4	4.17	.80
Provide high quality products	0	3.1	21.9	0	68.8	4.67	.66
Provide low costs	9.4	3.1	25.0	28.1	25.0	3.62	1.23
Provide unique products	6.3	6.3	21.9	21.9	37.5	3.83	1.23
Average	-	-	-	-	-	4.11	0.95

Likert scale of 1-5: 1=Irrelevant; 2=Less irrelevant; 3=Moderate; 4=Important; 5=Extremely important.

Source: Survey data

Organization size and type: The descriptive statistics for the indicators of organizational size and type are presented in table 7 below. It can be deduced that organization size and type variables positively influence management accounting change with an overall average mean score of (3.45). The item increase in resources appear to be a more influential indicator with a standard deviation of (0.98) indicating an insignificant variation of the respondents.

Table 7 Organization size and type

Organization size and type	Irrelevant %	Less irrelevant %	Moderate %	Important %	Extremely important %	Mean	S.d
Increase in acc. staff	18.8	12.5	31.3	18.8	12.5	2.93	1.31
Expansion	6.3	6.3	25.0	34.4	25.0	3.67	1.14
Increase in resources	3.1	6.3	18.8	43.8	18.8	3.75	.98
Average.	-	-	-	-	-	3.45	1.14

Likert scale of 1-5: 1=Irrelevant; 2=Less irrelevant; 3=Moderate; 4=Important; 5=Extremely important.

Source: Survey data

Organization structure: Table 8 provides details of the descriptive statistics for items in organization structure. Improved communication was emphasized by the majority of responding organizations in which (40.6%) of the respondents rated it as extremely important with a standard deviation of (1.11). However, an interesting result is indicated by the respondents in the decentralization item where, (25.0%) rated it as an irrelevant variable in influencing management accounting change .while another (25.0%) rated the variable as extremely important and (15.6%) rating it as moderate. This clearly indicates that some Kenyan large manufacturing companies have tall structures and some have horizontal structures.

Table 8 Structural changes.

Structural changes	Irrelevant %	Less Irr. %	Moderate %	Import. %	Extremely important %	Mean	S.d
Decentralization	25.0	9.4	15.6	21.9	25.0	3.13	1.56
Improved communication	6.3	0	12.5	31.3	40.6	4.10	1.11
Average	-	-	-	-	-	3.62	1.33

Likert scale of 1-5: 1=Irrelevant; 2=Less irrelevant; 3=Moderate; 4=Important; 5=Extremely important.

Source: Survey data

Hindrances to Management Accounting Change

Table 9 provides details of the descriptive statistics for variables that act as hindrances to management accounting change. All the variables positively hinder management accounting change. Of the variables lack of top management support and lack of adequate computing resources were emphasized by the respondents rating them as extremely important variables with (37.5% and 31.3% respectively). This results support the findings of Al-Omiri and Drury (2007) that high quality information systems are useful in providing detailed data needed for more sophisticated costing systems. The lack of adequate computing resources limits management accounting change adoption.

Table 9 Factors hindering management accounting change.

Hindrances to MAS change	Irrelevant %	Less irr. %	Moderate %	Import. %	Extremely important %	Mean	S.d
Lack of adequate computing resources	21.9	6.3	15.6	15.6	31.3	3.31	1.61
Lack of top management support	21.9	6.3	0	25.0	37.5	3.55	1.66
Lack of autonomy	37.5	15.6	3.1	18.8	12.5	2.46	1.57
Fear attitude	31.3	9.4	12.5	25.0	9.4	2.68	1.49

Others	3.1	0	3.1	6.3	3.1	3.40	1.52
Average	-	-	-	-	-	3.08	1.57

Likert scale of 1 to 5; 1=irrelevant; 2= less irrelevant; 3= moderate; 4 =important; 5= extremely important

Source: Survey data.

Group Parent Company Pressures Influence On Management Accounting Change

From the institutional theory perspective it is argued that various actors operating in and around the organizations can create the institutional pressures that lead individual organizations to adopt specific structures and procedures. From this study it was evident that such pressures exist .In this survey respondents of organizations that are subsidiaries reported that they adopted certain practices as a requirement from the head office or parent company. Subsidiaries were expected to present their management accounts in the formats dictated by the parent company and also implement their management information systems in a way consistent with the parent company. Despite this there were no significant differences in the majority of the variables tested.

Discussion

Table 10 presents the descriptive statistics of the overall rating of the factors facilitating management accounting change. The average mean score of (3.80) shows that these factors positively influence management accounting change. The results presented in table 10 show competition and organization strategy as the most influential factors relative to the others with a standard deviation of(0.78 and 0.80 respectively),indicating an insignificant variation among the respondents. This is consistent with Waweru et el (2004) who found competition as one of the important factors influencing management accounting change. This is also consistent with Langfield-Smith (1997), who found that strategy influences MAS and Kober et al (2007) argued that management control systems both shape and are shaped by strategy. Robbins (1990) emphasized on structure.

Table 10 Overall rating of contextual variables.

Contextual variables	Irrelevant	Less irrelevant	Moderate	Import	Extremely important	Mean	S.d
	%	%	%	%	%		
Competition	0	3.1	18.8	46.9	25.0	4.00	.78
Manufacturing technology	3.1	9.4	15.6	21.9	40.6	3.96	1.18
Organization strategy	0	0	28.1	34.4	28.1	4.00	.80
Organization size and type	3.1	12.5	28.1	25.0	21.9	3.55	1.12
Organization structure	9.4	9.4	25.0	18.8	28.1	3.52	1.32
Average	-	-	-	-	-	3.81	1.04

Likert scale of 1 to 5; 1=irrelevant; 2= less irrelevant; 3= moderate; 4 =important; 5= extremely important

Source: Survey data

The descriptive statistics in table 10 is supplemented by a summary of the regression analysis in table 11. To test the contingent fit of the contextual variables (independent variables) and the management accounting change index (dependent variable). The results show that competition and structure have got a positive relationship with management accounting change having coefficients' of (4.262 and 2.864 respectively) explaining 15.3% of the change in management accounting systems.

Table 11: Factors facilitating management accounting change regression analysis Coefficients (a)

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95% Confidence interval for B	
	B	Std.Error	Beta	T		Lower bound	Upper bound
(Constant)	20.932	7.845		2.668	.014	4.704	37.160
Competition	4.262	1.722	.498	2.475	.021	.700	7.824
Manufacturing technology	-.024	1.240	-.004	-.019	.985	-2.588	2.541
Organization strategy	-1.814	2.261	-.219	-.802	.431	-6.492	2.864
Organization size and type	-1.740	2.100	-.293	-.828	.416	-6.085	2.605
Organization structure	2.864	1.676	.571	1.709	.101	-.602	6.330

Source: Survey data

Summary of Findings

This study is about management accounting change: an exploratory study of large manufacturing companies in Nairobi, Kenya. The three objectives of this study were; to explore management accounting change; to establish the management accounting systems adopted by large manufacturing companies in Nairobi, Kenya and to identify the factors that facilitate/hinder management accounting systems change in large manufacturing companies in Nairobi, Kenya. The study is grounded on two theories namely; the contingency theory and the institutional theory of management accounting that try to explain why organizations tend to change their management accounting practices.

The paper utilized a descriptive survey research design. The study setting was on large manufacturing companies' located in Nairobi. A disproportionate stratified random sampling was used to select a sample of 50 companies for the survey. However, the response rate was 32 (64%) of the sampled companies participated in the survey, while 8 (16%) of the sampled companies returned blank questionnaires citing confidentiality of the information requested and lack of time to fill the questionnaire as the main reasons. While, 10 (20%) of the sampled companies declined to take part in the survey.

The paper used primary data that was collected using a semi-structured questionnaire and interviews. The data obtained from the responding companies was analyzed using content

analysis, and descriptive statistics. A multiple regression path analysis was used to analyze the extent to which management accounting systems change is influenced by the identified contextual variables.

Conclusions

For an organization to survive with competition in the ever changing world, it must change and put in place sound management accounting practices. This is what the study sought to find out in the Kenyan manufacturing companies. The findings provide insights into the objectives the study aimed to achieve. In regard to management accounting change aspect, the findings indicate that there has been some change in the way in which MAPs are applied. Most of the respondents indicated change taking the dimension of introduction of new techniques as replacements for existing parts of the management accounting system (23.31%), modification of the information or output of the MAS (14.81%), introduction of new techniques where no management accounting technique previously existed (14.52%), modification of the technical operation of the management accounting techniques (13.92%) and abandonment (2.2%). The change has been experienced in both the local and foreign companies having branches in Kenya. The study provides evidence to reject the general view that management accounting has not changed or is resistant to change.

As regards the kind of management accounting systems adopted by Kenyan large manufacturing companies, the research findings on this objective indicate that most of the systems listed are used by the surveyed organizations. Also from the findings it became evident that both traditional and advanced management accounting techniques are adopted. As new /advanced management accounting techniques are adopted traditional techniques are being maintained. This was evident from the aspect of management accounting change relating to abandonment recording the lowest score of (2.2%).

The third objective was to identify the factors facilitating /hindering management accounting change adoption. The findings from this study support the view that internal and external environments surrounding an organization have an impact on its management accounting systems. The findings illustrated MASs as important and have to be changed in order to cope with the change in the operating business environment. Further the findings provided more evidence to prior research relating to contingent factors forcing organizations to change their management accounting practices (Hoque and Hopper, 2004; Shields, 1997). The increase in global competition, structure and organization strategy were the main contextual factors facilitating management accounting change in the surveyed organizations.

Further, it was also suggested from the research findings that, lack of top management support, lack of adequate computing resources and lack of autonomy from parent company were highlighted as the most critical factors acting as hindrances to management accounting change. Also, group pressures may dictate the kind of practices adopted. This was evident from the study findings that any changes that were adopted by companies which are subsidiaries had to conform to those of the parent company. Some respondents indicated that whatever management accounting techniques that are in place in their organizations have been approved by the parent company.

Policy Recommendations

In enhancing the management accounting systems change adoption, the study suggests that the relevant professional accounting bodies, especially the Institute of Certified Public Accountants of Kenya (ICPAK), to establish a unit that implements and promotes the practice of advanced management accounting techniques in Kenya. There is need for the professional association to maintain their leadership role in identifying, supporting and educating on the positive changes that is taking place in the management accounting profession. This unit will specifically need to encourage and support the interaction between accounting educators and practitioners in the country.

ICPAK accordingly is required to do proper planning and promotions needed to ensure that seminars on management accounting can be promoted to all industries including the government agencies and also to the public at large. The seminars must be held regularly to ensure members and other participants are updated with various MATs especially the advanced management accounting techniques. This unit of professional bodies must also be responsible in creating the awareness on management accounting applications to other accounting bodies. This is important in order to educate the others about the benefits, the effectiveness and the importance of management accounting change applications.

The management accounting applications can also be promoted to all industries and the public by encouraging research and writing on the advanced management accounting topics. Besides, detail explanations are needed to inform the management of manufacturing entities and the public about the difference between the management accounting field and the financial accounting area. More articles and publications on management accounting topics should be printed in journals, magazines and other media. The effectiveness of success of management accounting change applications should be written and printed to public media using a range of organizational role models to convince business organizations and public of the fact that the new management accounting practices would be relevant to their own types of firms.

Further, the unit established should actively provide consultancy, technical supports and enhance trainings to update management level of knowledge. At this workshops and professional events specific organizations and companies especially manufacturing concerns should be targeted to improve the rate adoption of advanced management accounting techniques. Finally, it should be made mandatory for companies to incorporate management accounts reported as disclosure items in the financial statements.

Limitations of the Study

There are a number of limitations to this research findings; first ,due to the relatively small sample size any generalizations of the study results to non-manufacturing organizations or beyond cannot be made without caution. Second, the relatively low response rate is a major limitation in this research. For example, the decline of quite a number of sampled companies to take part in the survey, some returning blank questionnaires and response bias due to unwillingness of other respondents to share the accurate information. Third, most of the findings in the study are from quantitative data and do not capture an in-depth understanding of the subject phenomena. Thus, a different approach such a qualitative case study research may shed light on this issue.

Suggestions for Further Research

The same research be duplicated and focus on service organizations in Kenyan context to gain more understanding on this sector as these entities have become increasingly important within most economies. As the sample used was small the same research adopting a larger sample size using case study approach in developing countries may provide more information on the research issues explored in this study. A study to be conducted on the influence of contextual variables on management accounting systems change and its impact on organizational performance in a developing country context.

References

- Ansari, S.L., Bell, J.F., Okano, H. (2007), "A review of literature of target costing and cost management", in Chapman, C.S., Hopwood, A.G., Shields, M.D. (Eds), *Handbook of Management Accounting Research*, Elsevier, Oxford, Vol. Vol. 2 pp.507-30.
- Al-Omiri M, Drury C. (2007), "A survey of factors influencing the choice of product costing systems in UK organizations", *Management Accounting Research*, Vol. 18 pp.399 - 424.
- Abernethy, M.A., Bouwens, J. (2005), "Determinants of accounting innovation implementation", *Abacus*, Vol. 41 No.3, pp.217-40.
- Anderson ,S.W., and Young,S.M(2001) *Implementing Management Innovations*. Kluwer Academic Publishers, Massachusetts.
- Anthony, R.N., Govindarajan, V. (2007), *Management Control Systems*, McGraw-Hill, New York, NY,
- Ashton, D., Hopper, T. and Scapens, R.W. (1991), *Issues in Management Accounting*, Prentice-Hall, Englewood Cliffs, NJ.
- Ayvaz, E., & Pehlivanli, D. (2011). The use of time driven activity based costing and analytic hierarchy process method in the balanced scorecard implementation. *International Journal of Business and Management*, 6(3): 146-158.
- Arithi (2001) Application of strategic management accounting by large large manufacturing companies in Nairobi. *Unpublished MBA Project; University of Nairobi*.
- Albright, T.L. and Roth, H.P. (1992), "The measurement of quality costs: an alternativeparadigm", *Accounting Horizons*, Vol. 6, pp. 15-27.
- Boer, G.B., Ettlie, J. (1999), "Target costing can boost your bottom line", *Strategic Finance*, Vol. 81 No.1, pp.49-53.
- Boer, G. B. (2000). Management accounting education: *Yesterday, today, and tomorrow*. *Issues in Accounting Education*, 15 (2), 313-334.
- Bromwich, M., & Bhimani, A. (1994).*Management Accounting pathways to progress*. London; CIMA
- Bromwich, M., & Bhimani, A. (1989), *Management Accounting: Evolution not Revolution*, CIMA London.
- Bromwich, M. (1990), "The case for strategic management accounting: the role of accounting information for strategy in competitive markets", *Accounting, Organizations and Society*, Vol. 15, pp. 27-46.
- Blocher, E.J., Chen, K.H. and Lin, T.W.(2002) *Cost Management: A Strategic Emphasis*, 2nd edition Boston, Mass: McGraw-Hill Irwin.
- Burns, J., Ezzamel, M., Scapens, R.S. (1999), "Management accounting change in the UK", *Management Accounting*, Vol. 77 No.3, pp.28-30.

- Bogsnes B. (2009), "Implementing beyond budgeting – unlocking the performance potential", Wiley, New Jersey, .
- Burns, T., Stalker, G.M. (1961), *The Management of Innovation*, Tavistock, London,
- Belohlav, J.A. (1993), "Quality, strategy and competitiveness", *California Management Review*, Vol. 35, pp. 55-67.
- Cooper, R., Kaplan, R. (1992), "Activity-based systems: measuring the costs of resource usage", *Accounting Horizon*, Vol. September pp.1-11.
- Cooper, R. and Kaplan, R.S. (1988), "Measure costs right: make the right decisions", *Harvard Business Review*, Vol. 66, pp. 96-103.
- Cavalluzzo, K.S., Ittner, C.D. (2004), "Implementing performance measurement innovations: evidence from government", *Accounting, Organizations and Society*, Vol. 29 pp.243-67.
- Chenhall, R., & Langfield-Smith, K. (1998). Adoption and benefits of management accounting practices: an Australian study. *Management Accounting Research*, 9, 1–19.
- Chenhall, R.H. (2005), "Integrative strategic performance measurement systems, strategic alignment of manufacturing, learning and strategic outcomes: an exploratory study", *Accounting, Organizations and Society*, Vol. 30, pp. 395-422.
- Clarke, P., Hill, N., Stevens, K. (1999), "Activity-based costing in Ireland: barriers to, and opportunities for change", *Critical Perspectives on Accounting*, Vol. 10 pp.443-68.
- Choe, J.-M. (1996), "The relationships among performance of accounting information systems, influence factors, and evolution level of information systems", *Journal of Management Information Systems*, Vol. 12 No.4, pp.215-39.
- Cadez S., Guilding C.(2007) Benchmarking the Incidence of Management Accounting in Slovenia. *Journal of Accounting and Organisational change*. Vol.3 No.2 pp.126-146.
- Drury, C. (2008), *Management and Cost Accounting*, 7th ed., Chapman & Hall, London
- DiMaggio, P.J., Powell, W.W. (1983), "The iron cage revisited: institutional isomorphism and collective rationality in organizational fields", *American Sociological Review*, Vol. 48 No.2, pp.147-60.
- Dess, G.G., Davis, P.S. (1984), "Porter's generic strategies as determinants of strategic group membership and performance", *Academy of Management Journal*, Vol.26 pp.467-88.
- Emsley, D., Nevicky, B., Harrison, G. (2006), "Effect of cognitive style and professional development on the initiation of radical and non-radical management accounting innovations", *Accounting and Finance*, Vol. 46 pp.243-64.
- Fisher, J. (1995), "Contingency based research on management accounting control systems: categorisation by level of complexity", *Journal of Accounting Literature*, Vol. 14 pp.24-53.
- Foster, G., Gupta, M. and Sjoblom, L. (1996), "Customer profitability analysis: challenges and new directions", *Journal of Cost Management*, Vol. 10, pp. 5-17.
- Foster, G. and Gupta, M. (1994), "Marketing, cost management and management accounting", *Journal of Management Accounting Research*, Vol. 6, pp. 43-77.
- Gathumbi S.N (1997). Application of Inventory Models in Drug Inventory Management. The Case of the Nairobi City Council Health Services. *Unpublished MBA Project; University of Nairobi*
- Garg, A., Ghosh, D., Hudick, J., & Nowacki, C. (2003). Roles and practices in management accounting today. *Strategic Finance*, 85 (1), 30-65.
- Government of Kenya (2006). *Registered industries in Kenya*, Nairobi, Ministry of Trade and Industry.

- Glanuland M. (2001), "Towards Explaining Stability In and Around Management Accounting Systems", *Management Accounting Research*, Vol.12.pp.141-166
- Garrison, R., Noreen, E. (1997), *Managerial Accounting*, 8th ed., Irwin McGraw-Hill, New York, NY, .
- Gray, S.J., Salter, S.B., Radebaugh, L.H. (2001), *Global Accounting and Control: A Managerial Emphasis*, John Wiley & Sons, New York, NY, .
- Guinding, C. (1999), "Competitor-focused accounting: an exploratory note", *Accounting, Organizations and Society*, Vol. 24 No.7, pp.583-95.
- Guinding, C. and McManus, L. (2002), "The incidence, perceived merit and antecedents of customer accounting: an exploratory note", *Accounting, Organizations and Society*, Vol. 27,pp. 45-59.
- Guinding, C., Cravens, K.S. and Tayles, M. (2000), "An international comparison of strategic management accounting practices", *Management Accounting Research*, Vol. 11, pp. 113-35.
- Haldma, T., Laats, K. (2002), "Contingencies influencing the management accounting practices of Estonian manufacturing companies", *Management Accounting Research*, Vol. 13 pp.379-400.
- Hopwood, A.G. (1990), "Accounting and organizations change", *Accounting, Auditing & Accountability Journal*, Vol. 3 No.1, pp.7-17.
- Harrison, G., McKinnon, J. (2007), "National culture and management control", in Hopper, T., Northcott, D., Scapens, R. (Eds), *Issues in Management Accounting*, Prentice-Hall, Upper Saddle River, NJ, pp.93-116.
- Hyvonen, J. (2005). Adoption and benefits of management accounting systems: evidence from Finland and Australia. *Advances in International Accounting*, 18, 97–120.
- Hawes, J.M., Crittendon, W.F. (1984), "A taxonomy of competitive retailing strategies", *Strategic Management Journal*, Vol. 5 No.2, pp.275-87.
- Hope J., Fraser R. (2003), "Beyond budgeting – how managers can break free from the Annual Performance Trap", Harvard Business School Press, Boston, MA, .
- Hansen S.C, Otley D., Van der Stede W.A (2003), "Practice developments in budgeting: An overview and research perspective", *Journal of Management Accounting Research*, Vol. 15 pp.95 - 116.
- Hoque, Z., James, W. (2000), "Linking size and market factors to balanced scorecards: impact on organisational performance", *Journal of Management Accounting Research*, Vol. 12 pp.1-17.
- Hoque, Z. (2001), *Strategic Management Accounting*, Chandos Publishing, Oxford.
- Hoque, Z. (2003), *Strategic Management Accounting: Concepts, Processes and Issues*, 2nd ed., Spiro Press, London, .
- Ittner, C., Larcker, D. (1998), "Innovations in performance measurement: trends and research implications", *Journal of Management Accounting Research*, Vol. 10 pp.205-38.
- Ittner, C., Larcker, D., Rajan, M. (1997), "The choice of performance measures in annual bonus contracts", *The Accounting Review*, Vol. 72 No.2, pp.231-55.
- IMF (1999), *Code of Practices on Fiscal Transparency: Declaration on Principles*, International Monetary Fund, Washington, DC.
- Innes, J., Mitchell, F. (1990), "The process of change in management accounting: some field study evidence", *Management Accounting Research*, Vol. 1 No.1, pp.3-19.

- Innes, J., Mitchell, F. (1995), "A survey of activity based costing in the UK's large companies", *Management Accounting Research*, Vol. 6 No.2, pp.137-53.
- International Finance Corporation (2002), Institutional lending "A working paper"
- Joshi, P L (2001). "The International Diffusion of New Management Accounting Practices: The Case of India," *Journal of International Accounting, Auditing, and Taxation*, 10(1), 85-109.
- Johnson, H.T., Kaplan, R.S. (1987) *Relevance lost: the rise and fall of management accounting*, Harvard Business School Press.
- Jones, L. (1988), "Competitor cost analysis at Caterpillar", *Strategic Finance*, Vol. 77 pp. 32-8.
- Jacob, R. (1994), "Why some customers are more equal than others", *Fortune*, Vol. 130, pp. 215-20.
- Kaplan, R., Atkinson, A. (2007), *Advanced Management Accounting*, 3rd ed., Pearson Education, Harlow, .
- Kaplan, R., Norton, D. (1996), *The Balanced Scorecard: Translating Strategy into Action*, Harvard Business School Press, Boston, MA, .
- Koga, K. (1999), *Determinants of Effective Product Cost Management during Product Development: Opening the Black Box of Target Costing*, Harvard University, Cambridge, MA, .
- Kober, R., Ng, J., Paul, B.J. (2007), "The interrelationship between management control mechanisms and strategy", *Management Accounting Research*, Vol. 18 No.4, pp.425-52.
- Koga, K., Monden, Y. (2000), "Analysis of variation of target costing practices in the camera industry", in Monden, Y. (Eds), *Japanese Cost Management*, Imperial College Press, London, pp.123-60.
- Kaplan, R., Cooper, R. (1988), "Measure costs right: no longer", *Journal of Management Accounting Research*, Vol. Fall pp.2-15.
- Lee, J. (1987), *Managerial Accounting Changes for the 1990s*, Addison-Wesley, Los Angeles, CA, .
- Libby, T., Waterhouse, J. (1996), "Predicting change in management accounting systems", *Journal of Management Accounting Research*, Vol. 8 pp.137-50.
- Lapsley, I., Wright, E. (2004), "The diffusion of management accounting innovations in the public sector: a research agenda", *Management Accounting Research*, Vol. 15 pp.355-74
- Lin, Z.J., Yu, Z. (2002), "Responsibility cost control system in China: a case of management accounting application", *Management Accounting Research*, Vol. 13 No.4, pp.447-67.
- Langfield-Smith K. (1997), "Management control systems and strategy: A critical review", *Accounting, Organizations and Society*, pp.207 - 232.
- Lee, J.Y. (2002), "An examination of international differences in adoption and theory development of activity-based costing", *Advances in International Accounting*, Vol. 15 pp.65-77.
- Lawrence, P.R., Lorsch, J. (1967), *Organisation and Environment*, Harvard Business School, Division of Research, Boston, MA, .
- Minja E. (1995); The survey of performance measurement in divisionalised companies in Kenya: *Unpublished MBA Project; University of Nairobi*.
- Mugenda O, Mugenda G (2003). *Research Methods*. Nairobi Press
- Monden Y., Hamada K., (1991), Target Costing and Kaizen Costing in Japanese Automobile Companies, *Journal of Management Accounting Research*, Fall, pp.16-34.
- Morgan M.J., 1993, Accounting for strategy, *Management Accounting*, May, pp.20-24.

- Moon, P. and Bates, K. (1993), "Core analysis in strategic performance appraisal", *Management Accounting Research*, Vol. 4, pp. 139-52.
- Moore, K. and Mula, J. (1993). *Contextual and Strategic Impacts on the form of Management Accounting Systems': Discussion Papers*, Australia: Bond University School of Business.
- Mat T.Z.T., Smith M. Djajadikerta H. (2010) Management Accounting and Organizational Change: An Exploratory Study in Malaysian Manufacturing Firms. *Journal of Advanced Management Accounting Research*. Vol. 8. No 2. 2010.
- Nzule M.M. (1999), A Survey of the Adoption of Activity Based Costing in Kenya. *Unpublished MBA Project; University of Nairobi*.
- Narayan, F.B., Godden, T., Reid, B., Ortega, M.R.P. (2000), "Financial management and governance issues in selected development member countries: a study of Cambodia, China (People's Republic of), Mongolia, Pakistan, Papua New Guinea, Uzbekistan, and Vietnam", available at: www.adb.org/Documents/Books/Financial_Mgt/Selected_DMCs/prelims.pdf, .
- Odongo H.N (2008) Employees attitude towards budgeting process among large manufacturing firms in Nairobi. . *Unpublished MBA Project; University of Nairobi*
- Otley, D. (1980), "The contingency theory of management accounting research: achievement and prognosis", *Accounting, Organizations and Society*, Vol. 5 No.4, pp.413-28.
- Osewe E.O (1998), The Choice of Performance measures in Divisionalised companies in Kenya. A Survey study among listed companies. *Unpublished MBA Project; University of Nairobi*.
- Oliver, C. (1997), "Sustainable competitive advantage: combining institutional and resource-based views", *Strategic Management Journal*, Vol. 18 No.9, pp.697-713.
- Porter, M.E. (1985), *Competitive Advantage*, The Free Press, New York, NY.
- Robbins, P. Stephen 1990. *Organisational Theory: Structure Design. And Applications*, N.J: P/Hall
- Rangone, A. (1997), "Linking organizational effectiveness, key success factors and performance measures: an analytical framework", *Management Accounting Research*, Vol. 8, pp.207-19.
- Roslender, R. and Hart, S. (2003), "In search of strategic management accounting: theoretical and field study perspectives", *Management Accounting Research*, Vol. 14, pp. 255-79.
- Rickwood, C.P., Coates, J.B. and Stacey, R.J. (1990), "Stapylton: strategic management accounting to gain competitive advantage", *Management Accounting Research*, Vol. 1, pp. 37-49.
- Shields M. D., Young S. N., (1991), Managing product life cycle costs: an organizational model, *Journal of Cost Management*, 5 (3), pp.39-52.
- Shapiro, B.P., Rangan, K.V., Moriarty, R.T. and Ross, E.B. (1987), "Manage customers for profits (not just sales)", *Harvard Business Review*, Vol. 65, pp. 101-8.
- Shank, J.K. and Govindarajan, V. (1992), "Strategic cost analysis of technological investments", *Sloan Management Review*, Vol. 34, pp. 39-51
- Shields, M.D. (1997), "Research in management accounting by North Americans in the 1990s", *Journal of Management Accounting Research*, Vol. 9 pp.3-61.
- Selto, F.H., Widener, S.K. (2004), "New directions in management accounting research: insights from practice", *Advances in Management Accounting*, Vol. 12 pp.1-35.

- Saunders, M., Lewis, P., and Thornbill, A. (2000) *Research methods for Business students*. FT Prentice Hall.
- Silk, S. (1998) Automating the balanced scorecard, *Management Accounting*, May, 38-44
- Sulaiman, S., and Mitchell, F. (2005) "Utilizing a Typology of Management Accounting Change", *A Management Accounting Research*, Vol. 10, pp. 409-437.
- Simmonds, K. (1986) The accounting assessment of competitive position, *European journal of marketing, organizations and society*, 12(4) 357-74
- Simmonds, K. (1981), "Strategic management accounting", *Management Accounting*, Vol. 59, pp. 26-9.
- Scapens, R.W. (1994), "Never mind the gap: towards an institutional perspective on management accounting practice", *Management Accounting Research*, Vol. 5 pp. 301-21.
- Szendi, J.Z., Elmore, R.C. (1993), "Management accounting: are new techniques making in-roads with practitioners?", *Journal of Accounting Education*, Vol. 11 pp. 61-76.
- Sekaran, U. (2007) *Research methods for business; A skill building approach*, 4th ed. New Delhi
- Tani, T., Okano, H., Shimizu, N., Iwabuchi, Y., Fukuda, J. and Cooray, S. (1994) Target cost management in Japanese companies: current state of the art, *Management accounting research*, Vol. 5 No. 1 pp. 67-82
- Vaivio, J. (1999), "Exploring a 'non-financial' management accounting change", *Management Accounting Research*, Vol. 10 pp. 409-37.
- Van Triest, S., Elshahat, M.F. (2007), "The use of costing information in Egypt: a research note", *Journal of Accounting & Organizational Change*, Vol. 3 No. 3, pp. 329-43.
- Wallace, R.S.O. (1990), "Accounting in developing countries", *Research in Third World Accounting*, Vol. 1 pp. 3-54.
- Ward, K. (1992) Accounting for marketing strategies, in *Management Accounting Handbook* (ed. C. Drury), Butterworth-Heinemann, Ch. 7.
- Waweru, N.M. (1999). A Survey of the Application of Management Accounting Practices by Publicly Quoted Companies in Kenya. *Unpublished MBA Project; University of Nairobi*.
- Whitley, R. (1999), "Firms, institutions and management control: the comparative analysis of coordination and control systems", *Accounting, Organizations and Society*, Vol. 24 No. 5/6, pp. 507-24.
- Wangari, M.J. (2008), Budgeting Practices in Manufacturing Firms in Kenya. *Unpublished MBA Project; University of Nairobi*.
- Waweru, N.M., Hoque, Z., Uliana, E. (2004), "Management accounting change in South Africa: case studies from retail services", *Accounting, Auditing & Accountability Journal*, Vol. 17 No. 5, pp. 675-704.
- Wilson R.M.S., 1991, *Strategic management accounting*, in *Issues in Management Accounting*, D.J. Ashton, T.M. Hopper, and R.W. Scapens, editors. Prentice-Hall, London.
- Xiao, J., Chow, C., Duh Rong-Raes, and Zhao, L. (2007) Management Accounting in China. *Financial Management*. Dec. 2006/Jan-2007: 32-37.

Modeling the Demand for Money at a Micro Level: Estimation using Simple Sum and Divisia Approaches in Uganda

Abaliwano Joyce

Abstract

A stable demand for money function is essential for the conduct of effective monetary policy while its estimation is crucial for policy because it has a direct role in the trading activity of the market economy hence an effect on the general price levels. This study uses econometric analytical techniques to estimate the money demand function at a micro level. The study picks on the narrow definition of measuring monetary aggregate, M1 and applies simple sum and Divisia approaches to estimate it. Empirical results for both approaches indicate that income is a significant determinant of money demand while, interest rate is not. Further to this, both methods yield an instable money demand function and are therefore not appropriate monetary instruments on their own. Monetary policy therefore, needs to be used in conjunction with other policies to achieve the goal of economic stabilization and adjustment.

Background

A stable Money demand function is very crucial in effective formulation and implementation of monetary policies for a number of reasons. Firstly It has a direct role in transactions and hence a role in the trading activity of a market economy. Secondly it has a relationship between money supply and inflation which relationship is an important element in macroeconomic policy as Government try to control inflation. Thirdly it is important if fiscal and monetary policies are to have predictable effects overtime on real output and price. In addition to being able to assess the welfare implications of policy changes. Because of the importance of the money demand function and more so its stability it has created the need to research on the factors that determine this function and the existence of a stable long run relationship between these factors.

Financial innovations in banks over time like use of electronic transfer of money, mobile money, and use of ATM have changed the working definition of money even though our official definitions did not change and have made it difficult to differentiate between money held for transactions purposes from money held for saving purposes. Secondly these assets provide different levels of monetary services for transactions (liquidity) and savings yield (interest). As people get comfortable with using the new financial services interest changes with time and liquidity too can be enhanced. However despite these differences in the characteristics of the assets, the financial assets are combined for use as monetary targets by simply adding them up-simple sum aggregate. This is likely to under estimate or over estimate money demand stability because of technological reforms in the financial sector thus impacting negatively on the formulation and implementation of monetary policy which is dependent on stability of the money demand function. Furthermore there has been substantial evidence in the developed countries that suggests that the divisia monetary aggregate is a superior monetary targeting than simple sum. This study estimated money demand at a micro level using both simple sum and divisia approaches. Specifically, it estimated the money demand function at a micro level using both simple sum and divisia methods of estimation.

Hypothesis

Divisia approach is a more ~~an~~ appropriate estimation of the money demand function than simple sum

Methodology

The study covered the towns of Jinja and Kampala. Urban areas were selected because of the concentration of banks is mostly in urban areas and it is also true from evidence that the majority of account holders are in urban areas. The total number of account holders was over five million which accounts for 16% of the total population 32 million, 42% use informal financial sector, and another 30%, are totally excluded from the financial services sector.

Sample Size determination and Selection

Primary data was collected from accountholders in the banks located within Jinja and Kampala urban areas. Due to lack of a sampling frame, a non random sampling technique was used. Convenient sampling was used to select the respondents who hold bank accounts in all the banks in the Jinja and Kampala area. An overall sample of 200 clients was chosen because it was large enough to give the type of information required. Purposive sampling was used to select samples in the areas within which the respondents were selected. This method was particularly preferred because it enabled the study to focus on areas where financial innovation is common and also focuses on respondents with bank accounts.

Cross sectional primary data was collected from March 2009 to June 2009 using the questionnaire.

Theoretical Framework

The study applied a theoretical framework based on the classical works of Keynes (1936). Keynes (1936) built on the Cambridge approach provided an analysis of money demand, focusing on the motives of holding money. Keynes's liquidity preference theory emphasizes the role of interest rates in the demand for money. He distinguished three motives for holding money: the transactions motive, the precautionary motive and the speculative motive. All the three motives influence a particular person's holdings of money. Keynes argues that the demand for money for transactions and precautionary motives depends on the level of income, while speculative demand for money depends on interest rates. From Keynes perspective, the demand for real money balances (m^d) is a positive function of real income (Y) and a negative function of interest rate (r) as depicted by the "liquidity preference function" given in equation (1).

$$m^d = f(Y, r); f_Y > 0, f_r < 0. \dots\dots\dots (1)$$

According to the liquidity preference theory of the demand for money, velocity is not constant but depends on interest rates. The main proposition of the Keynesian analysis is that when interest rates are low, economic agents will expect a future increase in interest rates; thus, preferring to hold whatever amount of money is supplied. Therefore, the aggregate demand for money becomes perfectly elastic with respect to the interest rate (liquidity trap).

Following the Keynesian exposition of the motives for holding money, a number of models were developed to confirm the relationship between the demand for real money and, income and interest rates. Baumol (1952) and Tobin (1956) independently developed similar demand for money models, which demonstrated that even money balances held for transactions purposes are sensitive to the level of interest rates. The Baumol - Tobin model analyses the

costs and benefits of holding money for transactions purposes. The benefit is convenience (i.e. people have money to make everyday transactions) and the cost of this convenience is the interest forgone. A person can thus hold a portfolio of monetary assets and non-monetary assets. If r is the difference in the return between monetary and non-monetary assets and b as the cost of transferring non-monetary assets into monetary assets, such as a brokerage fee, then a person minimizes the sum of brokerage costs and interest income forgone.

Choice of Variables

This study identified the following variables to be included in the empirical mode. Personal disposable income (Y_d) as a scale variable as the nearest proxy to gauge transactions. The study applied the nominal money demand function without the CPI because CPI is computed annually and semi annually so it is a constant for all respondents therefore likely to cause the model to have a constant in the independent variables. To minimize the effects of reported income, we used income ranges in the questionnaire so as to correct for over reporting or under reporting of income.

The opportunity cost of holding money involves two components, the own rate of return of money and the rate of return on alternative assets. Ericsson (1998) states that it is important to include both interest rates to avoid the collapse of the estimated money demand function. The return on real assets is usually represented by the expected rate of inflation (Sriram, 1999) considering portfolio choices; agents also consider money as part of real and foreign assets (Sriram, 1999).

In the demand for money relationship using cross sectional data and given that the majority of the respondents were ignorant of investing in such alternative assets like government bonds, paper and other securities shadowed the rate of returns on alternative assets and own rate of return of money was considered as the opportunity cost variable for money model. Nominal interest rate on deposit is used as nearest proxy for the opportunity cost variable. This variable is determined by the banking institutions. It also varies across individuals depending on the type of account they hold with banks. We therefore used the interest rate provided by the banks since most customers had little information about the different interest rates on their accounts. Secondly inflation at the time of collecting the data was constant therefore had no effect on the interest rate.

Diagnostic tests of Glejser heteroscedasticity, reset specification and hausman test for exogeneity were done to rule out any estimation problems and the Keynesian theoretical framework as a basis for analysis.

Model Specification

The demand for money function is normally stated as a function of the level of income (or some other scale Variable) and the opportunity cost of money, which in turn is determined by the market rate of interest and the expected rate of price inflation.

In line with the theoretical framework as stipulated by Keynesian framework, the study specified the demand for money model as follows:

$$M1 = f(Y_d, r, P) \dots\dots\dots (2)$$

Where; M1 is either the simple sum or the divisia monetary aggregate

Y_d is disposable income
 r is interest
 P is the consumer price index.

We assumed a linear relationship and specified the empirical econometric model as:

$$M1 = \alpha_1 + \alpha_2 Y_d + \alpha_3 r + u \dots\dots\dots (3)$$

In equation 3, M1 is either the simple sum or divisia monetary aggregate

Y_d is the disposable income of the i^{th} individual
 r is the opportunity cost variable
 U is the error term

The consumer price index was not used because it is monthly at the highest frequency level -so it would mean the same rate for all respondents hence having a constant in the independent variables.

The model was then transformed appropriately using logarithms and was specified as:

$$\text{Log}M1 = \beta_1 + \beta_2 \text{Log}Y + \beta_3 r + e; \beta_2 > 0, \beta_3 < 0 \dots\dots\dots (4)$$

Definition of Money

The correct definition of money is an empirical matter and as such several definitions of money have been used in various studies Laidler (1993). However this research considered the narrow definition of money denoted by M1 using both the simple sum approach and the divisia approach. As the name suggests narrow money consists of those assets readily available for transactions. The study thus applied transactions demand for money. The reason for choosing M1 is that it is the most relevant definition of the demand for money at a micro level for Uganda. Secondly assets shade almost faintly away from each other in their liquidity and therefore there seems to be a sharper liquidity at this point than any other.

Simple Sum Definition of M1

Using the simple sum approach to monetary aggregation M1 is defined as:

$$M1 = Co + Pa + De \dots\dots\dots (5)$$

M1 is the simple sum monetary aggregate for money
 Co ; are the coins held by the public;
 Pa , are the paper monies held by the public,
 De ; are the demand deposits and sight deposits.

The study combined coins and paper money held by the public to form currency (Cu)

Equation (5) can be rewritten as;

$$M1 = Cu + De \dots\dots\dots (6)$$

The Divisia Definition of M1

The Divisia definition has been applied to the construction of new monetary aggregates to allow the effects of financial innovation. Its application may yield a stable money demand function than simple sum. With this approach the study was able to assess the weights that are attached to each constituent part of the monetary aggregates in order to have the components of the monetary aggregates weights in the aggregation processes. The divisia weights were determined as follows: in the first instance notes and coins (Cu) in the hands of the public are considered to be the most liquid assets. The greater the liquidity the higher the level of monetary services provided and therefore traditional divisia construction gives them a higher

weights. These liquid assets might be expected in affecting inflation if the supposed relationship between monetary services and inflation holds true. Therefore in terms of moneyness of money, Cu is 100% money and therefore gave a weight of 1 in the monetary aggregate.

In the second instance the study summarized the effects of financial innovation by use of ATMs by individuals as they access their money from banks. Frequency of withdraws by the use of the ATMs derived from the primary data collection of 200 persons was considered to determine the level of moneyness. An assumption was made that the frequency of withdraws has a direct impact on liquidity and ability to make day to day transactions. In determining the weights of the De monetary component scale of moneyness of money made of four quarters of which the beginning of the first quarter corresponds to the lowest frequency of money withdraws (equal to zero) and the end of the last quarter corresponds to the highest frequency of money withdraws was used (equal to 30). The study then computed the average number of days individuals withdraw money in a month and located where this average frequency value lies on the scale and then take the quarter where it falls. From the sample data the average number of times (in terms of days) individuals withdrew money from their accounts was 13 days per month which falls in the third quarter. Thus 0.75 (75%) was taken as the weight for the De monetary component in the divisia aggregate as illustrated below:

From 0 to 5 times 25%	from 6 to 11 times 50%	from 12 to 17 times 75%	above 17 times 100%

↑Average = 13 times per month

Algebraically the Divisia monetary aggregate is obtained as:

$$M1 = \sum_{j=1}^n K_j X_{ji} \quad ; \text{ for } j = 1,2,3 \quad ; \quad i = 1,2,3,\dots,n \dots \dots \dots (7)$$

Where, K defines the divisia index for the jth monetary component. X defines the monetary component, j resulting from summation of all the n, individual monetary components contribution. Therefore X consists of currency and demand and sight deposits. Accordingly $K_1 = 1$ and $K_2 = 0.75$

The Simple Sum approach versus the Divisia approach of Monetary Aggregation

Measuring money supply is no easy task. Component assets range from narrow money which includes cash, non interest bearing demand deposits and sight deposits on which cheques can be drawn to broader money, which includes non checkable liquid balances and other liquid financial assets such as certificates of deposit. In practice, official measures have evolved over time according to policy needs. Obviously many of these assets yield an interest rate and could thus be chosen as a form of savings as well as being available for transactions. Financial innovation over the years in particular liberalization and competition in banking has led to shifts in demand between the components of money which have undermined earlier empirical regularities and made it more difficult to distinguish money which is held for transaction purposes from money held for savings purposes. Secondly there is the question of how to combine the different components since they are not perfect substitutes for one another. They provide different levels of monetary services for transactions (liquidity) and different yields

(interest). As the payment technology progresses so the monetary services provided will change disproportionately not only do interest rates vary with time but liquidity can be enhanced too. Despite the variations in characteristics of assets they are traditionally combined for use as monetary targets by simply adding them up –the simple sum aggregate.

The simple sum approach is hard to justify and there is a growing body of evidence to support alternative solutions which incorporate a weighting mechanism notably the aggregate devised by Francois *Divisia* in 1925 known as the Divisia aggregate. Barnett (1980) has demonstrated that Divisia is the correct index to encapsulate a monetary aggregate and its concomitant price index. The construction has its roots firmly based in the microeconomic aggregation theory and statistical index number theory. Barnett al (1992) provided a survey of the relevant literature whilst Drake and Mullinex (1997) review the construction of the Divisia indices and associated problems. The theoretical case in favor of weighted index number measures of money is convincing and difficult to dispute at the microeconomic level and the empirical case is growing. For example Barnett and Spindt (1979) and Belongia and Chalfant (1989) showed that Divisia money has a superior information content to simple sum whilst Barnett (1980) demonstrated that shifts in the demand for money functions in the USA were eliminated when Divisia replaced simple sum measures. The new aggregate are called the Divisia aggregates or monetary service indexes.

Empirical Estimation and Discussion Of Findings

Data summary

Looking at the means for M1 the divisia aggregation approach yields a lower mean (904282.1) compared to the simple sum approach (1195170). Kurtosis coefficients for simple sum and divisia of 6.262191 and 6.275456 respectively.

The Hausman test for exogeneity showed no two way causality between the dependent M1 (simple sum) and M1 (divisia) and the independent variables (real disposable income and deposit rate). Therefore the single equation method for estimation such as ordinary least squares method (OLS) was then use

Objective : Estimate the money demand function at a micro level using both simple sum and divisia methods.

Ho: Divisia approach is an appropriate estimation of the money demand function than simple sum.

OLS results for the demand for money using the Simple sum approach for monetary aggregation

$$\text{LogM1} = -0.7908669 + 0.9960281 \cdot \text{LogY} + 0.0170194 \cdot r$$

$$\text{S.E} \quad (0.5426947) \quad (0.381392) \quad (0.119628)$$

$$R^2 = 0.7842 \quad \bar{R}^2 = 0.7820 \quad \text{RSS} = 37.293807$$

$$F = 357.85 \quad n = 200$$

Figures in brackets are standard errors

The explanatory power of the money demand model using simple sum approach is 78.4 percent as measured by R- squared. This result implies that variations in disposable income and deposit rates explain variations in the money demand function. This finding agrees with the findings of most of the studies on money demand and also confirms that the relationship between money

demand, income and interest rates has not changed over time. Secondly, from Keynes perspective, the demand for real money balances (m^d) is a positive function of real income (Y). In this study, the coefficient for disposable income is statistically significant and the sign and magnitude is as prior expected and conforms to economic theory. This implies that the income elasticity of the demand for money is positive and significant in explaining the demand for money. This therefore means that an increase in real income increases the level of transactions and consequently the demand for real money balances to finance the high level of transactions in the economy. Thirdly the deposit rate is statistically insignificant (0.156) and has a positive sign. This finding is clearly contrary to the Keynes' thought which states that the demand for real money balances is a negative function of interest rate. Nonetheless, the finding agrees with Friedman's theory which states that interest rates have little or no effect on the demand for money and that permanent income is thus the primary determinant of the demand for money. This can be explained by the fact that in developing countries like Uganda, saving deposits and demand deposits have similar characteristics as people withdraw on saving deposits in the same manner as they do on current accounts. This is further compounded by the poor saving culture in the country and inadequate information about deposit rates which makes saving unattractive.

The Demand for Money Model Estimates using the Divisia approach

As with the case under the simple sum approach, OLS method was applied on sample of 200 respondents using divisia monetary aggregation M1 as the dependent variable. The results of this model are presented in below.

OLS results for the demand for money using the Divisia approach for monetary aggregation

$$\begin{aligned} \text{LogM1} &= -1.034379 + 0.9934839 \cdot \text{LogY} + 0.017496 \cdot r \\ \text{S.E} &\quad (0.5427528) \quad (0.0381433) \quad (0.119641) \\ R^2 &= 0.7834 \quad \text{adj. } \bar{R}^2 = 0.7812 \quad \text{RSS} = 37.3017849 \\ F &= 356.20 \quad n = 200 \end{aligned}$$

The explanatory power of the money demand model using the Divisia approach is 78.3 percent as measured by R^2 implying that variations in disposable income and interest rates explain variations in the money demand function. Secondly the coefficient for disposable income is statistically significant and the sign of the coefficient is as *prior* expected and conforms to economic theory. This is in line with Keynes theory which states that demand for real money balances (M^d) is a positive function of real income (Y) which means that increase in real income increases the level of transactions and consequently the demand for real money balances to finance the high level of transactions in the economy. In this study however, the deposit rate is not as prior expected and is statistically insignificant (0.145). This can be explained by the nature of the Ugandan economy which is cash based therefore all transactions are carried out with cash so the incentive to hold money as cash is higher. Secondly, information on deposit rates from the different commercial banks which is supposed to be known by all clients so that they can make financial decisions on an informed point of view however, clients in the different banks don't have access to this information making interest rates just a paper policy without implementation. This result thus confirms the hypothesis that divisia is not a superior technique to simple sum with regard to monetary targeting in the context of a developing economy like since the produce similar results.

Model results from both the simple sum and divisia approaches were subjected to diagnostic tests to determine the consistency of the parameter estimates. These tests were performed to test for existence of any econometric problem .the relevant tests were heteroscedasticity test (Glejser's Heteroscedasticity test with no cross terms) and the specification test (RAMSEY reset test). The results of the diagnostic rest are presented in tables 2 and 3

Table: 2 Diagnostic tests in the simple sum model results.

Test	Null Hypothesis	F- statistic	P- Value	Remark
Glejser heteroscedasticity	No heteroscedasticity	2.747056	0.0666	The residuals are homoscedastic at 5% level of significance
Reset specification test	No specification errors	0.229658	0.6323	The model estimated is well specified at 5% level of significance

Source: computed

Table: 3 Diagnostic tests in the divisia model results.

Test	Null Hypothesis	F- statistic	P- Value	Remark
Glejser heteroscedasticity	No heteroscedasticity	2.711778	0.0689	The residuals are homoscedastic at 5% level of significance
Reset specification test	No specification errors	0.219408	0.6400	The model estimated is well specified at 5% level of significance

Source: computed

From table 2 and table 3, it can be concluded that parameter estimates of the study are consistent and can therefore be used to make economic inference.

Conclusions

This study estimated the money demand function using the simple sum and divisia approaches for monetary aggregation on the basis of cross sectional data on a sample of 200 respondents. From the results the explanatory powers of the money demand model using both simple sum and divisia approaches is 78% as measured by R^2 which implies that disposable income and deposit rates explain variations in the money demand function 78% making it statistically significant. It can thus be concluded that the explanatory power the model applied is high. In both cases i.e. divisia and simple sum, the deposit rate is insignificant while income is significant. This result confirms the alternative hypothesis that divisia approach is not an

appropriate estimation of the money demand function than simple sum at a micro level for the case of Uganda. These findings are contrary in part to the works of Keynes regarding the expected sign for interest rate i.e. Demand for real money balances (m_d) is a positive function of real income (Y) and a negative function of interest. The finding on the other hand agrees with the works of Friedman regarding income and interest rate who states that interest rates have little or no effect on the demand for money and that permanent income is thus the primary determinant of the demand for money. From the above, it can be concluded that for Uganda and in particular the low income earners the relevant theory is that of Friedman.

These can be elucidated by the fact that in developing countries like Uganda, saving deposits and demand deposits have similar characteristics as people withdraw on saving deposits in the same manner as they do on current accounts. Secondly the nature of the Ugandan economy is cash based therefore all transactions are carried out with cash so the incentive to hold money as cash is higher. Thirdly clients in the different commercial banks have inadequate information on deposit rates which makes it difficult for them to make financial decisions therefore making interest rates just a paper policy without implementation. This means that the interest rate targeting for Uganda is ineffective. This compounds the poor saving culture in the country and makes saving unattractive.

Recommendations

The study has been able to establish that in developing countries like Uganda which run a cash based economy, where saving deposits and demand deposits have similar characteristics and interest rates in the commercial banks is just a paper policy, monetary authorities should promote the use of other assets like government bonds, paper and other securities. This will increase the opportunity cost of holding cash hence making saving attractive. Savings have a multiplier effect on the level of investment and economic development in the country. A Divisia weighting system that incorporates other financial innovations and income earners outside the banking system should be developed.

References

- Barnett WA, (1980) 'Economic monetary aggregates; An application of index number and aggregation theory', *Journal of econometrics*, 14 (1) pg11-48
- Barnett, W.A (1996). Which road leads to stable money demand?" forthcoming in The Economic Journal.
- Barnett, W.A. and A. Serletis (1990): 'A Dispersion – Dependency Diagnostic Test for Aggregation Error,' *Journal of Econometrics* 43, Pg 5-34.
- Barnett, W.A., D. Fisher and A. Serletis (1992): Consumer Theory and the Demand for Money, *Journal of Economic Literature*, Vol.30 (4), 2086-2119
- Barnett, WA and Spindt, P (1979). The Velocity behaviour and informational content of Divisia monetary aggregates. *Economic Letters*, Vol. Pg 51-57
- Barnett, WA, Offenbacher, E and Spindt, P (1984) The new Divisia monetary aggregates, *Journal of Political Economy*, December, 1049-85
- Barnett, William A. (1978), "The User Cost of Money" *Economics Letters* 145-149.
- Barnett, William A. (1978) and Apostolos Serletis. *The Theory of Monetary Aggregation. Contributions to Economic Analysis* 245. Amsterdam: North- Holland (2000)

- Baumol, W.J (1952). The transaction demand for cash: an inventory theoretic approach' quarterly journal of economics, Vol 66, pp525-556
- Belongia, M.T and Chalfant, J.A (1989) The changing empirical definition of money: Some estimates from a model of the demand for money substitutes. Journal of Political Economy 97 p 387-97
- Drake L and Mullineux A W (1997) 'One Divisia money for Europe,' Applied Economics 29,Pages 775-785
- Drake L, Chrystal KA and Binner JM, (2000) 'Weighted Monetary Aggregates for the UK.
- Friedman, M (1956). The Quantity Theory of Money: A Restatement in studies in the Quantity Theory of Money edited by M. Friedman, Chicago, University of Chicago press
- Hausman, J. A. (1978). Specification Tests in Econometrics, Econometrica, Vol. 46, No. 6. (Nov., 1978), pp. 1251-1271.
- Kararach, G., (2002). Evidence on the demand for money function in Uganda. UNICEF Zimbabwe Working Paper No. 2002-01.
- Katarikawe, M. and Sebudde, R. K., (1999). Is the reserve money programme still a useful operating framework for the conduct of monetary policy in Uganda? Bank of Uganda, Staff Papers, 1, 1, 1 –33.
- Keynes J. M., (1936), The General theory of employment, interest and money, Harcourt Brace & Company, Newyork USA
- Laidler, David, 1985. "Money Demand Predictability: Comment," Journal of Money, Credit and Banking, Blackwell Publishing, vol. 17(4), pages 647-53, November.
- Laidler, David, 1985. "Expectations and adjustment in the monetary sector revisited A comment," Carnegie-Rochester Conference Series on Public Policy, Elsevier, vol. 22(1), pages 243-254.
- Laidler (1993). The Demand for money: Theories, Evidence and Problems, 4th edition Harper.Collins,
- Mullinex, AW (1996): Financial Innovation, Banking and Monetary Aggregates. (Ed) Edward Elgar, Cheltenham, UK chapter
- Nachega, J.C., (2001a). A cointegration analysis of broad money demand in Cameroon. International Monetary Fund Working Paper 01/26.
- Nachega, J.C., (2001b). Financial liberalization, money demand and inflation in Uganda. International Monetary Fund Working Paper 01/118
- Opolot Jacob (2006) A re-examination of the demand for money in Uganda: Nature and implications for monetary policy. Bank of Uganda. Research department.
- Sriram, S. S., (1999). Survey of literature on demand for money: Theoretical and empirical work with special reference to error-correction models, International Monetary Fund Working Paper 99/64.
- Sriram, S., (2001), "A Survey of recent empirical money demand studies," IMF Staff Papers, International Monetary Fund, vol. 47.
- Tobin J (1956). The interest elasticity of transaction demand for cash, Review of Economics and Statistics, August

The Influence of Airline Service Quality on Passenger Satisfaction and Loyalty: The Case of Uganda Airline Industry

Juliet Namukasa

Abstract

The general objective of this study was to examine the influence of airline service quality on passenger satisfaction and loyalty. To achieve this, the research was guided by four specific objectives to which data collection was effected mainly by interview method using fully structured questionnaires. The study used random sampling technique and it covered 303 respondents on international flights using Entebbe International Airport. Data was analyzed using SPSS 16, where chi-square was used to determine the relationship between variables. In Uganda there is no study that has been carried out examining the influence of airline service quality on passenger satisfaction and loyalty. Findings indicate that the quality of pre-flight, in-flight and post-flight services have a statistically significant effect on passenger satisfaction. In addition to that, passenger satisfaction as a mediating variable also had a significant effect on passenger loyalty. It was noted that passenger satisfaction differed from person to person as some were more interested in off board facilities, others onboard, others in the quality of food while others wanted more extra luggage. Now the question that come up here was that how could an airline satisfy the desires of so many people, thus this study was conducted to identify the service quality gap and propose recommendations. Therefore it is recommended that airline management should consider developing various strategies for improving service quality based on demographic characteristics of the customers such as occupation, age, gender and education level.

Introduction

Until the mid-1980s, the highly-regulated airline industry was dominated by international airlines which were fully or at least majority owned by their national governments. This was primarily because governments realized that air transport would be of major significance for economic and social development, as well as for trade (Doganis, 2006). To promote their country's power status and prestige (Hanlon, 2007), each state designated one airline the country's flag carrier to operate flights on bilateral routes between those countries with which air traffic rights had been exchanged (Doganis, 2006). Since the mid-1980s, the successive liberalization of traffic rights and regulations has facilitated the privatization of state-owned airlines. Today most are either fully or partially privatized or are in the process of being privatized (Doganis, 2006). Liberalization initially spurred the privatization of airlines; it also triggered the entry of new carriers in the market. Faced with increasing competition and simultaneously decreasing government subsidies traditional carriers were forced to abandon old market practices and become more competitive and customer-oriented (Doganis, 2006). At the end of the 1990s, traditional flag carriers faced new challenges from the emergence of low-cost, low-fare carriers entering the market and altering the competitive landscape. Again, traditional carriers had to rethink their strategies and increase their flexibility in order to adapt to the changes in the marketplace.

Nowadays the airline industry is characterized by heavy regulations which limit airlines' room for maneuvering and accessing global markets compared to other industries which have paved ways for companies to transform into global players. This has prevented airlines from becoming

truly global businesses by impeding cross-border merger and acquisition activities (Hanlon, 2007). To overcome the restrictions imposed by this nationality rule, airlines formed global alliances as a means to secure some of the benefits a larger size and scope offer (for example greater purchasing power, better distribution of maintenance costs and accessing new markets). Three major alliances namely Star Alliance, one world and Sky Team now dominate the competitive landscape (Doganis, 2006). Airlines furthermore have to cope with marginal profitability (Hanlon, 2007). The airline industry's cost structure with high fixed costs relative to variable costs makes volume a crucial factor for securing profits (Taneja, 2003 in: Tiernan et al., 2008). Therefore the delivery of high-quality service becomes a marketing requirement among air carriers as a result of competitive pressure (Ostrowski *et al.*, 1993). Moreover airline passengers can experience many service encounters with front-line employees as well as in-flight attendants, this is called "moment of truth". Passengers may judge or evaluate airline service quality through a comparison between their experiences and expectations over a number of quality attributes (Grönroos, 2000) hence there is need to examine the influence of airline service quality on passenger satisfaction and loyalty because customer satisfaction holds a significant importance in corporate sector.

The Airline Industry In Uganda.

Uganda is a landlocked country. Air transport is therefore of strategic importance to the nation as it guarantees an alternative gateway to the rest of the world. It provides the most efficient and quickest transport means to Uganda and from the country to the rest of the world. The development of a safe, efficient and reliable air transport industry is thus among government's priority programs and Uganda's geographical location in the heart of Africa gives Entebbe International Airport greater advantage for hub and spoke operations in especially the Great Lakes region (Uganda civil aviation authority, 2012). Uganda's official national carrier Uganda Airlines was liquidated in May 2001 after 24 years of operations. Attempts were made by the Ugandan government to privatize the company however all interested parties which included British Airways and South African Airways pulled out leading to the carrier's demise (Centre for aviation, 2012). Uganda Airlines was established to replace the services operated by East African Airways airline which was ran jointly by Kenya, Tanzania and Uganda when it dissolved in 1977. The failure of Uganda Airlines was caused by mismanagement during the 1990s and weak demand. After six years of no national airline, Air Uganda was established as the "designated" national carrier for Uganda in 2007. Its first destination was to Kigali in neighboring Rwanda, at a time when Rwanda air was still trying to establish itself (Centre for aviation, 2012). Passenger traffic grew by 7.5 per cent from 1,041,000 to 1,119,000 passengers respectively, in the quarter of the year ended in February 2012. This is a far better performance compared to the average 3.2 per cent growth of African Carriers that was reported in the International Air Transport Association (IATA) report for the same period (Makuza, 2011). Therefore aviation businesses in Uganda should improve their service quality if the sector is to retain or surpass its growth in passengers' transportation.

Uganda's growing tourism industry, bright economic prospects and discovery of oil are helping it to become an attractive destination. With a wealth of international carriers operating there and more coming, the country is likely to see increased capacity and tourism growth well into the future (Centre for aviation, 2012) the added competition is expected to break the dominance held by Emirates, British Airways and KLM, as well as increase the quality of service and

affordability. The country's airline market is currently challenging with the growing competition brought by new players and expansion of other airlines. By the end of 2011, the airlines operating in Uganda were about 21, a number that has since reduced by one in 2012, after Gulf Air suspended its flights to Uganda after only two months of its re-launch. This means that each airline needs to find its share within the market (Centre for aviation, 2012). The particular relevance of airline service quality arises from the intensification of competition in the airline industry these market challenges make the retention of valuable customers an essential prerequisite for the achievement of a sustainable competitive advantage and hence the airline's overall success (Benner, 2010). Based on the above mentioned background, the purpose of this study is to investigate the influence of airline service quality on passenger satisfaction and loyalty because delivering high quality service to passengers is essential for airline survival.

Problem Statement

Excellent passenger satisfaction is one of the greatest assets for air businesses in today's competitive environment, the on board experience is still something special for the customer, if the passenger is not satisfied with the quality of service, they will reconsider the buying decision for further flights and will probably switch to another airline (Archana &Subha, 2012). The research related to service quality and customer satisfaction in the airline industry has been growing in interest because the delivery of high service quality is essential for airlines' survival and competitiveness (Archana &Subha, 2012). A number of studies examining the effect of airline service quality on passenger satisfaction have been carried out in other countries for example Archana &Subha, (2012) carried out such study in India, (Huang, 2009) in Taiwan, (Munusamy *et al.* 2011) Malaysia, (Ahadmotlaghi & Pawar, 2012) India and Mohsan *et al* (2011) in Pakistan and none of such study has been carried out in Uganda's airline industry which is a great motivation for this study. Therefore this research study attempts to examine the influence of airline service quality on passenger satisfaction and loyalty in Uganda's airline industry.

General Objective

The general objective was to examine the influence of airline service quality on passenger satisfaction and loyalty.

Specific Objectives

- i. To analyze the effect of pre-flight service quality on passenger satisfaction.
- ii. To examine the effect of in-flight service quality on passenger satisfaction.
- iii. To analyze the effect of post-flight service quality on passenger satisfaction.
- iv. To assess whether passenger satisfaction has a significant effect on passenger loyalty.

Hypotheses To Be Tested

Hypothesis 1

Pre-flight service quality has a positive significant effect on passenger satisfaction

In order to achieve customer satisfaction, organizations must be able to build and maintain long lasting relationships with customers through satisfying various customer needs and demands which resultantly motivates them to continue to do business with the organization on an on - going basis (Labarbera, & Mazursky, 1983). Thus it is presumed that pre-flight service quality has a significant effect on passenger satisfaction.

Hypothesis 2

In-flight service quality has a positive effect on passenger satisfaction

Ng, *et al.*, (2011) stated that in-flight services offered by flight attendants affected customer satisfaction. Airline passengers may experience many service encounters with front-line employees as well as in-flight attendants, this is called 'moment of truth'. Thus it is presumed that in-flight service quality has a significant effect on passenger satisfaction.

Hypothesis 3

Post-flight service quality has a positive significant effect on passenger satisfaction

After-sales services have been used to describe services that are provided to the customer after the core products have been delivered (Vitasek, 2005). An after-sales service constitutes a means to uncover extra customer needs and a strategic driver for customer retention. Hence it's presumed that post-flight service quality has a significant effect on passenger satisfaction.

Hypothesis 4

Passenger satisfaction has a positive effect on passenger loyalty

A study by (Mohsan *et al.*, 2011) revealed that customer satisfaction was positively correlated with customer loyalty. It further stressed that, there was need for airline companies to always look into the needs and demands of their customers in order to survive and compete successfully in today's dynamic corporate environment. Thus the underlying assumption is that passenger satisfaction is positively associated with passenger loyalty.

Significance of The Study

Although people primarily use airplanes to satisfy their needs to go from one place to another, procedures from ticketing, checking, boarding and traveling to baggage handling can also deeply influence travelers' attitudes to the services provided by airlines and their satisfaction with those services hence quality has become a significant concern for those in the service industry specifically the airline industry hence the findings would assist aviation industry management to better diagnose the needs and expectations of their customers and to improve their customer relations management as well as their brand loyalty.

Literature Review

Service Quality

Service quality can be defined as a consumer's overall impression of the efficiency of the organization and its services (Park *et al.*, 2004) or as a chain of services in which the entire service delivery is divided into a series of processes (Chen & Chang, 2005). Most definitions of service quality depend on the context and therefore focus on meeting the customers' needs and requirements and how well the service delivered matches the customers' expectations of it. In the airline industry, service quality is composed of various interactions between customers and airlines with employees seeking to influence customers' perceptions and the image of the carriers (Gursoy *et al.*, 2005). Though price is increasingly used as the primary way to attract customers; some airlines are looking more to service quality to get a competitive edge by distinguishing their products because competitors are relatively efficient in responding to price changes (Jones & Sasser, 1995). These airlines' competitive advantage lies in their service quality as perceived by customers (Chang & Yeh, 2002). Therefore ensuring quality service is the password for survival of all businesses/ industries dealing in service offerings airlines inclusive.

Customer Satisfaction.

Kotler (2004) defined satisfaction as “a person’s feeling of pleasure or disappointment resulting from comparing a product’s perceived performance (or outcome) in relation to his or her expectations”. While Hansemark and Albinson (2004) defined it as an overall customer attitude towards a service provider, or an emotional reaction to the difference between what customers anticipate and what they receive regarding the fulfillment of some needs, goals or desire. Zeithaml and Bitner (1996) stated that the concept of satisfaction was influenced by five variables; service quality, product quality, price, situation and personality. The definition provided by Kotler (2004) has been used for this study. Therefore it is very important to satisfy customers because nowadays most of them have exposure to a variety of information, they are more familiar with the present trends in technology, very well educated and more demanding in the products and services they require.

Customer Loyalty

Dowling *et al.* (2003) define customer loyalty as “a deeply held commitment to re-buy or re-patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand purchasing despite situational influences and marketing efforts having the potential to cause switching behavior”. A loyal customer can mean a consistent source of revenue over a period of many years however; this loyalty cannot be taken for granted it will continue only as long as the customer feels they are receiving better value than they would obtain from another supplier (McIlroy *et al.*, 2000). Researchers have identified customer loyalty as a construct comprising of both customers’ attitudes and behaviors. Customers’ attitudinal components include: repurchasing a company’s products or services, resistance from switching to another competitor, willingness of recommending the company to others (Cronin & Taylor, 1992).

On the other hand, the behavioral aspect of customer loyalty represents- actual repeat purchase of products or services that includes purchasing more and different products or services from the same company recommending the company to others, and reflecting a long-term choice probability for the brand (Zeithaml *et al.*, 1996). Chin (2002) stated that an attractive frequent flier program (FFP) could actually contribute to increased loyalty from the repeat business of an increased number of customers and numerous studies have revealed that customer satisfaction positively affects loyalty (Mohsan *et al.*, 2011; Fornell, 1992; Anderson & Jacobsen, 2000) The definition provided by Zeithaml *et al.* (1996) has been used for this study. Therefore airline companies need to review and re-examine their strategies in order to sustain customer loyalty.

Review of Empirical Studies

A number of studies have been conducted in the field of airline service quality in several countries although none has been conducted in the Ugandan context. Knowledge gaps have been identified from the following reviewed studies so as to unveil the knowledge gap. Archana and Subha (2012) carried out research in India examining the effect of service quality on passenger satisfaction in aircraft transport. The study used a survey as methodology and a structured questionnaire was used to collect the data. Data was analyzed using factor analysis and the sample consisted of 270 respondents from the Chennai international terminal of Tamil Nadu. Their findings showed that airline service dimensions were found to have significant and positive influences on airline image and passengers’ satisfaction. They concluded their study by saying

that “airline marketing managers have to develop various policies to provide guaranteed quality services to passengers”. Although this study attempted to examine the effect of service quality on passenger satisfaction, it did not assess whether passenger satisfaction had a significant effect on passenger loyalty and besides that, it was carried out in the Indian context not Ugandan context hence motivating the researcher to carry out the same study covering the above issues that were not covered by Archana and Subha.

The study by Munusamy *et al* (2011) aimed at investigating the level of customer satisfaction amongst customers who used Air Asia, a budget airline in Malaysia. Data was collected using questionnaires which were distributed to those passengers who had taken Air Asia flight. A total of 300 questionnaires were distributed in the Klang Valley. Pearson correlation and multiple regression analyses were deployed to study the relationship between the independent variables and dependent variable. The findings revealed that factors such as the pre-flight services, customer relationship management, cabin environment and in-flight services of Air Asia indicated a positive significant relationship with customer satisfaction and that there was no relationship between the price offered by Air Asia and the satisfaction level of the customers. Their conclusion stated that winning customers over from competitors was important, but retaining existing customers was more important through managing factors that influenced customer satisfaction more efficiently. Although this study looked at the effect of pre-flight and in-flight services on passenger satisfaction, it did not look at the effect of post-flight services on passenger satisfaction which could have been useful in assessing the level of customer satisfaction.

Huang (2009) carried out a study in Taiwan investigating the effect of airline service quality on passengers’ behavioral intentions using service quality scores, face-to-face interviews of passengers waiting for their flights were conducted in Taoyuan international airport, a total of 700 questionnaires were distributed and 602 completed questionnaires were collected. Data was analyzed using structural equation modeling approach and confirmatory factor analysis was employed to develop a measurement model that achieved an acceptable fit to the data. The results indicated that responsiveness was the most important airline service quality attribute to passengers. He concluded his study by saying that “due to the invisible heterogeneous, non-divisible, and easy-passing quality of the service industry, it was easy for the customers to have the sense of uncertainty and insecurity that maintaining great quality relationship with the customers would lower the customers’ uncertainty and increase their sense of security”.

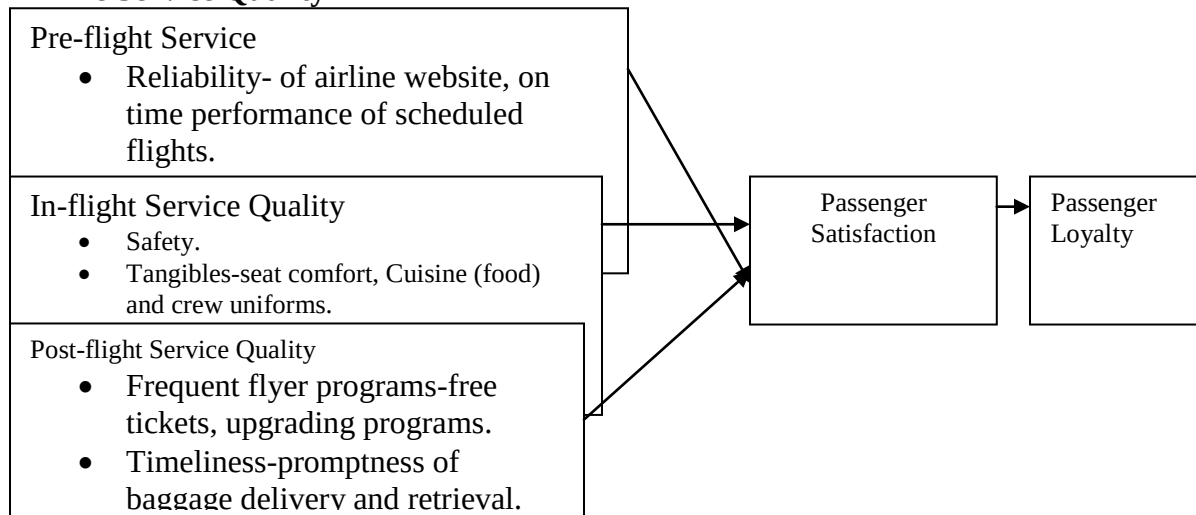
From the various sources of literature, most of the studies are looking at service quality as a whole and it appears that service quality customized to the airline industry is not well elaborated and besides that, most of the studies examining the effect of airline service quality on passenger satisfaction and loyalty have been carried out in other countries and none of such study has been carried out in Uganda’s airline industry which is a great motivation for this research.

Conceptual Framework

This study proposed a conceptual frame work which guided the study; it gives a more detailed insight on the variables that influence passenger satisfaction and loyalty in the airline industry based on pre-flight service quality (airline back office operations), in-flight service quality and

post-flight service quality. The variables have been developed from the extensive review of literature related to the study.

Airline Service Quality



Pre-flight service quality (airline back office operations)

Quality of service is very important in ensuring customer satisfaction because frequency of bad experiences will impact a customer's perception on the company (Munusamy, 2011). For example if customers receive rude services from the same airline consistently they will be dissatisfied with the services and eventually, these customers might decide to take their businesses elsewhere. Therefore in this study, it is anticipated that pre-flight service quality (such as reliability of airline website, discount offers, responsiveness to emergency situations like cancelled flights and baggage allowance have an influence on passenger satisfaction and loyalty.

In-flight service quality

In a study by Ng, *et al* (2011) stated that in-flight services offered by flight attendants affected customer satisfaction. Most services are intangible they are performances rather than objects, because of this intangibility, the firm may find it difficult to understand how consumers perceive their services (Munusamy, 2011) Therefore in order to develop a good customer service, the in-flight crew should put emphasis on tangible cues in order to create a strong organizational image. Hence it is suggested that in-flight services such as (safety percussions, seat comfort, quality of food, in-flight entertainment services, language skills and courtesy of in-flight crew) affect customer satisfaction.

Post-flight service quality

After-sales services have been used to describe services that are provided to the customer after the products have been delivered (Vitasek, 2005). An after-sales service constitutes a means to uncover customer needs and a strategic driver for customer retention. In fact it represents one of the few constant connections that customers have with a brand (Oliver, 1997), influencing customer satisfaction and loyalty. From this viewpoint, post-flight services like offering frequent flyer programs, promptness of baggage delivery and retrieval are regarded as important factors that have an impact on establishing good relationships with customers which eventually influence

satisfaction and loyalty. In order to survive and grow, airlines regardless of place of operation, have to be both internationally competitive and must continuously improve all aspects of their operations (Doganis, 2006) because measurement and management of service quality is the fundamental issue for the survival and growth of airline companies (Cunningham, Young, and Lee 2002).

Research Methodology

Research Paradigm

Positivist paradigm was adopted because it relies mainly on statistical and quantitative estimations to arrive at a conclusion.

Research Design

The study employed a descriptive research design to describe some items of the data in order to come up with meaningful conclusions.

Population and Unit of Analysis

The population was made up of 13,558 passengers based on Uganda's international seat capacity per week by carrier for the selected airlines between 28-Nov-2011 to 04-Dec-2011 (centre for aviation, 2012). It comprised of international passengers who had at least travelled once in the last 12 months with the selected airlines operating at Entebbe International Airport. This meant that the participants had a clear view about airlines' services. These airlines included; Air Uganda, Precision air, Kenya airways, Rwanda air and Fly 540. In order to ensure fairness and accuracy of the study, airlines registered within East Africa were chosen. Compared to other regions in Africa, East Africa forms a relatively homogeneous group of countries in many respects. This homogeneity creates a favourable environment towards the emergence of an integrated air transport market. Entebbe airport was chosen because it was the one that handled international flights in Uganda. The unit of analysis was international passengers.

Sample Design

This study adopted simple random sampling technique in order to give the whole population equal chance of being represented in the sample. Sampling was done by interviewing randomly selected passengers, waiting for their flights at different times of the day, on every day of the week, during the period 19th July to 15th August, 2012. A structured questionnaire was used for data collection. The questionnaire was divided into five sections, the first section was about the demographic profile of respondents and second, third and fourth sections were designed to evaluate passengers' overall experiences with the quality of services they had received from the airlines and the last was dealing with the effect of passenger satisfaction on passenger loyalty.

Sample Size

Krejcie and Morgan (1970) table was used in determining the sample size of a randomly chosen sample from a given finite population of 13,558 based on Uganda's international seat capacity per week, by carrier for the selected airlines between 28-Nov-2011 to 04-Dec-2011 (centre for aviation, 2012). Krejcie & Morgan (1970) table indicates that if the study population size is 13,558, a statistically representative sample size should be 378 respondents. However out of the 378 questionnaires that were distributed, a total of 303 questionnaires were complete and had valid responses, 75 questionnaires were incomplete hence they were removed. The number of

passengers sampled per airline was based on how busy the airline was at the airport during the period 19th July to 15th August, 2012.

The actual sample size of 303 respondents was valid for this study, because studies which had dealt with passengers as a unit of inquiry had relatively dealt with sample sizes ranging from 270 to 602 for example Archana & Subha (2012) sampled 270 respondents; Munusamy *et al* (2011) sampled 300 and Huang (2009) sampled 602 respondents. Also (Roscoe, 1975 in Sekaran, 2003) proposed some rules of thumb in determining sample size of which one of it stated that, “sample sizes larger than 30 and less than 500 are appropriate for most researchers”. It’s also argued that in order to use chi-square, the overall number of items should be at least fifty (Kothari, 2004) hence the actual sample was fairly enough and suitable for models which were to be used in data analysis.

Sample Frame

Carrier Airline Name	Population(total number of seats per week) between 28/11/11 to 04/12/11	Intended Sample	Actual Sample
Air Uganda	4,392	72	58
Kenya airways	6,280	158	127
Precision air	564	65	52
Rwanda air express	948	51	41
Fly 540 aviation	1,374	31	25
TOTAL	13,558	378	303

Data Collection Methods

Data was collected using both primary and secondary data sources. Primary data was collected through the use of structured questionnaires which consisted of five sections on the following aspects: respondents’ profile, quality of pre-flight services, in-flight services, post-flight services and the effect of passenger satisfaction on passenger loyalty. The questions were phrased in the form of statements scored on a 5-point Likert type scale, ranking from 1 “strongly disagree” to 5 “strongly agree”. The study was conducted in the departure hall of Entebbe International Airport.

Questionnaires were distributed to respondents who had under taken at least one international flight in the previous 12 months with the selected airlines. Face to face interviews of passengers waiting for their flights were conducted at Entebbe airport. A total of 303 sets of usable questionnaires were successfully collected yielding a response rate of 80 percent. To reduce the refusals to participate or to answer specific questions, the researcher contacted passengers politely by explaining the purpose and contribution of the research. While secondary data was obtained from the already existing literature related to the study like journals, reports and other published materials to enable the researcher to identify knowledge gaps and also draw conceptual framework.

Reliability and Validity

In this survey, Cronbach Alpha was used to test the internal consistency for all items under respective variables. Hair *et al.* (2006) suggested that Cronbach’s alpha coefficient over 0.6 is adequate for basic research. The reliability of each construct was assessed by using Cronbach’s alpha measure which in the experiment was ranging from 0.645 to 0.850, indicating that the scale are internally consistent and reasonably free of measurement error. To ensure the perfection of

the study tool, an interview was held with the supervisor to get useful suggestions and contributions and a pilot study was also conducted.

Table 13: Reliability of various service factors

S.No	Factors	Number of statements	Number of cases	Cronbach Alpha
I	Pre-flight	8	303	0.723
II	In-flight	8	303	0.819
III	Post-flight	3	303	0.645
IV	Passenger satisfaction	3	303	0.704
V	Passenger loyalty	6	303	0.850

Data Analysis

Data was analyzed using statistical package for social sciences (SPSS) version 16 and Microsoft excel. Chi-square test was used as a way of testing the hypothesis. This is in line with what was used in similar empirical studies for example Munusamy *et al* (2011) used Pearson correlation and multiple regression analysis while Mohsan *et al* (2011) used Microsoft excel and SPSS 16 to analyze data. Descriptive statistics was used to provide an overview on the profile of international passengers using Entebbe International Airport.

Interpretation And Discussion Of Findings

Hypotheses Results

Chi-square was used in determining the relationships and significance of the variables. Testing of hypotheses was at 95% level of confidence interval and results from this were used to reach the conclusions.

Hypothesis 1:

Pre-flight service quality has a positive significant effect on passenger satisfaction.

In the study, respondents were asked to express their opinions on different items that measured pre-flight service quality on a five point Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree). Results showed that seven out of eight measurable indicators of preflight service quality had a significant effect on passenger satisfaction since they scored chi-square values that were above the table value of 26.296 and also registered significant values less than the critical value of 0.05. It can therefore be concluded that pre-flight service quality has a positive significant effect on passenger satisfaction. This is in line with findings by (Munusamy& Chelliah 2011) whose results showed that pre-flight service quality had a positive impact on customer satisfaction. These results imply that if airline companies are to achieve a high level of customer satisfaction, they should deliver a high level of service quality, as it's normally considered an antecedent of customer satisfaction.

Hypothesis 2

In-flight service quality has a positive effect on passenger satisfaction.

From the respondents' opinions, all the measurable indicators of in-flight service quality had a positive significant effect on passenger satisfaction since they all registered significant values of 0.000 that were less than the critical value of 0.05. This is in line with findings by (Munusamy *et al* 2011) whose findings indicated that in-flight services had a positive and significant

relationship with customer satisfaction. The findings imply that in-flight services are one of the key drivers of ensuring passenger satisfaction

Chi-square test for In-flight Service Quality and Passenger Satisfaction

In-flight service quality variables.		X ²	Df	.Sign	Status
1	I feel safe when I fly with this airline	85.831 ^a	16	0.000	Significant
2	The aircraft has clean and comfortable interiors and seats.	1.500E2 ^a	16	0.000	Significant
3	Employees of this airline appear neat and tidy	1.192E2 ^a	16	0.000	Significant
4	The airline provides quality food	99.534 ^a	16	0.000	Significant
5	The cabin crew of this airline is friendly and has good language skills.	1.296E2 ^a	16	0.000	Significant
6	The airline provides good in-flight services consistently	79.790 ^a	16	0.000	Significant
7	My in-flight experiences with this airline has exceeded my expectations	89.575 ^a	16	0.000	Significant
8	The in-flight services that this airline offers are worth what I pay for.	69.843 ^a	16	0.000	Significant

Critical value at 0.05 significance = 26.296

Hypothesis 3

Post-flight service quality has a positive significant effect on passenger satisfaction.

From table below, all the three post-flight indicators registered chi-square values above the table values of 26.296 and indicated significant values less than the critical value ($0.000 < 0.05$). These results indicate that the quality of post-flight services has a significant effect on passenger satisfaction. Oliver *et al.*, (1997) demonstrated that extremely satisfied customers were much more likely to remain loyal to firm than those who were merely satisfied. Therefore this implies that a company has to create customer relationships that deliver value beyond those provided by the core product.

Chi-square test Results for Post-flight Services and Passenger Satisfaction

Post-flight service quality variables		X ²	Df	Sign	Status
1	The airline has a sound loyalty programme to recognize you as a frequent customer	62.255 ^a	16	0.000	Significant
2	This airline has efficient baggage handling	66.676 ^a	16	0.000	Significant
3	My concerns are highly valued by this airline	1.316E2 ^a	16	0.000	Significant

Critical value at 0.05 significance = 26.296

Hypothesis 4

Passenger satisfaction is significantly and positively associated with passenger loyalty

Results from table below show that passenger satisfaction has a significant effect on passenger loyalty. This concurs with previous studies by (Parasuraman *et al.* 1988; Anderson and Sullivan, 1993) who concluded that customer satisfaction was one of the major determinants of customer loyalty. This aspect is strengthened by Lin and Wang (2006), whose study concluded that customer satisfaction influences customer loyalty. Therefore delivering high quality in the airline

industry should be recognized as the most effective means of ensuring customer satisfaction and loyalty.

Chi-square test Results for Passenger Satisfaction and Passenger Loyalty

<i>Passenger satisfaction variables</i>		X^2	<i>Df</i>	<i>Sign</i>	<i>Status</i>
1	In comparison to other airlines, am satisfied with the airline' services	1.560E2 ^a	16	0.000	Significant
2	Am satisfied with this airline's personnel	89.604 ^a	16	0.000	Significant
3	This airline values customers' comments.	1.100E2 ^a	16	0.000	Significant

Conclusion

In general the study findings have coincided with other studies that the quality of airlines' services has a significant influence on passenger satisfaction and loyalty. Findings indicated that pre-flight, in-flight and post-flight services had a significant effect on passenger satisfaction. In addition to that, passenger satisfaction as a mediating variable also had a significant effect on passenger loyalty. The study results imply that airline marketers should develop various strategies to improve service quality for example meeting passengers' desired service levels, improving the quality of in-flight meals, solving service problems effectively, developing convenient reservation and ticketing systems, making convenient schedules for passengers and reducing the effect of service failures as these directly affect passenger satisfaction and loyalty.

Implications of the Results

The results of this study highlight to management that safety and security are the most important in-flight service quality dimensions in international air travel as perceived by airline passengers. This may be as a result of the September 11th 2001 terrorist attacks, the Iraq War and the constant threat of terrorism. To address the public's growing concern about air travel safety, airlines should be receptive to consumer input. They should seek information about passengers' expectations for safety, their priorities and their willingness to pay for increased safety features. Government should reduce on the ill-conceived policy initiatives that over-regulate and excessively charge high taxes from airline companies as this limits airlines registered within East Africa from competing effectively with other airlines from other nations due to economic hardships. This prevents aviation from being the catalyst for economic growth.

Based on the study findings, the effect of airline service quality on passenger satisfaction and loyalty imply that a company with good airline services is more likely to stand out in the market place because it draws both repeat customers and trial users Therefore airline companies should strive to be consistent with the quality of services they offer to their passengers.

Recommendations

Customers have to be actively involved in the service process to ensure their satisfaction and commitment (loyalty) in the long-run. The coordination of the different airline service components, as well as their incorporation in a clear and integrated communication strategy further supports the creation of a harmonious brand image in customers' minds, which is the basis for the development of relationships between customers and the airline and, this could result into the development of true customer loyalty. Airline companies should strive for value creation and appropriate allocation of resources in international air travel by creating more

realistic consumers' expectations about the promises that airlines make as this may increase the level of passenger satisfaction for example through meeting customers' desired service levels, dealing effectively with dissatisfied customers and confronting customer complaints positively. This will enable management to differentiate their brand from other airlines in terms of service quality.

Limitations of the Study

This research relied on random sample of airline passengers using international flights during the period of 19th July to 15th August, 2012. The analysis of the influence of airline service quality on passenger satisfaction and loyalty may vary if the sample was collected at a different time of the year.

There was approximately an even number of males and females who responded to the survey; 38.3% were females and 61.7% were males. These demographic characteristics could limit the generalization of the results to other age groups or gender.

Suggestions on areas for further research

This study was limited in the context of airline services for international passengers. Domestic passengers' opinions on the influence of airline service quality on passenger satisfaction and loyalty might be different from that of international passengers. Hence, an empirical examination needs to be undertaken in order to assess how domestic passengers' opinions are different from that of international passengers.

The airline industry is subject to strict controls and tight regulation requirements in the provision of services resulting from an increase in customer involvement and continuing demand for more security regulations on the part of airlines. This may affect the quality of airline services and later passenger satisfaction and loyalty, therefore further research into airline travel should consider the impact of airline regulations and controls on passenger satisfaction and loyalty.

References

- Anderson, E.W., and Sullivan, M.W., (1993), *The antecedents and consequences of customer satisfaction firms*, Marketing Science, Vol. 12, No. 2, pp. 241-268
- Anderson, H., & Jacobsen P. N. (2000). *Creating Loyalty: It's Strategic Importance in Your Customer Strategy*. In S. A. Brown (ed.), Customer Relationship Management pp. 55-67. Ontario: John Wiley.
- Ahadmotlaghi E and Pawar P (2012) *Analysis of CRM programs practiced by passengers' airline industry of India and its impact on customer satisfaction and loyalty*. Journal of Arts, Science & Commerce Vol.– III, Issue 2(2),
- Archana R, & Subha M.V. (2012), *A study on service quality and passenger satisfaction on Indian airlines*, International Journal of Multidisciplinary Research, Vol.2 Issue 2.
- Benner, Judith (2010) *The airline customer loyalty model A relational approach to understanding antecedents of customer loyalty in the airline industry*.
- Chang, Y.H and Yeh, C.H., (2002). *A survey analysis of service quality for domestic airlines*. European Journal of Operational Research Vol.139, pp 166–177.
- Chen, F.Y and Chang, Y.H., (2005). *Examining airline service quality from a process perspective*. Journal of Air Transport Management Vol.11, pp79–87.
- Chin, A. (2002) Impact of Frequent Flyer Programs on the Demand for Air Travel. *Journal of Air Transportation* 7, no. 2 pp53-86.

- Cronin, J.J. and Taylor, S.A. (1992), *Measuring service quality: a reexamination and extension*, Journal of Marketing, Vol. 56, July, pp. 55-68.
- Cunningham, L. F., Young C. E., & Lee, M. (2002). *Cross-cultural perspectives of service quality and risk in air transportation*. Journal of Air Transportation, Vol.7, No.1, pp 3-26.
- Doganis, R. (2006), *The airline business*, 2nd ed., Abingdon: Routledge.
- Dowling, G, Uncles, M & Hommond, K. (2003). *Customer loyalty and customer loyalty programs*. Journal of Customer Marketing, Vol.20, No. 4, pp 294-316.
- Grönroos, C. (2000) *Service Management and Marketing – A customer relationship management approach*. John Wiley & Sons, Ltd. England.
- Gursoy, D., Chen, M.H and Kim, H.Y., (2005). *The US airlines relative positioning based on attributes of service quality*. Tourism Management Vol.26, pp57–67.
- Fornell, C.,(1992) *A National Customer Satisfaction Barometer: the Swedish Experience*, Journal of Marketing, Vol. 56, pp. 1-18.
- Hair,J., Black, W. C., Babin, B. J., Anderson, R. E. and Tatham, R. (2006) *Multivariate Data Analysis*, Pearson Education, New York.
- Hanlon, P. (2007), *Global airlines: competition in a transnational industry*, 3rd ed., Burlington, MA: Butterworth-Heinemann.
- Hansemark, O. C. & Albinson, M., (2004) *Customer Satisfaction and Retention: The Experiences of Individual with Employees*, Managing Service Quality, Vol. 14. pp1
- Huang Y. K. (2009) *The Effect of Airline Service Quality on Passengers' Behavioural Intentions Using SERQUAL Scores in Taiwan*, Journal of the Eastern Asia Society for Transportation Studies, Vol.8
- Jones, T.O and Sasser, W.E., (1995). *Why satisfied customers defect*. Harvard Business Review Vol.73, pp 88–99.
- Kothari, C .R (2004) *Research Methodology: Methods and Techniques*. 2nd Revised Edition Wishma Prakashan, New Delhi.
- LaBarbera, P. A., & Mazursky, D. (1983). *A Longitudinal Assessment of Consumer Satisfaction, Dissatisfaction: the Dynamic Aspect of Cognitive Process*. Journal of Marketing Research Vol 20, pp.393-404.
- Lin, H.H., and Wang, Y.S., (2006), *An examination of the determinants of customer loyalty in mobile commerce contexts*, Information & Management, Vol. 43, pp. 271-282
- Makuza, R. (2011, May) *Uganda aviation registers 7.5 percent passenger growth*. The Daily Monitor. Retrieved from In2EastAfrica stuff.com
- McIlroy, A., & Barnett, S. (2000). *Building Customer Relationships: Do Discount Cards Work?* Managing Service Quality Vol.10 No.6, pp 347-355.
- Mohsan F, Nawa N.M, Khan S, Shaukat Z & Aslam N. (2011). *Impact of Customer Satisfaction on Customer Loyalty and Intentions to Switch: Evidence from Banking Sector of Pakistan*. International Journal of Business and Social Science Vol. 2 No. 16.
- Munusamy,J Shankar Chelliah & Sivamurugan Pandian (2011), *Customer Satisfaction Delivery In Airline Industry In Malaysia: A Case of Low Cost Carrier*. Australian Journal of Basic and Applied Sciences, Vol.5 No.11, pp 718-723.
- Ng, S.I., Sambasivan M., Zubaidah S., (2011). *Antecedents and outcomes of flight attendants' job satisfaction*. Journal of Air Transport Management, 17: 309-313.
- Oliver, R. L. (1997). *Satisfaction: A Behavioral Perspective on the Consumer*. New York: McGraw Hill.

- Ostrowski, P. L., O'Brien, T. V., and Gordon, G. L. (1993) *Service quality and customer loyalty in the commercial airline industry*, Journal of Travel Research, Vol. 32, Fall16-24.
- Parasuraman,A.;Berry, Leonard & L.;Zeithaml, Valarie A., (1988), *SERVQUAL: A Multiple-Item Scale For Measuring Consumer Perceptions of Service Quality*, Journal of Retailing, Vol. 64,No.1, pp 12-40.
- Park, J.W., Robertson, R., Wu, C.L., (2004). *The effect of airline service quality on passengers' behavioral intentions: a Korean case study*. Journal of Air Transport Management Vol.10, pp 435–439.
- Sekaran, U. (2003). *Research Methods for Business: A Skill-Building Approach*. 4th ed. New York: John Wiley & Sons, Inc.
- Tiernan, S, Rhoades, D.L., Waguespack, B. Jr. (2008), *Airline service quality: exploratory analysis of consumer expectations and operational performance in the USA and EU*, Managing Service Quality, Vol. 18 No. 3, pp. 212-224.
- Uganda Civil Aviation Authority. (2012). *About Uganda*. Retrieved on June 03, 2012 from [URL:http://www.caa.co.ug](http://www.caa.co.ug)
- Vitasek K (2005). *Supply Chain and Logistics Terms and Glossary*, Supply Chain Vision, Belevue, WA.
- Zeithaml and Bitner (1996), *Services Marketing*, Tata McGraw Hill, New Delhi.

Linking Travel Motivations and Willingness to Support Sustainable Tourism: A Case of Visitors to Tanzania

Kanza Saliel Joseph, Mossberg Lena, Wineaster Anderson, and Andersson Tommy,

Abstract

The growing tourists' arrivals to various destinations worldwide in connection to the efforts to attain sustainable tourism development create the need for understanding the main travel motivations as linked to travelers support to sustainable tourism. Currently there are few studies that have been conducted to link tourists travel motivation and their willingness to support sustainable tourism development. The primary objective of this study was to examine the link between tourists travel motivations and their willingness to support sustainable tourism development. Employing a survey strategy, data were collected using a self-administered questionnaire and the results from statistical analysis indicate that, all the thirteen items measuring tourists' support for sustainable tourism rated high with mean scores above 5. Further, the p-values of the t-tests were less than the 1% level of significance for nature, family and accomplishment motivations indicating that the beta coefficients of these three dimensions were significant, and explained some of the variation in tourist's willingness to support sustainable tourism. This article propose an integrated approach to understand tourists' motivations and how they are linked to willingness to support sustainable tourism so as to secure long-term existence of tourism as an industry.

Keywords. Tourism industry, Travel motivations, sustainable tourism, sustainability, willingness to support sustainable tourism

Introduction

Tourism is increasingly viewed as the best alternative and most viable option for the sustainable economic, social as well as environmental development of many countries (Recupero, 2001). Thus, most countries in the world, Tanzania being amongst, are now focusing on developing tourism as an important source of growth for their economies. This move will be successful after a comprehensive understanding of the main travel motives that tourists are seeking to achieve as well as the importance of each motivational factor that improves tourists' travel experience as well as how these motives are linked to their willingness to support sustainable tourism. On one hand according to Kleiven (2005), the identification of important motives has been a central topic in the field of leisure research. Pearce, (1995) even believes that as tourism grows into an increasingly sophisticated consumer industry, the motivations of tourists will become a core part of all tourism studies. Given the growth of tourism worldwide and its development, it becomes critical that tourists' experiences are crafted to meet their travel motives as well as the industry's sustainability.

The primary objective of this paper was to examine the link between tourists travel motivations and their willingness to support sustainable tourism development. The growing debates about sustainable tourism highlight the essence of the sustainability paradigm as the balance between economic growth, environmental preservation and social justice (Hall, 2000; Weaver and Lawton 2004). After World War II, many countries began aggressively promoting themselves as tourism destinations (Ritchie & Crouch, 2000). However, by the mid-1960s, it was marked that along with its positive returns, tourism and its associated activities brought many negative impacts to both natural environment and social fabric of the destinations' host community. These negative

impacts have primarily been attributed to inadequate or non-existent planning frameworks for tourism development (Ruhanen, 2008). In most parts of the world much emphasis was on the economic gains from tourism with little importance given to social and environmental consequences or the spill-over effects into surrounding areas. This malfunction has left many destinations with a legacy of social and environmental consequences. The experience of such destinations has shown that it is too late to redirect the negative environmental and social problems that are both detrimental to tourists and the host community (Gunn, 1988; Hall, 1994). Therefore, it has been widely advocated that tourism development should not be permitted to progress in an ad hoc manner without an overall guiding framework and predetermined strategies towards development objectives (Hall, 2000). For that reason, understanding tourists' travel motivational factors as linked to their willingness to support sustainable tourism will provide an opportunity for different parties to be involved in the planning process as well as shared responsibility. Tourists as among important stakeholders are of vital significance to the development of all three pillars of sustainable tourism, namely; economic, ecological, and social sustainability (Weaver and Lawton 2004). However there have been little studies that explore the link between tourists' travel motivations and their support for sustainable tourism.

Given the magnitude of the tourism industry in general, tied with the growing tourist arrivals, necessitates the need for adopting a sustainable approach to tourism development. According to WTO (2003), vast and complex consequences of this large movement of people brought the necessity for adopting sustainability principles in all tourism development and endeavors, in an integrated manner that will secure the long-term existence of tourism as an industry. Tourist destination sustainability to a large extent is left to the host communities, government as well as the donor organizations such as the UNEP. Tourists who are among tourism stakeholders were understudied especially in the planning process (Forsyth 1996; Nicholas and Thapa 2010). For most part, previous studies has focused on residents in local communities as key stakeholders in the sustainable tourism development process (Bass et al. 1995; Caffyn and Jobbins 2003; Choi and Sirakaya 2005; Cole 1997; Getz and Jamal 1994; Jamal and Getz 1999; Medeiros de Araujo and Bramwell 1999; Nicholas et al. 2009b; Pennington-Gray 2005; Simpson 2001; Timothy 1998). Given the infancy development level and promotion of tourism as well as scanty of studies that link travel motivations to sustainable tourism, the present study seeks to investigate tourists' motivational factors as linked to sustainable tourism with special attention given to Tanzania. The question here is:- How can tourists be an agent of change towards sustainable tourism development?

Literature Review

Motivation in Tourism Perspective

Tourists' perception of a destination can be understood from different viewpoints being; destination image, destination choice as well as travel motivations. Adopting motivation into a tourist context, Pizam, Neuman and Reichel, (1979) describe tourist motivation as: "...a set of needs, which predispose a person to participate in a tourist activity". Motivation can thus reflect numerous sets of needs, which will subsequently affect individual choices in various ways. A travel motivation/motive is also explained as the set of attributes, when aggregated together, that describe a place as a travel destination. They include all elements that are related to a destination and to travelling to the places such as the physical and cultural characteristics of the destinations and the actual distance required to get to the destination (Um and Crompton, 1990). According to

Crompton, (1979) and Fodness, (1994), travel motivations are critical aspects in understanding travel behavior. Moreover, Lubbe (1998) stressed that a tourist's motivation to travel begins when he/she realizes that there are certain needs and is aware and perceives that certain destinations may have the ability to serve those needs.

Sustainable tourism

The introduction of the sustainable development concept in the 1980s was seen as a means, or indeed, a potential framework for guiding tourism development and mitigating some of tourism's negative impacts. Sustainable development quickly gained prominence amongst academics and governments grasped the notion as it legitimized the increasingly contentious view of tourism development.

Although there is no common and accepted definition of sustainable development, various literature provide important clue as a meaning of sustainable tourism development. According to WTO (1995) sustainable tourism development is the development that meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity as well as life support systems. Further, according to UNEP, (2003(a)), sustainable tourism development should meet the following requirements being; tourist resources - natural, historical, cultural and other - are preserved in a way that allows them to be used in the future, while benefiting today's society, the planning and management of tourist development are conducted in a way that avoids triggering serious ecological or socio-cultural problems in the region concerned, the overall quality of the environment in the tourist region is preserved and, if necessary, improved, the level of tourist satisfaction should be maintained to ensure that destinations continue to be attractive and retain their commercial potential and tourism should largely benefit all members of the society. According to Butler (1998) sustainable tourism, is the tourism that is developed and operated in such a manner as to follow these principles.

The notion of sustainable tourism attracted a high level of support at the conceptual level (MacLellan, 1997). Yet, this did not prevent the concept from becoming a point of discourse, debate and disagreement amongst academics aiming to define what has been described as ambiguous, vague, parochial, sectorial, a cliché, a mythical concept, and a 'lion's den' of semantics (Butler, 1993; Hunter, 1995; McKercher, 1993; Mowforth & Munt, 1998; Muller, 1994; Orams, 1995; Robinson, 1999; Swarbrooke, 1998). Different perceptions and interpretations of sustainable development principles and their application to the tourism sector have also played an important role in the way in which sustainable tourism has been defined within the literature and this has provoked numerous authors to offer definitions on the same (Archer et al., 2005; Bramwell & Lane, 1993; Buckley, 1996; Cater & Goodall, 1992; Cronin, 1990; Hardy & Beeton, 2001; Harris & Leiper, 1995; House, 1997; Inskeep, 1991; Swarbrooke, 1998).

Criticism that academics have been too inwardly focused on defining and debating the sustainability concept confused researchers, visitors, residents, businesses and governments alike, and not contributed in any meaningful way to considerations of how the concept might be put

into practice (Berry & Ladkin, 1997; Orams, 1995; Swarbrooke, 1998). Garrod and Fyall (1998) argue that, 'unless these definitions can be translated into something that is meaningful in practice, they remain at best academic curios, at worst a threat to the achievement of genuinely sustainable tourism'. The lack of a widely accepted definition has caused some confusion over what sustainable tourism actually means (Berry & Ladkin, 1997; Swarbrooke, 1998), and the differing viewpoints on the concept have led many to question the validity of achieving sustainability. Hunter (1997) notes that however attractive the notion of sustainable tourism is as a balanced development option, difficult questions remain to be addressed: How can the concept be achieved? How is it determined when sustainability has been achieved? What does protecting the resource base mean? What are the needs of future generations? (Beckerman, 1992; Hunter, 1997; Lele, 1991; Liu, 2003; McMinn, 1997; Sofield, 2003; Stabler, 1997; Swarbrooke, 1998).

The difficulty and inherent subjectiveness in these questions has seen some claim that it is an intellectually appealing concept with little practical application (Wheeler, 1993); or that completely sustainable tourism is most likely a myth, as development requires environmental and social sacrifice to some degree and therefore we can only hope to make tourism more sustainable than it was before (Aronsson, 2000; Basu, 2003; Butler, 1998; Goodall & Stabler, 1997; Swarbrooke, 1998). Progressing alongside the academic debate surrounding the concept, sustainability issues have become a key driver of the social and political agendas in many countries (Berke, 2002; Jayawardena, 2003), and are considered to be the primary underpinning framework for establishing tourism development plans around the globe (Harrison et al., 2003). A number of authors have documented the growth in sustainability policy statements, strategies, guidelines and initiatives from national, regional and local governments, tourism organisations, businesses and local communities (Augustyn, 1998; Bramwell, 2004; Hardy & Beeton, 2001; Jepson, 2004), while Cooper (1997) claimed that governments are integrating sustainability principles into policy and planning as evidenced by a changing perspective from the short (1–5 year planning horizons) to long-term (10–20 year planning horizons), which in turn has seen the adoption of a strategic approach to destination planning and management. The public sector has assumed much of the responsibility for leading the move towards developing more sustainable forms of tourism.

Notwithstanding the efforts of some private sector operators including energy conservation, recycling and waste reduction, triple bottom line accounting and voluntary environmental accreditation (Dwyer, 2005; Jayawardena, 2003; Murphy, 1998; Swarbrooke, 1998), as Hunter (1997) notes, it is difficult to imagine the formulation and implementation of any approach to sustainable tourism in the absence of strong government planning and development control. This is due to the fact that the public sector usually has a mandate to represent the whole population, not just particular interest groups or stakeholders; it has the requisite legislative framework for action; it is seen to be impartial without commercial interests; and because it is not constrained by short-term financial objectives it should be able to take a longer term view (Sinclair & Jayawardena, 2003; Swarbrooke, 1998). However, government at all levels have received criticism for hijacking, and even abusing the sustainable term, to legitimize tourism development, achieve self-serving outcomes, and even as a political slogan (Bramwell, 2004; Hempel, 1999; MacLellan, 1997; Mowforth & Munt, 1998; Stabler, 1997; Wall, 1997). Government policies and plans for sustainable tourism development have been described as little more than statements of platitudes and rhetoric, backed by glossy images (Berke & Manta Conroy, 2000; Pforr, 2001;

Pigram, 1990; Slee et al., 1997). There are ‘many apocryphal accounts of governments, as well as destination communities, paying lip-service to sustainable tourism in order to gain funding with a view to applying it to economic development through tourism.

There have also been criticisms that governments have adopted sustainable tourism development ideologies with ‘so much enthusiasm but so little real action’ (Butler, 1997). The role of government is such that they are encouraged to grow tourism as a means of economic development and growth, and policies pursued are therefore most suited to the interests of the national economy and the tourism industry (Dymond, 1997). Bramwell (2004) notes that as a result, governments frequently talk “green” but, in practice, usually give priority to economic growth over environmental protection’. Consequently, sustainable tourism policies may give the appearance of a paradigm shift but in reality are usually focused on the traditional concern of economic returns (Harrison et al., 2003; Wight, 2003). This has been found to be the case in many countries, where despite suggestions that sustainability is a ‘motherhood’ issue (McKercher, 1993), economic goals are given a far higher priority than social and environmental concerns in state and national government’s tourism policy agenda (Hall, 1994). Studies of Scotland (MacLellan, 1997), Southern Europe (Bianchi, 2004) and Sweden (Aronsson, 2000) have aired similar criticisms noting that policy is overtly focused on economic growth targets with sustainability addressed only to the extent that it does not challenge the core pillars of free markets and profit maximization. Spain has also received criticism for its policies (Barke & Towner, 2003; Bianchi, 2004; Hunter-Jones et al., 1997) where the term has been adopted more in name than in actual practice, and new development still shows little sign of learning from the negative experiences of many early Spanish destinations. While the overriding economic objectives of governments are obviously an issue, some have attributed the lack of progress in sustainable tourism planning to a general lack of understanding by government of the principles underlying sustainable tourism development (Harrison et al., 2003; MacLellan, 1997; Swarbrooke, 1998).

The sustainable tourism concept is fraught with debate, disagreement and contention. However, it is the position taken by many that sustainable tourism is not a product, but a necessary philosophical base to underpin and provide direction for tourism development. While accepting that actual sustainability may only ever be approached rather than permanently achieved (Butler, 1997; Milne, 1998), Beatley (1995) advocates that the difficulties associated with sustainability should not paralyse us into complacency or non-action. He highlights the role of planners in ‘promoting the dialogue about sustainability and in conceiving public-policy solutions that promote sustainability’ (Beatley, 1995). The notion that inaction is unacceptable is supported by Bramwell and Lane (1993) who question: One must ask what the alternatives are to developing more sustainable tourism – presumably either sit back and do nothing or else to criticize without offering any realistic, practical ways forward. Both alternatives seem likely to . . . allow the negative effects of tourism to increase further in scale. While there is of course opportunity for academic debate and discourse regarding the sustainability concept, this must take second place to the development of practical tools, particularly in the area of planning, for destination planners, managers and their communities to address sustainability, ‘it is easy to discuss sustainability but. . .the time has come to walk the talk’ (Bramwell & Lane, 1993: 4). A key problem is that there is a ‘grey’ area of rhetoric between sustainability principles and translation into workable objectives and standards (Goodall & Stabler, 1997) and to overcome this a number

of authors have noted the need to move on from the conceptual debate and give consideration to the actual practice of sustainable tourism development (Liu, 2003; Slee et al., 1997; Welford & Ytterhus, 2004). Such arguments support the notion that in the case of sustainable tourism, there are considerable stocks of knowledge yet deficiencies in knowledge transfer, dissemination and utilisation (Cooper, 2006). Therefore, as part of a broader programme of research, this study was undertaken to examine the link between travel motivations and tourists' willingness to support for sustainable tourism to which the body of knowledge regarding sustainability is actually used in practice by the tourism sector. The study focused specifically on the tourists who are among important stakeholders in achieving sustainable tourism. As previously noted, it is the public sector that has assumed much of the responsibility for leading the move towards developing more sustainable forms of tourism (Hunter, 1997) and it is governments that are required to integrate sustainability principles into policy and planning (Cooper, 1997).

Motivation and Tourist willingness to support for Sustainable Tourism

Research on attitudes toward tourism has been examined based on residents and/or visitors perspectives in numerous geographical regions (Weaver and Lawton 2004). Visitor research has been restricted to assessing visitor preferences and levels of satisfaction to improve profitability of tourism operations. However, resident research has generally focused on impacts (socio-cultural, economic, and environmental) and associated correlates (ibid). Research has predominantly centered on the examination of resident perspectives largely due to the direct impacts experienced. Also, since communities are heterogeneous and as such, residents hold diverse perceptions and attitudes toward tourism (Andereck and Vogt 2000; Andriotis and Vaughan 2003; Harrill 2004; Lepp 2007; Mason and Cheyne 2000; Sirakaya et al. 2002; Snaith and Haley 1999). Resident attitudes' research has been examined with a focus on various factors that include: level of involvement in tourism (Akis et al. 1996; Smith and Krannich 1998); type of tourism development (Gursoy et al. 2002; Jurowski 1994); socio-demographic characteristics (Williams and Lawson 2001); community attachment (Jurowski 1994; Nicholas et al. 2009b); distance from tourism areas (Jurowski and Gursoy 2004); environmental attitudes (Nicholas et al. 2009b), and quality of life (Andereck and Jurowski 2006; Jennings 2006).

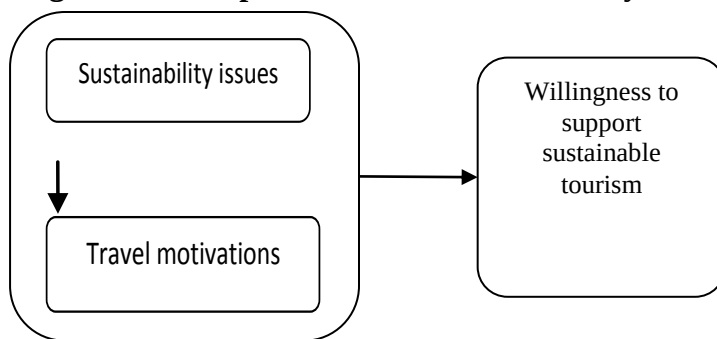
Given the dominant focus on residents, Weaver and Lawton (2004) have argued that, there is a need for integrating tourist attitudes, behavior, and motivations in management related decisions especially within the paradigmatic context of sustainable development and sustainable tourism. Weaver and Lawton (2004) examined both resident and visitor attitudes toward tourism in the hinterland of the Gold Coast in Australia. Research revealed that visitors were willing to pay extra cost to support tourism in the Gold Coast hinterland as long as it offered opportunities to experience the open hinterland and did not affect the natural resources of the region. Also, proximity to the tourism core was a factor whereby those residents that lived closer were more likely to support sharing of the tourism resources. More recently, Raymond and Brown (2007) compared resident and visitor attitudes toward tourism growth and development in the Otways region of Victoria, Australia. Their findings were consistent with those of Weaver and Lawton (2004) and concluded that visitors had positive attitude towards tourism development, but preferred slow growth that focused on nature-based opportunities.

Also, residents significantly expressed more support for tourism development than visitors, but there were some differences among coastal and non-coastal residents. According to Budeanu

(2006), tourists are less interested to adopt sustainable lifestyles or support responsible tourism product as compared to corporate and government efforts. Given the strategies that were designed to steer tourists behavior towards responsible tourism such as awards, eco-labels and certification schemes, communication and awareness campaigns as well as educational programs, however tourists response is still very low and fail to fulfill industry sustainability goals and expectations. In the same vein, despite their declared positive attitudes towards sustainable tourism, only 1 in 20 tourist act upon them and buy responsible tourism packages, choose environmentally friendly transportation or buy local produce (ibid).

Visitor spending is a prime determinant of the economic viability of tourism; visitor behavior and attitudes toward the environment are also likely to impact on the ecological sustainability of a tourism site; and the extent to which visitors interact with the host/local community has major implications for the social sustainability of a tourism development project. However, despite the primacy of visitors as key players in sustainable tourism development, there is a paucity of research examining visitor attitudes toward tourism development in general and sustainable tourism development in particular (Raymond and Brown 2007; Weaver and Lawton 2004). The present study examined tourist motivation and the extent to which tourist are willing to support sustainable tourism development.

Figure 1: Conceptual framework of the study



Research Methodology

Using a survey strategy, data were collected using a structured questionnaire. A survey was conducted in different points to obtain primary data for the study. A large amount of data were collected in the main tourist exit points including Kilimanjaro international airport (KIA) in Kilimanjaro, Julius Nyerere International Airport (JNIA) in Dar es salaam and Namanga boarder in Arusha both in Tanzania. Further, three tourist attractions were also used for data collection including Serengeti National Park, Ngorongoro Conservation Area as well as Zanzibar.

Measurement of variables

This study employed Likert-scale type of questions to obtain information from the respondents. A seven point Likert- scale type was used as the response format for the motivations with assigned values ranging from 1 being “Not important at all”, to 7 being “Very important”. Tourists’ willingness to support for sustainable tourism was also measured based on a seven-point likert-scale that ranged from 1 being “Strongly oppose” to 7 being “Strongly support”.

Data analysis

Exploratory Factor Analysis (EFA) was performed to identify underlying factors of the importance of the tourist motivational items followed by Confirmatory Factor Analysis (CFA). Further, Multiple Regression Analysis (MRA) was performed to assess relationships between travel motivations and tourists' willingness to support sustainable tourism.

Findings

Tourists' demographic features

Results indicate that, 33.1% of the respondents were of ages ranging from 20 to 29, 32.3% were of ages ranging from 30 to 39, 18.2% were of ages ranging from 40 to 49, 14.9% were 50 or above and 1.6% were of less than 20 years old. Overall, more than 60% of the respondents were of the ages ranging from 20 to 40 years. In terms of sex, majority of the respondents surveyed were female representing 53.4% and males 46.6%. About 62.2% of the respondents are living in cohabit and 37.4 % are living single. Analysis also indicates that 24.4% of the surveyed respondents were living with kids while 75.6% are not living with kids. Educational level of respondents were also analyzed and the results revealed that 40.3% were holding master degree, 26.9% undergraduate, 16.3% high school, 11.9% above master level and 0.8% were of less than high school level of education. About 37.3% earns 60,000 USD and above, 18.7% earns less than 20,000 USD, 15% earns income between 50,001 to 60,000 USD, 11.2% earns between 30,001 to 40,000 USD, 9.6% earns annual income between 20,000 to 30,000 USD, while 8.1% earns annual income ranging from 40,001 to 50,000. In terms of occupation 70.6% of the respondents were employed, 11.5% were students, 12.2% were self employed while 5.3% were retired. Results on the size of the travel party of the respondents revealed that 86.3 % travelled with around 0 to 5 people, 4.9% travelled with 15 people and above, 5.2% travelled with 6 to 10 people and 3.6% travelled with 11 to 15 people. Furthermore, respondents' travel companion was analyzed and the results indicate that 48.5% were with family, 36.8% were with friends and colleagues, 11.5% were themselves, 2% were with friends and family while 1.2% was with relatives. In terms of nationalities, the results revealed that of the surveyed respondents 13.2% were Germans, 9.8% were Americans, 9.3% were Australians, 8.3% were British, 7.6% of the respondents were South Africans while 7.1% were French.

Results of factor analysis

Since the present study was concerned with developing tourists travel motivational scales as well as their willingness to support sustainable tourism, the sample was divided randomly into two halves using IBM-SPSS computer program whereby the first sub sample was used for Exploratory Factor Analysis (EFA) or discriminant function and the second sample was used for Confirmatory Factor Analysis (CFA). After VARIMAX rotation each factor were subsequently renamed in accordance with the construct they are representing. These include 1) Nature, 2) Family, 3) Friends, 4) Accomplishment, 5) Culture, 6) Environ-cultural Sustainability, 7) Warmth/sun, 8) socio- economic sustainability, 9) Fitness, 10) Peace/quite, and 11) Ambience for travel motivations and 1) Economic sustainability, 2) Environmental sustainability and 3) Social sustainability.

Confirmatory Factor Analysis

After conducting exploratory factor analysis (EFA) using the first split half sample, the next stage was to carry out a confirmatory factor analysis (CFA) using the second half sample to assess the

validity of the questionnaire (Hair et al 2010). This analysis assessed the fit between the data and the specified CFA measurement model. In the first stage the CFA model involves travel motivational dimensions followed by willingness to support sustainable tourism. Dimensions with cronbach's alpha above 0.7 and loadings above 0.4 were used. Further, dimensions with a minimum of three items were also included in the model. In view of this, two dimensions Friends and Ambience were not included for having cronbach's alpha below 0.7 and not meeting the criteria of minimum of three items forming the dimension respectively.

Results of Fit Indices for the Structural Model

The first step in analyzing the structural model was to evaluate the model based on the fit indices. Overall, the fit indices indicated a fair fit for the model. The value of CMIN/DF was 2.925, which is within the acceptable level of between 2.0 and 5.0 as defined by Wheaton et al (1977) and Tabachnick and Fidell (2007). The RMSEA value for the structural model was .062, which is within the recommended level of <.08 (MacCallum et al. 1996). Other fit indices GFI = .963, which point to a good model fit except for CFI = .905 which point a good model fit.

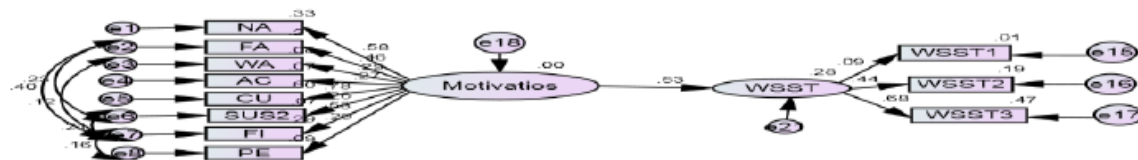


Figure 2: Structural Model

Key: Na=Nature, FA=Family, WA=Warmth, AC=accomplishment, CU=Culture, SU=Socio-cultural sustainability, FI=Fitness, PE=Peace/quite, WSST=Willingness to support sustainable tourism, WSST1= environmental sustainability, WSST2=Economic sustainability, WSST3=Social sustainability

Tourist willingness to support for sustainable tourism

Respondents were asked to indicate their level of support for sustainable tourism using seven point likert-scale with values ranging from 1 being strongly oppose to 7 being strongly support. The results indicate generally that, all the thirteen items measuring tourists' support for sustainable tourism rated high with mean scores above 5.

Hypothesis testing

The regression model for hypothesis one has tourist's willingness to support sustainable tourism as dependent variable and nine travel motivational dimensions as obtained and modified from Kleiven (1998, 1999, 2005 and 2009) as independent variables. These variables were regressed and the results are shown in table 3 below. The Analysis of variance (ANOVA) indicates F statistic of 8.68 was significant at the 1% level of significance, revealing that the model helped to explain some of the variation in tourist's willingness to support sustainable tourism. The p-values of the t-tests were less than the 1% level of significance for nature, family and accomplishment motivations indicating that the beta coefficients of these three dimensions were significant, and explained some of the variation in tourist's willingness to support sustainable tourism.

Table 1: Multiple regression relating to Hypothesis one

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.904	.197		19.786	.000
Nature	.085	.033	.126	2.564	.011
Family	.048	.022	.111	2.148	.032
Warmth	.026	.023	.051	1.140	.255
Accomplishment	.112	.021	.228	5.265	.000
Culture	.034	.027	.067	1.264	.207
Friends	.015	.022	.032	.696	.487
Fitness	.002	.023	.006	.103	.918
Peace	-.015	.022	-.031	-.685	.494
Ambience	-.002	.023	-.003	-.067	.946

Adjusted R²=0.121 F=8.68***

Independent variables: Nine travel motivational dimensions

Dependent variable: Willingness to support sustainable tourism

In the next stage, the regression model for hypothesis two has tourist's willingness to support sustainable tourism as dependent variable and the eleven travel motivational dimensions sustainability inclusive as independent variables. These variables were regressed and the results are shown in table 4 below. The Analysis of variance (ANOVA) indicates F statistic of 7.235 was significant at the 1% level of significance, revealing that the model helped to explain some of the variation in tourist's willingness to support sustainable tourism. The p-values of the t-tests were less than the 1% level of significance for accomplishment motivation and less than 5% nature motivation indicating that the beta coefficients of these two dimensions were significant, and explained some of the variation in tourist's willingness to support sustainable tourism.

Table 2: Multiple regression relating to Hypothesis three (a)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.791	.218		17.402	.000
Nature	.079	.035	.117	2.281	.023
Family	.044	.023	.102	1.939	.053
Warmth	.026	.023	.052	1.151	.250
Accomplishment	.113	.021	.229	5.275	.000
Culture	.030	.028	.057	1.070	.285
Sustainability 1	.021	.026	.038	.808	.420

Friends	.015	.022	.032	.688	.491
Sustainability 2	.021	.021	.045	.984	.326
Fitness	-.002	.024	-.004	-.078	.938
Peace	-.016	.022	-.033	-.718	.473
Ambience	-.002	.023	-.005	-.099	.921

Adjusted R²=0.120 F=7.235***

Independent variables: Eleven travel motivational dimensions

Dependent variable: Willingness to support sustainable tourism

Conclusion

Clearly, tourism emerges as a giant and essential contributor to the GDP in many countries. Notwithstanding this contribution, it is important that a sustainable approach to tourism development be adopted in order to ensure that the integrity of the industry is maintained over the long term. The primary objective of this study was to examine the link between tourists travel motivations and their willingness to support sustainable tourism development. Given that the sustainability of the industry hinges strongly on the hands of different stakeholders tourists being amongst, this study has produced invaluable insights on the standpoints of tourists travel motivations as it relates to willingness to support sustainable tourism development. The study results generally support that travel motivations are statistically related to tourists' willingness to support for sustainable tourism. Impliedly this relationship may be interpreted as it being likely that tourists have favorable willingness to support sustainable tourism after being impressed and their motives being achieved. The findings also brought to light opportunities for increased interaction between visitors and locals as well as for increased revenue to the area.

It is recommended that this research be further refined and then duplicated in order to gain a better understanding of the variables that influence tourists' support for sustainable tourism development. These variables should also be explored further to determine a more in-depth understanding of the nature of their effect on their support for sustainable tourism development in the tourism industry in general.

References

- Akis, S., Peristianis, N., & Warner, J. (1996). Residents' attitudes to tourism development: The case of Cyprus. *Tourism Management*, 17(7), 481-494.
- Andereck, K. L., & Vogt, C. A. (2000). The relationship between residents' attitudes toward tourism and tourism development options. *Journal of Travel Research*, 39(1), 27-37.
- Andriotis, K., & Vaughan, R. D. (2003). Urban Residents' Attitudes toward Tourism Development: The Case of Crete. *Journal of Travel Research*, 42(4), 172-185.
- Archer, B., Cooper, C. and Ruhanen, L. (2005) The positive and negative impacts of tourism. In W. Theobald (ed.) *Global Tourism: The Next Decade* (3rd edn pp. 79–102). Oxford: Butterworth-Heinemann.
- Aronsson, L. (2000) *The Development of Sustainable Tourism*. London: Continuum.
- Augustyn, M. (1998) National strategies for rural tourism development and sustainability: The Polish experience. *Journal of Sustainable Tourism* 6 (3), 191–209.
- Barke, M. and Towner, J. (2003) Learning from experience? Progress towards a sustainable future for tourism in the central and eastern Andalucian Littoral. *Journal of Sustainable Tourism* 11 (2, 3), 162–180.

- Bass, S., Dalal-Clayton, B., & Pretty, J. (1995). Participation in strategies for sustainable development. *Environmental Planning Issues*, 7. International Institute for Environment and Development, London.
- Beatley, T. (1995) Planning and sustainability: The elements of a new (improved?) paradigm. *Journal of Planning Literature* 9 (4), 383–395.
- Beckerman, W. (1992) Economic growth and the environment: Whose growth? Whose environment? *World Development* 20 (4), 481–496.
- Berke, P.R. (2002) Does sustainable development offer a new direction for planning? Challenges for the 21st century. *Journal of Planning Literature* 17 (1), 21–36.
- Berry, S. and Ladkin, A. (1997) Sustainable tourism: A regional perspective. *Tourism Management* 18 (7), 433–440.
- Caffyn, A., & Jobbins, G. (2003). Governance capacity and stakeholder interactions in the development and management of coastal tourism; examples from Morocco and Tunisia. *Journal of Sustainable Tourism*, 11 (2&3), 224–245.
- Cater, E. and Goodall, B. (1992) Must tourism destroy its research base? In A.M. Mannion and S.R. Bowlby (eds) *Environmental Issues in the 1990s* (pp. 309–325). London: Wiley.
- Choi, H., & Sirakaya, E. (2005). Measuring residents' attitude toward sustainable tourism: Development of sustainable tourism attitude scale. *Journal of Travel Research*, 43, 380–394.
- Cole, S. (1997). Anthropologists, local communities and sustainable tourism development. In M. J. Stabler (Ed.), *Tourism & sustainability: Principles to practice* (pp. 219–230). New York: CABI.
- Cooper, C. (1997) The contribution of life cycle analysis and strategic planning to sustainable tourism. In S. Wahab and J.J. Pigram (eds) *Tourism, Development and Growth: The Challenge of Sustainability* (pp. 78–94). London: Routledge.
- Dwyer, L. (2005) Relevance of triple bottom line reporting to the achievement of sustainable tourism: A scoping study. *Tourism Review International* 9 (1), 79–93.
- Eber, S. (1992) *Beyond the Green Horizon: Principles for Sustainable Tourism*. Surrey: World
- Fakeye, P. C., & Crompton J. L. (1991). Image difference between prospective, first-time and repeat visitors to the Lower Rio Grande Valley. *Journal of Travel Research* 30(2), 10–16.
- Fodness, D. (1994). Measuring tourist motivation. *Annals of tourism research*, 21(3), 555–581.
- Getz, D., & Jamal, T. (1994). The environment–community symbiosis: A case for collaborative tourism planning. *Journal of Sustainable Tourism*, 2(3), 152–173.
- Gnoth, J. (1997). Tourism motivation and expectation formation. *Annals of Tourism Research*, 24(2), 283–304.
- Gray, J. P. (1970). *International Travel - International Trade*, Lexington Health, Lexington Books.
- Gursoy, D., Jurowski, C., & Uysal, M. (2002). Resident attitudes: A structural modeling approach. *Annals of Tourism Research*, 29, 79–105.
- Hall, C.M. (2000). *Tourism planning, policies, processes and relationships*. Essex : Prentice Hall.
- Hardy, A.L. and Beeton, R.J.S. (2001) Sustainable tourism or maintainable tourism: Managing resources for more than average outcomes. *Journal of Sustainable Tourism* 9 (3), 168–192.
- Harrill, R., & Potts, T. D. (2002). Social psychological theories of tourist motivation: Exploration, debate, and transition. *Tourism Analysis*, 7, 105–114.
- Harris, R. and Leiper, N. (eds) (1995) *Sustainable Tourism: An Australian Perspective*. Chatswood: Butterworth-Heinemann.

- Harrison, L.C., Jayawardena, C. and Clayton, A. (2003) Sustainable tourism development in the Caribbean: Practical challenges. *International Journal of Contemporary Hospitality Management* 15 (5), 294–298.
- Hempel, L. (1999) Conceptual and analytical challenges in building sustainable communities. In D. Mazmanian and M. Kraft (eds) *Toward Sustainable Communities: Transition and Transformations in Environmental Policy* (pp. 43–74). Cambridge: MIT Press.
- House, J. (1997) Redefining sustainability: A structural approach to sustainable tourism. In M.J. Stabler (ed.) *Tourism and Sustainability: Principles and Practice* (pp. 89–104). Oxon: CAB International.
- Hunter, C. (1995) On the need to re-conceptualise sustainable tourism development. *Journal of Jepson, E.J.* (2004) Human nature and sustainable development: A strategic challenge for planners. *Journal of Planning Literature* 19 (1), 3–15.
- Jurowski, C. (1994). The interplay of elements affecting host community resident attitudes toward tourism: A path analytic approach. Unpublished PhD. Dissertation, Virginia Tech University.
- Kim, S., & Littrell, M. A. (1999). Predicting Souvenir Purchase Intentions. *Journal of Travel Research*, 38(2), 153-162.
- Kim, S-S., & Lee, C-K. (2002) Push and Pull Relationships. *Annals of Tourism Research*, 29(1), 257-260.
- Kleiven, J. (2005). Measuring leisure and travel motives in Norway: Replicating and supplementing the leisure motivation scales. *Tourism Analysis*, 10(2), 109-122.
- Kotler, P. (1991). *Marketing Management: Analysis, Planning, Implementation, and Control*. (10th ed). Englewood Cliffs, NJ: Prentice-Hall, Inc.
- MacLellan, R. (1997) The effectiveness of sustainable tourism policies in Scotland. In M.J. Stabler (ed.) *Tourism and Sustainability: Principles and Practice* (pp. 305–322).Oxon: CAB
- Maslow, A. H. (1943). A Theory of Human Motivation. *Psychological Review*, 50, 370-396.
- Maslow, A. H. (1954). *Motivation and Personality*. New York: Harper.
- Mason, P., & Cheyne, J. (2000). Residents' attitudes to proposed development. *Annals of Tourism Research*, 27(2), 391-411.
- McGehee, N. G., Loker-Murphy, L. & Uysal, M. (1996). The Australian international pleasure travel market: Motivations from a gendered perspective. *Journal of Tourism Studies*, 7(1), 45 -57.
- McKercher, B. (1993) The unrecognised threat to tourism: Can tourism survive 'sustainability'?
- McMinn, S. (1997) The challenge of sustainable tourism. *The Environmentalist* 17 (2), 135–141.
- Medeiros de Araujo, & Bramwell, B. (1999). Stakeholder Assessment and Collaborative Tourism Planning: The Case of Brazil's Costa Dourada Project. *Journal of Sustainable Tourism*, 7(3&4), 356 -378
- Mowforth, M. and Munt, I. (1998) *Tourism and Sustainability: New Tourism in the Third World*. London: Routledge.
- Muller, H. (1994) The thorny path to sustainable tourism development. *Journal of Sustainable Tourism* 2 (3), 131–136.
- Murphy, P.E. (1998) Tourism and sustainable development. In W.F. Theobald (ed.) *Global Tourism* (pp. 173–190). Oxford: Butterworth-Heinemann.

- Nicholas, L., & Thapa, B. (2010). Visitor perspectives on sustainable tourism development in the Pitons Management Area World Heritage Site, St. Lucia. *Environmental development and sustainability* 12:839-857
- Nicholas, L., Thapa, B., & Pennington-Gray, L. (2009b). Public sector perspectives and policy implications for the Pitons Management Area World Heritage Site, St. Lucia. *International Journal of Sustainable Development and World Ecology*, 6(3), 205-216.
- Orams, M.B. (1995) Towards a more desirable form of ecotourism. *Tourism Management* 16 (1), 3–8.
- Pearce, P. L. (1988). *The Ulysses factor: Evaluating visitors in tourist settings*. New York: Springer-Verlag.
- Pearce, P. L. (1995). Pleasure travel motivation. In R. W. McIntosh, C. R. Goeldner, & J. R. B. Ritchie (Eds.), *Tourism: Principles, practices, philosophies* (pp. 167-190). New York: John Wiley & Sons.
- Pizam, A. Y., Neuman, Y. & Reichel, A. (1979). Tourist satisfaction: Uses and misuses. *Annals of Tourism Research*, 6, 96-107.
- Prebensen, N. K. (2006). A grammar of motives for understanding individual tourist behavior. Thesis submitted for the Department of Strategy and management at the Norwegian School of Economics and Business Administration.
- Raymond, C., & Brown, G. (2007). A spatial method for assessing resident and visitor attitudes towards tourism growth and development. *Journal of Sustainable Tourism*, 15(5), 1-22.
- Ritchie, J.R.B. and Crouch, G.I. (2000) The competitive destination: A sustainability perspective. *Tourism Management* 21 (1), 1–7.
- Robinson, M. (1999) Collaboration and cultural consent: Refocusing sustainable tourism. *Journal of Sustainable Tourism* 7 (3, 4), 379–397.
- Ruhanen, L. (2008). Progressing the sustainability debate: a knowledge management approach to sustainable tourism planning. *Current Issues in Tourism* , 11(5), 429-455.
- Simpson, K. (2001). Strategic planning and community involvement as contributors to sustainable tourism development. *Current Issues in Tourism*, 4(1), 3-41.
- Sinclair, D. and Jayawardena, C. (2003) The development of sustainable tourism in the Guianas. *International Journal of Contemporary Hospitality Management* 15 (7), 402–407.
- Sirakaya, E., Teye, V., & Sonmez, S. (2002). Understanding residents' support for tourism development in the central region in Ghana. *Journal of Travel Research*, 4(1), 57-67.
- Sirakaya, E., Teye, V., & Sonmez, S. (2002). Understanding residents' support for tourism development in the central region in Ghana. *Journal of Travel Research*, 4(1), 57-67.
- Slee, W., Farr, H. and Snowdon, P. (1997) Sustainable tourism and the local economy. In M.J. Stabler (ed.) *Tourism and Sustainability: Principles and Practice* (pp. 69–88). Oxon: CAB International.
- Swarbrooke, J. (1998) *Sustainable Tourism Management*. New York: CABI Publishing.
- Tabachnick, B. G. & Fidell, L. S. (2007). *Using multivariate statistics* (2nd ed.). Boston: Pearson.
- Timothy, D. J. (1998). Cooperative tourism planning in a developing destination. *Journal of Sustainable Tourism*, 6(1), 52-68.
- Um, S. & Crompton, J. L. (1990). Attitude determinants in tourism destination choice. *Annals of Tourism Research*, 17(3), 432-448.
- UNEP. 2003(a). *Tourism and local Agenda 21*. The role of local authorities in sustainable tourism. Paris : United Nations Publication.

- Weaver, D. B., & Lawton, L. J. (2004). Visitor attitudes towards tourism development and product integration in an Australian urban-rural fringe. *Journal of Travel Research*, 42(3), 286-296.
- WTO, (1995).
- WTO, (1998).
- WTO, (2003)

Optimality of Supermarket Inventory Policies under Stochastic Demand in Uganda: A Case Study of Milk Powder Product

Kizito Paul Mubiru, Bernard Kariko-Buhwezi and Peter Lating

Abstract

Effective inventory management requires cost-effective methods in determining the optimal ordering decisions of cycle inventories in a stochastic demand environment. In this paper, an inventory model with stochastic demand is developed to analyze the ordering decisions of milk powder in supermarkets given a periodic review inventory system under stochastic demand. Adopting a Markov decision process approach, the states of a Markov chain represent possible states of demand for milk powder product. The decision of when to order is made using dynamic programming over a finite period planning horizon. The approach demonstrates the existence of an optimal state-dependent ordering policy as well as the corresponding total inventory costs.

Keywords : Modeling, Optimization, inventory policy, stochastic demand

Introduction

Optimising inventory ordering decisions is a considerable challenge when the demand for items in inventory follows a stochastic trend. Two major problems are usually encountered: (i) determining the most desirable period during which to order additional units of the item in question and (ii) determining the optimal *ordering policy* given a periodic review inventory system when demand is uncertain. In this paper, an inventory system is considered whose goal is to optimize the ordering policy and total costs associated with ordering and holding inventory. At the beginning of each period, a major decision has to be made, namely whether to order additional units of milk powder or postpone ordering and utilize the available units in inventory. The paper is organized as follows: After reviewing the previous work done, a mathematical model is proposed where initial consideration is given to the process of estimating the model parameters. The model is solved thereafter and applied to special case studies. Some final remarks lastly follow.

Literature Review

Review of Existing Economic Order Quantity Models with stochastic demand

According to KhoHung(1994), the EOQ can be examined to show the effects of discounting on the Economic Order Quantity when demand backlogging is present or not. Results indicate that without discounting, the stochastic variability of demand has no impact on the optimal order quantity. With discounting however, the optimal order quantity rises along with the demand variance parameter. In this article optimality guidelines on inventory costs are not explicitly given. Tadeshi D, Takeshi S et al(1993) addressed the stochastic EOQ type models with discounting using Gaussian processes in the context of the classical EOQ model. Numerical properties of the order quantities that minimize expected costs for various model parameters are examined. However, optimality guidelines on when to order or not order are not specified.

Berman O and Perry D(2001) examined the stochastic EOQ-type models to establish inventory policies. Output can be interpreted by a random demand and the input by a deterministic production plus random returns. In this study, optimality guidelines of the economic order quantity and inventory costs are not explicit. According to Eyan A and Kropp D (2007), the problem of determining the effective and simple EOQ-like solutions for stochastic demand is

examined. The article considers a periodic review system under stochastic demand and variable stock out costs. The optimal values of the cycle length and the amount of safety stock and the economic order quantity are difficult to obtain.

According to Yao Z and Kateshakis M(2006),the structure of optimal ordering policies for stochastic inventory system with minimum order quantity are explored. In this article, ordering quantity is either zero or at least a minimum order size. The impact of such inventory policies on the cost structures of the stocked item is however not explicit. Additional contributions by Halim and Giri(2008) address the economic order quantity for perishable items with stochastic demand. The article develops and investigates an economic order quantity in the fuzzy sense by considering stochastic demand, partial backlogging and fuzzy deterioration rate. This article is somehow restrictive to perishable products and an optimality guideline on the ordering policy that minimizes inventory costs is not explicit.

Ming-chen L (2009) considered the economic ordering quantity model with lead time reduction and backorder price discounts for stochastic demand. In this study, restrictions are made to a continuous review inventory policy under controllable lead time with a mixture of back order price discounts.

Review of Economic Order Quantity Models in the Dairy Industry

Recent models in the dairy industry include works of Hein and Wessels (1998).In their model, an analysis of the demand for dairy products is presented. The structure of dairy product demand is estimated using household food consumption survey data. Under the assumption of a two-stage budgeting procedure, a complete demand system for food incorporating demand graphic effects is explained. Next, using the demand relations estimated from cross-cutting section data, prediction interval tests utilizing time-series data are performed for milk. In this model, optimality guidelines in terms of the economic order quantity are insufficient.

In the model of Broekmeulen and Van Donselaar (2006), a replenishment policy for a perishable inventory system based on estimated aging and retrieval behavior is proposed. The model takes into account the age of inventories and which requires only very simple calculations. The model has profound insights especially in terms of the randomness of demand. However, the optimal lot sizing and ordering decisions as well as the optimal production and order quantities are not explicit.

The model presented by Roychowdhury (2009) examined an optimal policy for a stochastic inventory model for deteriorating items with time-dependent selling price. The rate of deterioration of the items is assumed to be constant over time. The selling price decreases monotonically at a constant rate with the deterioration of items. The demand and lead time both are random. A profit-maximization model is formulated and solved for optimum order quantity. Roychowdhury's model provides some intriguing insights to the problem. The model however needs to consider both the holding and shortage costs of inventory as well as the corresponding optimal inventory policies.

In this study, the Economic Order Quantity (EOQ) model is developed based on the following key assumptions:

- The demand of item is stochastic and stationary
- The only true relevant costs are unit production costs, ordering costs, holding costs and shortage costs
- Ordering decisions for the item can be made independent, disregarding other items
- The presence or absence of a customer order within a given epoch of time determines the state of demand of the product
- Lead time is not a salient parameter, and this is treated constant

Development of the Model

Proposed Model Development

We consider different supermarkets where the demand of milk powder sold during each time period over a fixed planning horizon is classified as either *favorable* (denoted by state F) or *unfavorable* (denoted by state U) and the demand of any such period depends on the demand of the preceding period. The transition probabilities over the planning horizon from one demand state to another may be described by means of a Markov chain. Don & Ravindran (1976) Suppose one is interested in determining an optimal course of action, namely to order additional stock units (a decision denoted by $Z=1$) or not to order additional units (a decision denoted by $Z=0$) during each time period over the planning horizon, where Z is a binary decision variable. Optimality is defined such that the lowest expected total inventory costs are accumulated at the end of N consecutive time periods spanning the planning horizon under consideration. In this study, a four-period ($N=4$) planning horizon is considered.

Model Variables and Parameters

Varying demand is modeled by means of a Markov chain with *state transition matrix*

$Q^Z(S)$ where the entry $Q^Z_{ij}(S)$ in row i and column j of the transition matrix denotes the probability of a transition in demand from state $i \in \{F, U\}$ to state $j \in \{U, F\}$ in supermarket $S \in \{1, 2, 3\}$ under a given ordering policy $Z \in \{0, 1\}$ over one week period. The number of customers observed in the system and the number of units demanded during such a transition is captured by the *customer matrix* $N^Z(S)$ and *demand matrix* $D^Z(S)$ respectively. Furthermore, denote the number of units in inventory and the total (ordering, holding and shortage) cost during such a transition by the *inventory matrix* $I^Z(S)$ and the *cost matrix* $C^Z(S)$ respectively. Also, denote the *expected future cost* and the *already accumulated total cost* at the end of period n when the demand is in state $i \in \{F, U\}$ for a given ordering policy $Z \in \{0, 1\}$ by respectively $e^Z_i(S)$ and $a^K_i(S, n)$.

Finite Period Dynamic Programming Formulation

Recalling that the demand can either be in state F or in state U, the problem of finding an optimal EOQ may be expressed as a finite period dynamic programming model.

Let $C_n(i, S)$ denote the optimal expected total inventory costs accumulated during the periods $n, n+1, \dots, N$ given that the state of the system at the beginning of period n is $i \in \{F, U\}$. The recursive equation relating C_n and C_{n+1} is

$$C_n(i, S) = \min_Z \{ Q^Z_{iF}(S) (C^Z_{iF}(S) + C_{n+1}(F, S)), Q^Z_{iU}(S) (C^Z_{iU}(S) + C_{n+1}(U, S)) \},$$

$$i \in \{F, U\}, n = 1, 2, \dots, N \quad (1)$$

together with the final conditions $C_{N+1}(F,S)=C_{N+1}(U,S)=0$.

The dynamic programming recursive equations become:

$$C_n(i,S)=\min_Z \{e^Z_i(S)+Q^Z_{iF}(S) C_{n+1}(F,S)+Q^Z_{iU}(S) C_{n+1}(U,S)\}$$

$$i \in \{F, U\}, S = \{1,2,3\}, n = 1,2,\dots,N-1 \quad (2)$$

$$C_N(i,S) = \min_Z \{e^Z_i(S)\}, i \in \{F, U\}, S = \{1,2,3\} \quad (3)$$

result where (3) represents the Markov chain stable state.

Optimizing Ordering Policy and Inventory costs

Stage 1

Favorable demand (state F)

Unfavorable demand (state U)

Ordering policy

$$Z = \begin{cases} 1 & \text{if } e^1_F(S) < e^0_F(S) \\ 0 & \text{if } e^1_F(S) \geq e^0_F(S) \end{cases}$$

$$Z = \begin{cases} 1 & \text{if } e^1_U(S) < e^0_U(S) \\ 0 & \text{if } e^1_U(S) \geq e^0_U(S) \end{cases}$$

Inventory costs

Favorable demand (state F)

Unfavorable demand (state U)

$$C_1(F,S) = \begin{cases} e^1_F(S) & \text{if } Z = 1 \\ e^0_F(S) & \text{if } Z = 0 \end{cases}$$

$$C_1(U,S) = \begin{cases} e^1_U(S) & \text{if } Z = 1 \\ e^0_U(S) & \text{if } Z = 0 \end{cases}$$

Stage 2

Using the dynamic programming recursive equations (5-6), and recalling that $a^Z_i(S,2)$ denotes the already accumulated total inventory costs at the end of period 1 as a result of decisions made during that period, it follows that

$$a^Z_i(S,2) = e^Z_i(S) + Q^Z_{iF}(S) \min\{e^1_F(S), e^0_F(S)\} + Q^Z_{iU}(S) \min\{e^1_U(S), e^0_U(S)\}$$

$$= e^Z_i(S) + Q^Z_{iF}(S) C_2(F,S) + Q^Z_{iU}(S) C_2(U,S)$$

Favorable demand (state F)

Unfavorable demand (state U)

Ordering policy

$$Z = \begin{cases} 1 & \text{if } a^1_F(S,2) < a^0_F(S,2) \\ 0 & \text{if } a^1_F(S,2) \geq a^0_F(S,2) \end{cases}$$

$$Z = \begin{cases} 1 & \text{if } a^1_U(S,2) < a^0_U(S,2) \\ 0 & \text{if } a^1_U(S,2) \geq a^0_U(S,2) \end{cases}$$

Inventory costs

Favourable demand (state F)

Unfavorable demand (state U)

$$C_2(F,S) = \begin{cases} a^1_F(S,2) & \text{if } Z = 1 \\ a^0_F(S,2) & \text{if } Z = 0 \end{cases} \quad C_2(U,S) = \begin{cases} a^1_U(S,2) & \text{if } Z = 1 \\ a^0_U(S,2) & \text{if } Z = 0 \end{cases}$$

Stage 3

Using the dynamic programming recursive equations (5-6), and recalling that $a^k_i(S,3)$ denotes the already accumulated production and inventory costs at the end of period 2 as a result of decisions made during that period, it follows that

$$\begin{aligned} a^Z_i(S,3) &= e^Z_i(S) + Q^Z_{iF}(S) \min\{a^1_F(S,2), a^0_F(S,2)\} + Q^Z_{iU} \min\{a^1_U(S,2), a^0_U(S,2)\} \\ &= e^Z_i(S) + Q^Z_{iF}(S) C_3(F,S) + Q^Z_{iU} C_3(U,S) \end{aligned}$$

Favorable demand (state F)

Ordering policy

$$Z = \begin{cases} 1 & \text{if } a^1_F(S,3) < a^0_F(S,3) \\ 0 & \text{if } a^1_F(S,3) \geq a^0_F(S,3) \end{cases}$$

Unfavorable demand (state U)

$$Z = \begin{cases} 1 & \text{if } a^1_U(S,3) < a^0_U(S,3) \\ 0 & \text{if } a^1_U(S,3) \geq a^0_U(S,3) \end{cases}$$

Inventory costs

Favorable demand (state F)

Unfavorable demand (state U)

$$C_3(F,S) = \begin{cases} a^1_F(S,3) & \text{if } Z = 1 \\ a^0_F(S,3) & \text{if } Z = 0 \end{cases} \quad C_3(U,S) = \begin{cases} a^1_U(S,3) & \text{if } Z = 1 \\ a^0_U(S,3) & \text{if } Z = 0 \end{cases}$$

Stage 4

$$\begin{aligned} a^Z_i(S,4) &= e^Z_i(S) + Q^Z_{iF}(S) \min\{a^1_F(S,3), a^0_F(S,3)\} + Q^Z_{iU} \min\{a^1_U(S,3), a^0_U(S,3)\} \\ &= e^Z_i(S) + Q^Z_{iF}(S) C_4(F,S) + Q^Z_{iU}(S) C_4(U,S) \end{aligned}$$

Favorable demand (state F)

Ordering policy

$$Z = \begin{cases} 1 & \text{if } a^1_F(S,4) < a^0_F(S,4) \\ 0 & \text{if } a^1_F(S,4) \geq a^0_F(S,4) \end{cases}$$

Unfavorable demand (state U)

$$Z = \begin{cases} 1 & \text{if } a^1_U(S,4) < a^0_U(S,4) \\ 0 & \text{if } a^1_U(S,4) \geq a^0_U(S,4) \end{cases}$$

Inventory costs

Favorable demand (state F)

Unfavorable demand (state U)

$$C_4(F,S) = \begin{cases} a^1_F(S,4) & \text{if } Z = 1 \\ a^0_F(S,4) & \text{if } Z = 0 \end{cases}$$

$$C_4(U,S) = \begin{cases} a^1_U(S,4) & \text{if } Z = 1 \\ a^0_U(S,4) & \text{if } Z = 0 \end{cases}$$

Model Calibration

Case Description

In order to demonstrate use of the model in section 3, real case applications from *Shoprite supermarket*, *Game supermarket* and *Uchumi supermarket* in Uganda are presented in this section. The demand for milk powder fluctuates every week in each respective supermarket. The supermarkets want to avoid excess inventory when demand is Unfavorable (state U) or running out of stock when demand is Favorable (state F) and hence seek decision support in terms of an optimal Economic Order Quantity (EOQ) and the associated inventory costs of milk powder product. Specifically, a recommendation as to the EOQ of milk powder over the next four-week period is required in each supermarket.

Data Collection

The following matrices are captured in each supermarket when additional units are ordered (Z=1) or when additional units are not ordered (Z=0):

Shoprite supermarket

Customer matrices

$$N^1(1) = \begin{bmatrix} N^1_{FF}(1) & N^1_{FU}(1) \\ N^1_{UF}(1) & N^1_{UU}(1) \end{bmatrix}$$

$$N^1(1) = \begin{bmatrix} 91 & 71 \\ 64 & 13 \end{bmatrix}$$

$$N^0(1) = \begin{bmatrix} N^0_{FF}(1) & N^0_{FU}(1) \\ N^0_{UF}(1) & N^0_{UU}(1) \end{bmatrix}$$

$$N^0(1) = \begin{bmatrix} 82 & 50 \\ 56 & 25 \end{bmatrix}$$

Demand Matrices

$$D^1(1) = \begin{bmatrix} D^1_{FF}(1) & D^1_{FU}(1) \\ D^1_{UF}(1) & D^1_{UU}(1) \end{bmatrix}$$

$$D^1(1) = \begin{bmatrix} 156 & 115 \\ 107 & 11 \end{bmatrix}$$

$$D^0(1) = \begin{bmatrix} D^0_{FF}(1) & D^0_{FU}(1) \\ D^0_{UF}(1) & D^0_{UU}(1) \end{bmatrix}$$

$$D^0(1) = \begin{bmatrix} 123 & 78 \\ 78 & 15 \end{bmatrix}$$

Inventory Matrices

$$I^1(1) = \begin{bmatrix} I_{FF}^1(1) & I_{FU}^1(1) \\ I_{UF}^1(1) & I_{UU}^1(1) \end{bmatrix}$$

$$I^1(1) = \begin{bmatrix} 95 & 93 \\ 93 & 94 \end{bmatrix}$$

$$I^0(1) = \begin{bmatrix} I_{FF}^0(1) & I_{FU}^0(1) \\ I_{UF}^0(1) & I_{UU}^0(1) \end{bmatrix}$$

$$I^0(1) = \begin{bmatrix} 43.5 & 45 \\ 46.5 & 45.5 \end{bmatrix}$$

Game supermarket

Customer Matrices

$$N^1(2) = \begin{bmatrix} N_{FF}^1(2) & N_{FU}^1(2) \\ N_{UF}^1(2) & N_{UU}^1(2) \end{bmatrix}$$

$$N^1(2) = \begin{bmatrix} 48 & 55 \\ 59 & 13 \end{bmatrix}$$

$$N^0(2) = \begin{bmatrix} N_{FF}^0(2) & N_{FU}^0(2) \\ N_{UF}^0(2) & N_{UU}^0(2) \end{bmatrix}$$

$$N^0(2) = \begin{bmatrix} 54 & 46 \\ 45 & 11 \end{bmatrix}$$

Demand Matrices

$$D^1(2) = \begin{bmatrix} D_{FF}^1(2) & D_{FU}^1(2) \\ D_{UF}^1(2) & D_{UU}^1(2) \end{bmatrix}$$

$$D^1(2) = \begin{bmatrix} 93 & 60 \\ 59 & 11 \end{bmatrix}$$

$$D^0(2) = \begin{bmatrix} D_{FF}^0(2) & D_{FU}^0(2) \\ D_{UF}^0(2) & D_{UU}^0(2) \end{bmatrix}$$

$$D^0(2) = \begin{bmatrix} 72 & 77 \\ 75 & 11 \end{bmatrix}$$

Inventory Matrices

$$I^1(2) = \begin{bmatrix} I_{FF}^1(2) & I_{FU}^1(2) \\ I_{UF}^1(2) & I_{UU}^1(2) \end{bmatrix}$$

$$I^1(2) = \begin{bmatrix} 145 & 145 \\ 78.5 & 79.5 \end{bmatrix}$$

$$I^0(2) = \begin{bmatrix} I_{FF}^0(2) & I_{FU}^0(2) \\ I_{UF}^0(2) & I_{UU}^0(2) \end{bmatrix}$$

$$I^0(2) = \begin{bmatrix} 81 & 78.5 \\ 79.5 & 78.5 \end{bmatrix}$$

Uchumi supermarket

Customer Matrices

$$N^1(3) = \begin{bmatrix} N_{FF}^1(3) & N_{FU}^1(3) \\ N_{UF}^1(3) & N_{UU}^1(3) \end{bmatrix}$$

$$N^1(3) = \begin{bmatrix} 57 & 62 \\ 62 & 9 \end{bmatrix}$$

$$N^0(3) = \begin{bmatrix} N_{FF}^0(3) & N_{FU}^0(3) \\ N_{UF}^0(3) & N_{UU}^0(3) \end{bmatrix}$$

$$N^0(3) = \begin{bmatrix} 36 & 53 \\ 56 & 9 \end{bmatrix}$$

Demand Matrices

$$D^1(3) = \begin{bmatrix} D_{FF}^1(3) & D_{FU}^1(3) \\ D_{UF}^1(3) & D_{UU}^1(3) \end{bmatrix} \quad D^1(3) = \begin{bmatrix} 82 & 93 \\ 84 & 9 \end{bmatrix}$$

$$D^0(3) = \begin{bmatrix} D_{FF}^0(3) & D_{FU}^0(3) \\ D_{UF}^0(3) & D_{UU}^0(3) \end{bmatrix} \quad D^0(3) = \begin{bmatrix} 51 & 70 \\ 72 & 10 \end{bmatrix}$$

Inventory Matrices

$$I^1(3) = \begin{bmatrix} I_{FF}^1(3) & I_{FU}^1(3) \\ I_{UF}^1(3) & I_{UU}^1(3) \end{bmatrix} \quad I^1(3) = \begin{bmatrix} 67.5 & 68.5 \\ 72 & 68.5 \end{bmatrix}$$

$$I^0(3) = \begin{bmatrix} I_{FF}^0(3) & I_{FU}^0(3) \\ I_{UF}^0(3) & I_{UU}^0(3) \end{bmatrix} \quad I^0(3) = \begin{bmatrix} 105 & 100 \\ 100 & 50 \end{bmatrix}$$

Unit Inventory Costs

Supermarket	Ordering cost (UGX)	Holding cost (UGX)	Shortage cost (UGX)
Shoprite	4500	1200	300
Game	4800	900	300
Uchumi	5100	600	300

Demand Transition Matrices at supermarkets

Shoprite supermarket

$$Q^1(1) = \begin{bmatrix} Q_{FF}^0(1) & Q_{FU}^0(1) \\ Q_{UF}^0(1) & Q_{UU}^0(1) \end{bmatrix} \quad Q^1(1) = \begin{bmatrix} 0.5697 & 0.4303 \\ 0.8312 & 0.1688 \end{bmatrix}$$

$$Q^0(1) = \begin{bmatrix} Q_{FF}^0(1) & Q_{FU}^0(1) \\ Q_{UF}^0(1) & Q_{UU}^0(1) \end{bmatrix} \quad Q^0(1) = \begin{bmatrix} 0.6212 & 0.3722 \\ 0.6914 & 0.3086 \end{bmatrix}$$

Game supermarket

$$Q^1(2) = \begin{bmatrix} Q_{FF}^1(2) & Q_{FU}^1(2) \\ Q_{UF}^1(2) & Q_{UU}^1(2) \end{bmatrix} \quad Q^1(2) = \begin{bmatrix} 0.4660 & 0.5340 \\ 0.8429 & 0.1571 \end{bmatrix}$$

$$Q^0(2) = \begin{bmatrix} Q_{FF}^0(2) & Q_{FU}^0(2) \\ Q_{UF}^0(2) & Q_{UU}^0(2) \end{bmatrix}$$

$$Q^0(2) = \begin{bmatrix} 0.5400 & 0.4600 \\ 0.8036 & 0.1964 \end{bmatrix}$$

Uchumi supermarket

$$Q^1(3) = \begin{bmatrix} Q_{FF}^1(3) & Q_{FU}^1(3) \\ Q_{UF}^1(3) & Q_{UU}^1(3) \end{bmatrix}$$

$$Q^1(3) = \begin{bmatrix} 0.4790 & 0.5210 \\ 0.8732 & 0.1268 \end{bmatrix}$$

$$Q^0(3) = \begin{bmatrix} Q_{FF}^0(3) & Q_{FU}^0(3) \\ Q_{UF}^0(3) & Q_{UU}^0(3) \end{bmatrix}$$

$$Q^0(3) = \begin{bmatrix} 0.4045 & 0.5955 \\ 0.8116 & 0.1884 \end{bmatrix}$$

Total Inventory Costs at supermarkets

Using the cost relation

$$C_{ij}^Z = \begin{cases} (c_p + c_h + c_s)(D_{ij}^Z(S) - I_{ij}^Z(S)) & \text{if } D_{ij}^Z(S) > I_{ij}^Z(S) \\ c_h(I_{ij}^Z(S) - D_{ij}^Z(S)) & \text{if } D_{ij}^Z(S) \leq I_{ij}^Z(S) \end{cases}$$

the following inventory cost matrices (in million UGX) are obtained for each supermarket:

Shoprite supermarket

$$C^1(1) = \begin{bmatrix} C_{FF}^1(1) & C_{FU}^1(1) \\ C_{UF}^1(1) & C_{UU}^1(1) \end{bmatrix}$$

$$C^1(1) = \begin{bmatrix} 0.366 & 0.132 \\ 0.849 & 0.097 \end{bmatrix}$$

$$C^0(1) = \begin{bmatrix} C_{FF}^0(1) & C_{FU}^0(1) \\ C_{UF}^0(1) & C_{UU}^0(1) \end{bmatrix}$$

$$C^0(1) = \begin{bmatrix} 0.875 & 0.358 \\ 0.345 & 0.037 \end{bmatrix}$$

Game supermarket

$$C^1(2) = \begin{bmatrix} C_{FF}^1(2) & C_{FU}^1(2) \\ C_{UF}^1(2) & C_{UU}^1(2) \end{bmatrix}$$

$$C^1(2) = \begin{bmatrix} 0.047 & 0.077 \\ 0.018 & 0.062 \end{bmatrix}$$

$$C^0(2) = \begin{bmatrix} C_{FF}^0(2) & C_{FU}^0(2) \\ C_{UF}^0(2) & C_{UU}^0(2) \end{bmatrix}$$

$$C^0(2) = \begin{bmatrix} 0.008 & 0.001 \\ 0.004 & 0.061 \end{bmatrix}$$

Uchumi supermarket

$$C^1(3) = \begin{bmatrix} C_{FF}^1(3) & C_{FU}^1(3) \\ C_{UF}^1(3) & C_{UU}^1(3) \end{bmatrix} \quad C^1(3) = \begin{bmatrix} 0.087 & 0.147 \\ 0.072 & 0.038 \end{bmatrix}$$

$$C^0(3) = \begin{bmatrix} C_{FF}^0(3) & C_{FU}^0(3) \\ C_{UF}^0(3) & C_{UU}^0(3) \end{bmatrix} \quad C^0(3) = \begin{bmatrix} 0.032 & 0.018 \\ 0.017 & 0.024 \end{bmatrix}$$

Expected Inventory Costs at supermarkets

The expected weekly inventory costs (in million UGX) are determined for each ordering policy and state at each respective supermarket in this section.

Shoprite supermarket

When additional units are ordered ($Z = 1$), the matrices $Q^1(1)$ and $C^1(1)$ yield the costs

$$e_F^1(1) = (0.5697)(0.366) + (0.4303)(0.132) = 0.265 \text{ Million UGX}$$

$$e_U^1(1) = (0.8312)(0.084) + (0.1688)(0.097) = 0.086 \text{ Million UGX}$$

When additional units are not ordered ($Z = 0$), the matrices $Q^0(1)$ and $C^0(1)$ yield the costs

$$e_F^0(1) = (0.6212)(0.875) + (0.3788)(0.358) = 0.679 \text{ Million UGX}$$

$$e_U^0(1) = (0.6914)(0.345) + (0.3086)(0.037) = 0.250 \text{ Million UGX}$$

Game supermarket

When additional units are ordered ($Z = 1$), the matrices $Q^1(2)$ and $C^1(2)$ yield the costs

$$e_F^1(2) = (0.4660)(0.0468) + (0.5340)(0.0617) = 0.0548 \text{ Million UGX}$$

$$e_U^1(2) = (0.8428)(0.0176) + (0.1571)(0.0613) = 0.0244 \text{ Million UGX}$$

When additional units are not ordered ($Z = 0$), the matrices $Q^0(2)$ and $C^0(2)$ yield the costs

$$e_F^0(2) = (0.540)(0.008) + (0.460)(0.0014) = 0.005 \text{ Million UGX}$$

$$e_U^0(2) = (0.8036)(0.0041) + (0.1964)(0.0608) = 0.0152 \text{ Million UGX}$$

Uchumi supermarket

When additional units are ordered ($Z = 1$), the matrices $Q^1(3)$ and $C^1(3)$ yield the costs

$$e_F^1(3) = (0.479)(0.087) + (0.5210)(0.147) = 0.118 \text{ Million UGX}$$

$$e_U^1(3) = (0.8732)(0.072) + (0.1268)(0.038) = 0.068 \text{ Million UGX}$$

When additional units are not ordered ($Z = 0$), the matrices $Q^0(3)$ and $C^0(3)$ yield the costs

$$e_F^0(3) = (0.4045)(0.032) + (0.5955)(0.018) = 0.024 \text{ Million UGX}$$

$$e_U^0(3) = (0.8116)(0.017) + (0.1884)(0.024) = 0.0226 \text{ Million UGX}$$

Using (2), the cumulative inventory costs at any state and stage are determined for each supermarket and results are summarized in Table 1 below:

Table 1

Optimal values of inventory costs at a given supermarket, state and stage

Supermarket	Subscript (S)	State (i)	Week 1	Week 2	Week 3	Week 4

			$C_1(i,S)$	$C_2(i,S)$	$C_3(i,S)$	$C_4(i,S)$
Shoprite	1	F	0.265	0.452	0.847	1.661
		U	0.085	0.320	0.750	1.581
Game	2	F	0.005	0.0147	0.0329	0.0684
		U	0.152	0.0223	0.0385	0.0725
Uchumi	3	F	0.024	0.074	0.162	0.322
		U	0.068	0.098	0.175	0.339

Similarly, from 3.1.3, the optimal ordering policy (Z^*) at a given state, stage and supermarket can be calculated and results are summarized in Table 2 below:

Table 2

Optimal ordering policy (Z^*) at a given supermarket, state and stage

Supermarket	Subscript (S)	State (i)	Week 1	Week 2	Week 3	Week 4
			Z^*	Z^*	Z^*	Z^*
Shoprite	1	F	1	1	1	1
		U	1	1	1	1
Game	2	F	0	0	0	0
		U	0	0	0	0
Uchumi	3	F	0	0	0	0
		U	1	1	1	1

Interpretation and Discussion of Results at supermarkets

At Shoprite supermarket, additional packets can be ordered ($Z^* = 1$) regardless of the state of demand.

During week 1, the optimal expected inventory costs are 0.265 Million UGX when demand is favorable (state F). When demand is unfavorable (state U), the optimal inventory costs of 0.085 Million UGX are incurred.

During week 2, the optimal accumulated inventory costs increase to 0.452 Million UGX when demand is favorable (state F). When demand is unfavorable (state U), the optimal accumulated inventory costs increase to 0.320 Million UGX. During week 3, the optimal accumulated inventory costs increase to 0.847 Million UGX when demand is favorable (state F). When demand is unfavorable (state U), the optimal accumulated inventory costs increase to 0.750 Million UGX. During week 4, the optimal accumulated inventory costs increase to 1.661 Million UGX when demand is favorable (state F). When demand is unfavorable (state U), the optimal accumulated inventory costs increase to 1.581 Million UGX.

At Game supermarket, additional packets cannot be ordered ($Z^* = 0$) regardless of the state of demand. There is sufficient amount of milk powder to sustain the random demand occurrences for each week. When demand is favorable (state F), the optimal inventory costs are 0.005 Million UGX for week 1. The optimal accumulated inventory costs are: 0.0147 Million UGX for weeks 1 and 2; 0.0329 Million UGX for weeks 1, 2, 3; and 0.0684 Million UGX for weeks 1, 2, 3 and 4 respectively.

When demand is unfavorable (state U), the optimal inventory costs are 0.0152 Million UGX for week 1. The optimal accumulated inventory costs are: 0.0223 Million UGX for weeks 1 and 2; 0.0385 Million UGX for weeks 1, 2, 3; and 0.0725 Million UGX for weeks 1, 2, 3 and 4 respectively.

At Uchumi supermarket, additional units can be ordered ($Z^*=1$) whenever demand is Unfavorable (state U) during weeks 1, 2, 3 and 4. When demand is Favorable (state F), the optimal inventory costs are: 0.024 Million UGX for week 1. The optimal accumulated inventory costs are: 0.074 Million UGX for weeks 1 and 2; 0.162 Million UGX for weeks 1, 2, 3; and 0.322 Million UGX for weeks 1, 2, 3 and 4 respectively. When demand is Unfavorable (state U), the optimal inventory costs are 0.068 Million UGX for week 1. The optimal accumulated inventory costs are: 0.048 Million UGX for weeks 1 and 2; 0.175 Million UGX for weeks 1, 2, 3; and 0.339 Million UGX for weeks 1, 2, 3 and 4 respectively.

Conclusion

An inventory model for optimizing ordering decisions and inventory costs of milk powder under stochastic stationary demand was presented in this paper. The problem is modeled as a multi-period decision problem using dynamic programming over a finite planning horizon. The working of the model was represented by means of real case studies from Shoprite supermarket, Game supermarket and Uchumi supermarket in Uganda.

Acknowledgments

The authors convey their sincere appreciation to the staff of Shoprite supermarket, Game supermarket and Uchumi supermarket who offered tremendous support especially during data collection and analysis.

References

- Hung, 1992, The EOQ with stochastic demand and discounting, *European Journal of Operations Research*, **100(4)**, pp.1500-1515.
- Tadashi D, Takeshi S et al, 1993, A comparative study of the structure of EOQ models with discounting, *IMA Journal of Management Mathematics*, **5(2)**, pp.171-179.
- Berman O & Perry D, 2001, Two control policies for stochastic EOQ-type models, *Probability in the Engineering and Information sciences*, **15(4)**, pp.1010-1023.
- Eyan A & Kropp D, 2007, Effective and simple EOQ solutions for stochastic demand periodic-review systems, *European Journal of Operations Research*, **18(3)**, pp. 75-86.
- Yao Z & Kateshakis M, 2006, On the structure of optimal ordering policies for stochastic inventory systems with minimum order quantity, *Probability in the Engineering and Information sciences*, **20(2)**, pp.151-163.
- Halim & Giri, 2008, Fuzzy Economic Order Quantity Model for perishable items with stochastic demand, partial backlogging and fuzzy deterioration rate, *International Journal of Operations Research*, **3(1)**, pp.1230-1246.
- Broekmeullen & Van Donselarr (2006). Inventory control of perishables in supermarkets. *International Journal of Production Economics*, **104(2)**, 462-472.
- Rowchowdhury, S. (2009). An optimal policy for a stochastic inventory model for deteriorating items with time-dependent selling price, *Advanced modeling and optimization*, **11(3)**.

- Kizito,P.(2010). A Markov decision model for optimizing economic production lot size (EPL) under non stationary demand, *Operations Research Society of East Africa conference proceedings*, 15-21.
- Kizito, P. (2009). A Markov decision model for optimizing economic production lot size under stochastic demand, *ORiON*, 42(3), 25-32.

The Implementation of Economic Diplomacy and Its Impact on Trade in Tanzania

Lisa E. T. Mwakisale and Petro S. Magai

Abstract

The main Objective of this paper was to study on roles of economic diplomacy in supporting trade in Tanzania. The focus was on finding out activities that have been done under the concept of economic diplomacy in attracting investments, the flow of trade from places where Tanzania embassies are located and identify the institutions used for the implementation of economic diplomacy. The qualitative desk top research were conducted to collect empirical material for this paper. Secondary data was collected from newspaper and articles that were acquired from electronic archives online, Emerald website, and UNCTAD Database, books, Journals and archives of the Ministry for Foreign Affairs. The findings indicate that, the governments do play a role in business relations between Tanzania and other countries. Therefore the policy for the economic diplomacy need to do the work to make sure that the opportunities under the policy are exploited and the country as the whole need to set necessary institutions for enhancing trade through economic diplomacy.

Introduction

Economic diplomacy is a multi-hued activity, easy to describe in broad brushstrokes, but harder to pin down with precision. From the perspective of members of diplomatic and commercial or trade services, and those that are the ‘customers’ or users of these services, economic diplomacy is a plural set of practices, all aimed at advancing the home country’s external economic interests (Kishan & Bipul, 2011). Also economic diplomacy can be defined as a set of activities (both regarding methods and processes for international decision making) related to cross border economic activities (export, import, investment, lending, aid, migration) pursued by state and non-state actors in the real world. Economic diplomacy is the use of government relations and government influence to stimulate international trade and FDI (Peter et al, 2011). Economic diplomacy was earlier known as trade diplomacy. Trade diplomacy came with the nationalization of industries in many countries from the 1950s to the 1970s. This resulted in the gradual involvement of diplomats in trade matters that is to help sell products of nationalized industries (Rashid, 2005).

Public officials from overseas missions such as embassies and consulates, Foreign Affairs and other government departments (such as Economic Affairs, Trade and Commerce) are involved in the promotion of foreign direct investment and international trade by supplying information and advice about trade and investment opportunities and by organizing and helping to act as hosts to trade missions from the home country (Saner & Yiu, 2003).

Elements of Economic Diplomacy

Political influence and Relationships

It helps to promote and/or influence international trade and investment, to improve on functioning of markets and/or to address market failures and to reduce costs and risks of cross border transactions (including property rights). Typically this subfield of economic diplomacy comprises commercial policy, but also many activities of nongovernmental organizations (NGO’s) are relevant under this heading (Peter & Bergeijk 2011)

Economic assets and relationships

This increases the cost of conflict and strengthen the mutual benefits of cooperation and politically stable relationships, i.e. to increase economic security. This subfield both contains structural policies and bilateral trade and investment agreements (aimed at achieving specific geographic trading patterns) and the political distortion of trade and investment as in the case of boycotts and embargoes. (Peter A. G. van Bergeijk 2009)

Political climate and international political economic environment

They consolidate, facilitate and institute these objectives. This subfield covers multilateral negotiations and is the domain of the supranational organizations and institutions such as the World Trade Organization (WTO), the Organization for Economic Cooperation and Development (OECD) and the European Union (EU) (Kishan & Bipul, 2011). In economic diplomacy the private sector is involved in decision making process to influence negotiating position to remain in the global or regional competitive market. This is because firstly market developments are rigorously motivated by the private sector and secondly they are in the field and they know where to invest, sell goods and services in the interests of a country (Rashid, 2005).

The Tanzania foreign policy developed by the late J. K Nyerere in 1964 provided the guidelines in which the country could be administered although it was so political and no role of the private sector was recognized as regards to economic diplomacy but the events managed to shape the Tanzania economic diplomacy, starting with the Arusha declaration of 1967 and then the economic recovery programmes of the 1980s. Tanzania ought to review its foreign policy in which it had to take into consideration the role of economic diplomacy and identify institutions for its implementation (URT, 2001). The new foreign policy had to manifest itself in active international engagement that is leveraged upon pursuit of economic objectives which are to project, promote and protect URT's political, economic, social and cultural interests through active and sustainable economic diplomacy, to ensure that URT's relation with other nations and international entities are also driven in line with economic interests, to build a self sustaining economy, preservation of national peace and security as well as supporting regional and international endeavor for the creation of better and peaceful world, to accelerate the political and social economic integration for the region and to create the necessary conditions which shall enable URT to participate effectively in the regional and international negotiations (MFA & IC budget 2012).

On that grounds, the government has to set the strategies for the implementation of some objectives which among others include, building facilitative internal environment, supporting effective NGOs forging international partnership redefining bilateral diplomacy strengthening multilateral diplomacy and strengthening regional economic integration (East African Community (EAC) , Southern African Development Community (SADC), Indian Ocean Rim Association for Regional Cooperation (IOR-ARC) (MFAIC, 2012). The strategies suggest the establishment of the institutions for the implementation of the objectives and these institutions could be the government based and private sector institution framework. In external trade, the Government is committed to furthering economic diplomacy to market Tanzania's products abroad, attract tourists and other service exports, and promote investments. Tanzania has undertaken initiatives to improve her trading prospects and avoid marginalization in the

Multilateral Trading System (MTS). This was done through the formulation of the Export Development Strategy (EDS) aimed at stimulating the growth of exports. The EDS initiative has provided the foundation for the programmes initiated within the Framework of the MTS namely; the Integrated Framework for Trade Development (IFTD) and the Joint Integrated Technical Assistance Programme (JITAP) that are contributing to the establishment of the appropriate environment and framework for addressing the supply side constraints in increasing exports (URT, 2010). The government has been struggling to exploit trade opportunities among the countries in which it has diplomatic relations.

Statement of the problem

Given various initiatives within the country of establishing the diplomatic relations with several countries with the objective of enhancing trade, the trade among the countries have in average been low and in some members very low. The coordination between the government and the private sector has not been so great although the two have worked together to promote the economic diplomacy, for instance the private sector is the one that does business while the government makes the economic diplomacy better. As the foreign policy giving priority to economic and social development; for this to succeed, the government had to identify the institutions to facilitate economic diplomacy. However, the low link between ministry of foreign affairs and international cooperation and stakeholders has made it difficult to reap the benefits of economic diplomacy as regards to increase in trade, investment and tourists attractions

The study is therefore set to establish the institutions that have to be taken into consideration in the endeavor to pursue economic diplomacy, thus the study will evaluate the implementation of the economic diplomacy and its impact on trade in the context of Tanzania. This main objective of the study has to be cushioned by the following specific objectives;

- To examine the activities that have been done under the concept of economic diplomacy in attracting investments
- To relate the flow of trade and location of Tanzania embassies from the developed and developing countries
- To identify the institutions which can be used for the implementation of economic diplomacy

Significance of the Study

All over the world international trade is becoming more and more important and an additional source of tax revenues for governments (Naray, 2008). It is hard to deny that economic integration is an on-going process that cannot be stopped. According to Potter (2004), governments should shape their foreign economic activities so as to develop a sustainable international business network. Therefore, the findings of this study will assist in explaining the contribution of Economic diplomacy (attaché) to the Tanzania economy. The information gathered will highlight the current activities that have been done under the concept of economic diplomacy. Also the study will be beneficial to the diplomatic attaché and policy makers to:-

- Open markets and stimulate cross border economic activities (imports, exports, FDI);
- Use bilateral relationships to assist domestic companies go abroad;
- Improve the function of international markets in increasing economic security.

Literature Review

Theoretical literature review

This chapter is devoted to what is available in the literature on the topic of ‘economic diplomacy’ and the urgency and impact of it in international trade. The study comes out with the examination of three theories namely; realism theory, interest group perspective theory and new trade theory. Realism focuses on state security and power. The early realists such as Carr (1950) and Hans Morgenthau (1951) argued that states are self-interested, power-seeking rational actors, who seek to maximize their security and chances of survival. Cooperation between states is a way to maximize each individual state's security. The relations between nation-state are fundamentally competitive, although this does not preclude the possibility of cooperation in the pursuit of national interests.

The theory refers to ‘statesmen’ who as representatives of the nation-state as predominantly concerned with monitoring and responding to changes in international systems. The tasks of the statesmen (or representatives of the nation) are to speak for it, negotiate treaties in its name, define its objectives, choose the means of achieving them and try to maintain, increase and demonstrate power. The states central mission is the conduct of foreign policy and in that pursuit the state finds itself giving great attention to the strengthening, shaping and developing domestic material and political resources.

Interest Group Perspective theory

Interest Group theory posits that the driving force behind state behavior is sub-state interest groups. Examples of interest groups include political lobbyists and the corporate sector. Group theory argues that although these interest groups are constitutive of the state, they are also causal forces in the exercise of state power.

New Trade Theory

New Trade Theory were developed between 1970s and early 1980s and tries to explain the fact that most trade is between countries with similar factor endowment and productivity levels, and the large amount of multinational production (i.e. foreign direct investment) that exist. New Trade theories are often based on assumptions such as monopolistic and increasing returns to scale.

Selected Empirical Studies

Basing on the motives of this study, the following studies were pointed out to justify the existence of this study.

Peter *et al*, (2011) presented a meta-analysis of the effects of economic diplomacy on international flows (trade and FDI). The methodology used was through analysis of combination of 23 studies and 873 parameters. The main objective was to see the effect of the international network of countries and the activities within it as an explanatory variable for bilateral trade flows and FDI. Findings showed that embassies have an above average contribution to bilateral trade and FDI flows. It was Concluded that use of other government centers (e.g. consulates), investment and export promotion agencies seems to have below average trade and investment stimulating effect (but still contribute positively).

Ramautar R. M (2006) in the study of a Practical Approach to the Economic Function of the Ministry of Foreign Affairs of the Republic of Suriname, Its objective was to find out the manner in which the Ministry of Foreign Affairs (MFA) along with its diplomatic posts, performs its economic diplomatic role and advise on how it could be improved .Methodology used was the primary data interviews with: (ex-) Minister of Foreign Affairs; various Surinamese Ambassadors; (ex-) Permanent Secretary of the MFA; Minister of Planning and Development Cooperation; and members of different business organizations and lecturers .The result found that there was no any institutional framework for the implementation of the economic diplomacy, the paper explored the institutional framework set in Tanzania for the implementation of the economic diplomacy.In conclusion Suriname through economic diplomacy and all national stakeholders must contribute to the awareness, implementation and enforcement of the institutional framework for economic diplomacy. Also great need for restructuring the organization of the foreign ministry via a judicial framework.

According to Shrestha, (2005) there should be a corresponding reorientation of economic diplomacy with new contents and new mechanisms in the context of growing diversified economic interactions with the outside world as a result of liberalization and globalization of the economy, the promotion and safeguarding of national economic interests should always be the overriding objective of economic diplomacy.

Research Methodology

This study employs a qualitative approach. Secondary data have been used to explain the implementation of the economic diplomacy and how it has affected trade in Tanzania. The data on Tanzania trade were obtained from the UNCTAD Data base, Ministry of foreign affairs and international cooperation for activities under the economic diplomacy and other data from books, journals and speeches have been used to obtain information. The analysis of the data is descriptive however; tables and graphs have been used in the analysis of the findings.

Empirical Analysis and Findings

This part explains the institutions necessary for the implementation of economic diplomacy, activities done in the name of economic diplomacy and the trade change as regards to economic diplomacy and establishes the analysis in relation to the economic diplomacy.

Institutions for the implementation of economic diplomacy

Throughout the alternative diplomatic actors have emerged, being active and working actively and independently in foreign economic relations, in other words those engaging in diplomatic behavior without being professionals in this field (Rana 2002). Despite this proliferation of non – state actors, an ambassador remains important in relation to explain the policy at critical moments, such as political assessments involvement in economic and trade work, in participation in international conferences (Barston 2006). Therefore in economic diplomacy there are roles of both government institutions and the private sector who are actual players of economic diplomacy in trade, tourism, foreign investment, employment or in technological transfer. Table 1 gives some reflections of the different institutions that play a great role in the implementation of economic diplomacy.

Table 14: Roles of Institutions in Economic Diplomacy

Name of the Institution	Role
Ministry of foreign Affairs and International Cooperation	Promoter of Tanzania's economic and other interests abroad, responsible for regional cooperation
Bank of Tanzania	Responsible for price stability favourable to a balanced and sustainable growth of the national economy and handling the international payment systems
Tanzania Revenue Authority (TRA)	To ensure the tax laws are implemented in favour of economic diplomacy
TANTRADE	To carry on issues of export promotion and trade fairs and exhibitions that plays a great role in marketing Tanzania products.
Tanzania Investment Centre (TIC)	Responsible for investment promotion
Export Processing Zones (EPZs)	Responsible for promotion of exports and provide the incentives to attract investments, incentives include the tax incentives.
Tanzania Chamber of commerce and Industries (TCCIA)	To link business community in Tanzania with business partners from different countries through business matchmaking, lobbying and advocacy activities and trade negotiations.
Confederation of Tanzania Industries (CTI)	Attend preparatory meetings on negotiations, lobbying and advocacy on trade policy and meeting forum for the owners of industries.

Source: *Own compilation*

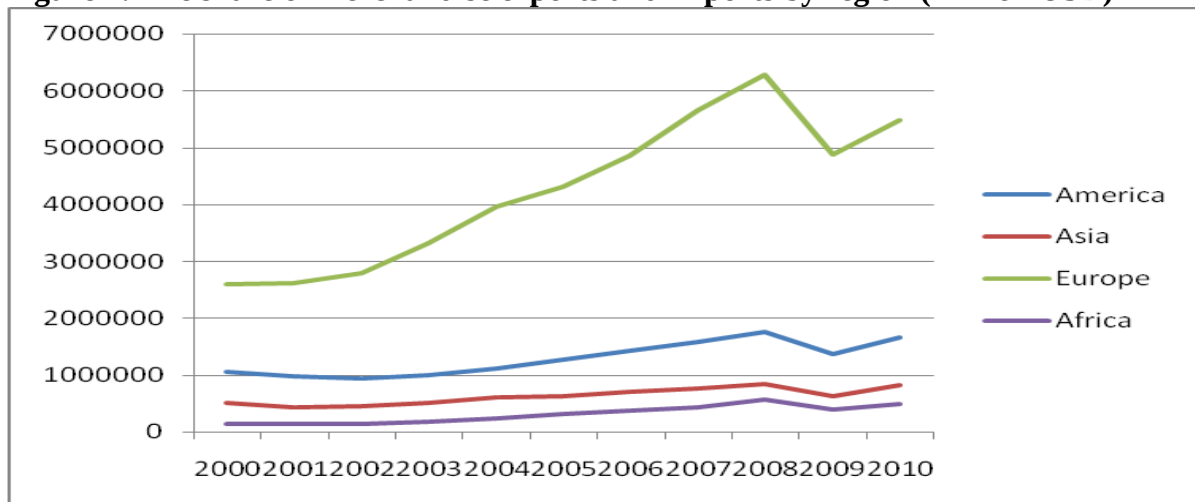
Activities done in the name of economic diplomacy

Ministry of Foreign Affairs and International cooperation through its embassies is implementing the foreign policy with emphasis on economic diplomacy. The ministry has managed to do various activities which includes advertisements of our investments on trade and tourism opportunities in the country, negotiate with international organizations for continued financial support, organize and attend conferences with the aim of attracting investors and tourists and to sign different treaties as part of the implementation of the economic diplomacy objective and enhancing economic development. See details under appendix 1 that shows the activities that have been organized under the concept of economic diplomacy in Tanzania and different countries in the world. These occasions have been so beneficial to the economy and to the wellbeing of the business community and Tanzania citizens in general.

The flow of trade and location of Tanzania embassies

This section examines the trade in the regions where Tanzania has embassies, with the purpose of establishing and showing the contribution that economic diplomacy has played in attracting trade. The European economic diplomacy institutions seem to be doing a very good job as Europe seems to have the lions share in the world trade, followed by America, Asia then the last being Africa and also the trade share of the African countries in which Tanzania has the embassies are compared. See figure 1.

Figure 1: The share of merchandise exports and imports by region (Million USD)



Source: Own Compilation from UNCTAD data (2011)

Main Tanzania imports and exports partners

When considering composition of trade by partner countries for imports, South Africa contributed about 13%, Japan (8%), India (8%), Bahrain (7%), United Arab Emirates (7%), China (5%), Kenya (5%) and United Kingdom (5%), these countries presents more than half (58%) of the volume of trade in Tanzania. For the exports, United Kingdom was leading by 32%, followed by Japan (7%), Kenya (7%), France (6%), and India (6%) (TRA, 2010). The trend of these exports and imports reflects that countries with more trade with Kenya have been doing more efforts as regards to economic diplomacy (NBS 2004).

Table 2: The share of merchandise export and imports by countries (Million US Dollars)

Year	Burundi	Ethiopia	Kenya	Malawi	Mozam bique	Rwanda	Uganda	United Republic of Tanzania	Zambia
2000	50.0227	485.644	1733.9	379.274	363.962	53.0013	449.9	733.7	892.362
2001	38.5174	455.219	1944.01	457.884	703.1336	86.22801	467.238	852.0469	987.411
2002	30.2098	480.24	2116.25	404.583	809.812	65.5926	478.17	981.4013	956.349
2003	37.6779	496.362	2411.22	520.238	1043.913	63.2016	572.218	1223.094	980.4447
2004	46.9071	678.332	2683.99	483.149	1503.846	98.1564	759.123	1474.879	1575.627
2005	55.9134	926.2042	3292.85	507.827	1745.256	124.783	1015.79	1683.544	1809.763
2006	58.3741	1042.963	3436.9	666.2173	2381.132	147.38	1187.64	1920.738	3770.37
2007	62.418	1277.145	4079.87	868.5592	2412.079	176.788	1776.16	2218.698	4617.454
2008	54.1026	1601.835	4972.17	878.9993	2653.26	267.591	2207.63	3040.034	5098.688
2009	62.0268	1618.166	4463.43	1187.917	2147.169	192.627	2326.56	2982.405	4312.055
2010	100.463	2580.051	5150.65	1066.204	2243.069	297.28	2163.97	4050.546	7200.267

Source: Own compilation from UNCTAD data (2011)

Table 2. Compares the trade share and its change as contrast to the role of the economic diplomacy, Tanzania with the introduction of the foreign policy in 2000s with the objective of

enhancing economic diplomacy, seems to have been increasing its world share in trade compared to the surrounding countries. In the year 2010 Zambia did the best compared to other mentioned countries in regards to economic diplomacy, followed by Kenya and then Tanzania.

Therefore as regards to Tanzania there is still a work to be done to ensure that it becomes the leading country by having the highest share of trade as compared to the surrounding countries but as for Africa as the whole more as to be done so that it can have the substantial contribution to the world trade.

Conclusion and Recommendations

Tanzania given the policy for the economic diplomacy need to work hard to make sure that the opportunities under the policy are exploited while the country as the whole need to set necessary institutions for enhancing trade through economic diplomacy. The government therefore needs to conduct more business to business networking so that the traders in Tanzania can meet their fellow traders and develop more business exposure in that they may find opportunities in the foreign countries.

There is a need to strengthen the private institutions that promote trade and investments by making budgetary allocations to such institutions as they are important drivers of the economy

Reference

- Barston, R.P., (2006) *Modern Diplomacy*. Second Edition. Longman, London and New York,
- Bergeijk en Moons (2008), *Economic Diplomacy and Economic Security*, in C.Costa (ed.), *New Frontiers of Economic Diplomacy*, Lisboa .
- Carr, E.H., (1950) *The New Society*. London: Macmillan. Available at: <http://xa.yimg.com/kq/groups/23106968/639078494/name/0415162270.pdf>
- Harun Rashid (2005) *Economic Diplomacy in South Asia* Available at: http://www.crawford.anu.edu.au/acde/asarc/pdf/papers/conference/CONF2005_04.pdf
- Kathmandu, (2002). *Emergence of Economic Diplomats, Commercial Diplomats, Business Diplomats, Corporate Diplomats and NGO Diplomats*; Centre for Socio-Economic Development, Geneva.
- Kishan S. Rana and Bipul Chatterjee (2011). *Economic Diplomacy: India's experience*.
- Maurice E (2008), *the organizational impact of interdependence on foreign policy marketing*, Sage, Beverly Hills
- Ministry of Foreign Affairs and International Cooperation (MFA & IC) budget speech books from year 2004–2011
- Morgenthau, Hans J. (1951). *In Defense of the National Interest: A Critical Examination of American Foreign Policy*. New York: Knopf. Available at: <http://ann.sagepub.com/content/279/1/181.1.citation>
- Morgenthau, Hans J., 1951. *In Defense of the National Interest: A Critical Examination of American Foreign Policy*, New York: Alfred A. Knopf.
- Naray, O. (2008). *Commercial diplomacy: a conceptual overview*, Enterprise Institute, University of Neuchatel 2008
- Naray, O. (2008). *Commercial diplomacy: a conceptual overview*, Enterprise Institute, University of Neuchatel 2008
- Peter A. G. van Bergeijk 2009 *Economic Diplomacy and the Geography of International Trade*.

- Peter A.G. et al, (2011). Does Economic Diplomacy Work? A Meta analysis on the effect of economic diplomacy on international economic flows, Copenhagen.
- Potter, E. (2004). Branding Canada: The Renaissance of Canada's Commercial Diplomacy, *International Studies Perspectives*, 5, 55-60. Available at: <http://onlinelibrary.wiley.com/doi/10.1111/j.1528-3577.2004.00155.x/abstract?deniedAccessCustomisedMessage=&userIsAuthenticated=false>
- Ramautar .R.M (2006). Practical Approach to the Economic Function of the Ministry of Foreign Affairs of the Republic of Suriname. Available at <http://ebookbrowse.com/ranu-ramautar-a-practical-approach-to-the-pdf-d336754939>
- Rana & Kishan S. (2002)., *Bilateral Diplomacy*. Diplo handbooks. Mediterranean Academy of Diplomatic Studies, University of Malta,
- Ranu M. Ramautar (2006) A Practical Approach to the Economic Function of the Ministry of Foreign Affairs of the Republic of Suriname.
- Rashid H (2005) Economic diplomacy in South Asia, Indian economy and business update foreign service journal, Madras India Vol. 2.No. 6
- Saner R. and Yiu L. (2003). International economic diplomacy: Mutations in post-modern times, Discussion Papers in Diplomacy, 84, The Hague, Clingendael Institute.
- Saner, Raymond & Yiu (2003). International Economic Diplomacy: Mutations In Postmodern
- Shrestha, B.P (2005) enhancing economic diplomacy, Nepal times
- Tesha, V.G. (2004) , National Bureau of Statistics of Tanzania(NBS) : A paper presented to the Training Workshop on International Merchandise Trade Statistics (IMTS) held in Addis Ababa Available at: <http://unstats.un.org/unsd/trade/WS%20AddisAbaba04/Country%20presentations%20on%20paper/CountryPresentationStatisticsTanzania.pdf>
- UNCTAD (2011) available at http://unctad.org/en/docs/tdr2011_en.pdf
- URT (2010), Country Report on the Implementation status of Brussels Plan of Action, Government Printers, Dar es Salaam

Appendix 1: Activities done in the name of Economic Diplomacy

Year	Activity
2004	Ministry of foreign Affairs and International Cooperation coordinated the Tanzania Investment Conference for attracting investors from Europe to Tanzania.
2004	Ministry of foreign Affairs and International Cooperation, through its embassies in London, Abu Dhabi, Moscow, Tokyo, Beijing, Roma and Brussels organized the delegation with the businessmen and potential investors in order to expose them to Tanzania businessmen so that they can get markets for their products and obtain partners in business. The delegations meetings were done on the following dates; London(30-31 November, 2004), Dubai, Abu Dhabi, UAE (15-16 May, 2005), Moscow, Russia(30 th May, 2005)
2005	Ministry of foreign Affairs and International Cooperation had a delegation of businessmen from China, Italy and Netherland
2005	Ministry of foreign Affairs and International Cooperation made it possible for the signing of the Memorandum of Understanding (MOU) between China investors and Suma JKT for working together.
2005	Ministry of foreign Affairs and International Cooperation had the delegation from

	Saudi Fund for development and Saudi export promotion coming into a country and they agreed to offer three billion through Exim bank to guarantee businessmen in Tanzania to buy goods from Saudi Arabia.
2006	The President attended the conference on 'Forum of China-Africa cooperation' where it was agreed to increase the volume of goods from China and also extending extra aid to Africa
	Quarter Airline established a route between Doha and Dar es salaam to help business persons and attract more trade, investors and tourists to Tanzania.
	Tanzania embassy in Muscat, Oman managed to secure the permit for precision to obtain a route between Muscat and Dar es salaam so as to attract more trade, investors and tourists to Tanzania.
2007	Huang Hai Minister for trade visited Tanzania and signed MOU for constructing the conference centre in Dar es salaam
	MOU between Norwegian government and Tanzania government for the grant of \$30,000,000 for implementation of the strategies to reduce deaths of pregnant women and children below five years.
	The visit of the President to Japan, China and South Korea resulted into a support for construction of Malagarasi bridge with 2.7 kilometers from the Republic of the People of Korea.
	Japanese government also agreed to support the construction of the road with 54 kilometers from Masasi to Mangaka.
2008	President Jakaya Mrisho Kikwete inaugurated the Exim Bank Branch in Comoro
	Vice President attended a conference on '4 th India Africa Project Partnership Conclave 2008' and India agreed to increase scholarship for Tanzanians to study ICT, procurement, engineering and water management in India and Indian companies showed the interest to invest in Tanzania especially in oil and gas.
	President also attended Boao Forum for Asia and the MOU for cooperation in Air transport, agriculture and culture was signed and the government of China agreed to cancel the debts for strengthening TAZARA.
	George W. Bush signed the MOU for the Millennium Challenge Compact of \$ 698m for the infrastructure, energy and water projects.
2009	Ministry of foreign Affairs and International Cooperation established the Diaspora department and the department is charged with the communication with the Diaspora so that they can participate in the development of the nation.
	President Jakaya Mrisho Kikwete visited Stanford University the centre of Silicon Valley Companies of IBM, CISCO and GOOGLE which agreed to assist Tanzania in ICT especially the University of Dodoma.
2010	Ministry of foreign Affairs and International Cooperation, organized a visit of the president Da Silva of Brazil, the visit that resulted in the signing of the memorandum of understanding (MOU) between Petrobras a oil exploration company and TPDC, the MOU between Presidents office environment and Ministry of environment of Brazil and MOU between Institute of Diplomacy of Tanzania and Ruo Branco of Brazil
	The President visited Jordan and King Abdullah II bin Hussein agreed to cooperate

	with Tanzania in education, health, agriculture, trade and defence and also the cooperation for establishing a joint shipping company between Aqaba and Dar es salaam port under the sponsorship of Jordan
2011	Ministry of foreign Affairs and International Cooperation organized a visit of Singh the prime minister of India and the visit resulted in the signing of then MOU between the Ministry of Health and social welfare, NSSF and Appollo Hospital for the establishment of the department to deal with heart, brain and bones diseases, the MOU between SIDO Tanzania and SIDO India and the MOU between the Tanzania government and India government on non double taxation

Source: Compiled from MFA & IC budget speeches from year 2004–2011

Managing Complaints in Services Sector

Mabel Birungi Komunda

Abstract

When customer expectations are not met, some customers may complain about bottlenecks in the service delivery system, others may walk away without saying anything, and still others may complain but regret the time spent complaining. This study aims to explore the concept of customer complaint behaviour with a view to establishing the relationship between handling customer complaints and customer satisfaction and loyalty. The empirical study investigated the state of customer complaint behaviour among retailers in four supermarkets located in Kampala, Uganda. The study adopted a cross-sectional survey design and used a quantitative approach. The findings show that 47% of customers were satisfied with the services of the supermarkets; According to the respondents, 34% of staff willing to handle complaints but 52% of staff not willing to handle complaints. It is further revealed that there is a need for customer complaints to be handled by competent staff with good knowledge about the products. Moreover, service managers should handle service failure as a critical task. Furthermore, issues such as lack of courtesy, incompetent staff and a lack of authority and professionalism characterize the retail sector in Uganda. It is concluded that complaints should be handled quickly by all supermarket staff, and feedback on the complaint handling process should be encouraged by supermarket management in order to use the feedback as a starting point for improving future complaint management. A major managerial implication is that organizations should pay particular attention to failure attribution, and that providing customers a detailed explanation may be the most effective organizational response that will have an impact on the behavioural aspects of customers.

Introduction

An unprecedented corpus of work in customer service quality assessment in Africa has been produced since the beginning of the past decade (Woldie, 2003; Bick et al., 2004; Narteh & Owusu-Frimpong, 2010). A common denominator in these studies is that customer satisfaction has become a major concern of retailers in many business sectors, and therefore calls for more research attention. The present study is a response to this call. This study contributes to existing knowledge by investigating the effects of customer complaints on customer loyalty using attribution theory. It is commonly known that there is a positive relationship between customer loyalty and profitability. Reichheld and Sasser (1990) found that when a company retains just 5 percent more of its customers, profits increase by 25 percent. Their study caught the attention of both practitioners and researchers, arousing a great interest in customer loyalty. Gould (1995) helped to consolidate the interest in loyalty through research that supported Reichheld and Sasser's work. In following, marketers are today seeking information on how to build customer loyalty.

Customer complaints are a natural consequence of any service activity (Michel et al., 2009) because mistakes are an unavoidable feature of all human endeavour and thus also of service delivery” (del Rio-Lanza, Vazquez-Casielles & Diaz-Martin, 2009). They are indispensable indicators of unsatisfactory performance and may result in customer dissatisfaction. Customer dissatisfaction can be a combination of the discrepancy between expectations and performance, and the importance of this discrepancy to the customer. Consumer complaint behaviour (CCB)

refers to the responses triggered by perceived dissatisfaction that is neither psychologically accepted nor quickly forgotten in consumption of a product or service (Homburg & Fürst, 2005). According to Gruber, Szmigin and Voss (2006), some customers who buy products from retailers complain about poor product quality, slowness of service providers, lack of staff competence, and unreliable services with hardly any apology, and go through the bureaucracy. Others perceive the causes to their disappointment as relatively permanent and unchanging (stability attribution) and opt to quietly walk away (del Rio-Lanza, Vazquez-Casielles & Diaz-Martin, 2009). Still others may complain but regret the time spent complaining when their expectations are not met. Consequently, supermarkets like Metro and Half Price in Uganda closed their businesses, in 1995 and 2010, respectively.

Michel et al. (2009) asserts that disappointed customers may not complain because they wish to avoid confrontation with the person responsible for the failure, because they may be uncertain about their rights and the obligations of the organization, or because of concerns about the cost and time associated with complaining (Bamford & Xystouri, 2005). Against this background, does supermarket management in Uganda create a conducive atmosphere for customers to air their grievances over service failure? Without consumer feedback, firms will be unaware of their problems, and may not improve their performance (Heung & Lam, 2003). It may also be difficult to know what customers expect if they don't provide feedback on their opinions to the managers. The way in which complaints are addressed will lead to satisfaction or dissatisfaction. If customer complaints are not handled properly, the negative consequences may be far-reaching (Maxham & Netemeyer, 2003). Dissatisfied customers will not only discontinue their patronage, but are also likely to spread a negative message, jeopardizing the company image (Gruber, Szmigin & Voss, 2007). The current research sets out to understand customer complaint behaviour (CCB) in a developing country in an African context – Uganda – examining the conditions under which consumers may or may not voice complaints. To our knowledge, there is at present no theory that adequately addresses the concern of CCB.

Only 5 out of 10 dissatisfied customers complain about their experiences, and these customers are more demanding and less loyal than ever before (Nakibin et al., 2011; Halstead, 2002) because they believe the organization may not respond. They may wish to avoid confrontation with the person responsible for the failure; they may be uncertain about their rights and obligations; and some may have concerns about the cost and time associated with complaining (Bamford, 2006). Some dissatisfied consumers seek redress, while others do not approach the seller with their complaints (Gruber, Szmigin & Voss, 2009) but may engage in negative word-of-mouth (WOM) behaviours because many companies do not pay sufficient attention to handling complaints effectively (Stauss & Schoeler, 2004; Homburg & Fürst, 2007). Negative WOM may be damaging to firms because such messages are more likely to be believed (Griffen et al., 1991). Larger numbers of unknown dissatisfied consumers respond in covert ways that never come to the retailer's attention (Day et al., 1981); to family, the media or to friends. Staff who do not provide a logical explanation to the customer are unable to recover failures (Karatepe & Ekiz, 2004). Apart from dissatisfaction due to product failure, consumers experience further dissatisfaction due to poor handling of complaints and, in sufficient numbers, this can damage the company's reputation, leading to loss of potential and existing customers and poor customer loyalty.

This study explores the concept of CCB with a view to establishing the relationship between handling customer complaints, customer satisfaction and customer loyalty. Accordingly, the following research questions were used to guide our exploratory effort:

- Q1) What is the relationship between demographic factors and customer satisfaction?
- Q2) What is the relationship between CCB and customer loyalty?
- Q3) What is the relationship between CCB and customer satisfaction?
- Q4) What is the relationship between customer satisfaction and customer loyalty?

This study contributes to existing knowledge and may support strategies and policies in consumer behaviour development. This was accomplished by investigating the effects of customer complaints on customer loyalty using attribution theory.

Theoretical Foundation

Service quality is a concept that has generated considerable interest and debate in the research literature due to the difficulty of both defining it and measuring it, with no overall consensus emerging regarding either aspect (Wisniewski, 2001). According to the disconfirmation paradigm, satisfaction/dissatisfaction is a direct consequence of the disconfirmation process. Disconfirmation of an expectation acts as an important causal agent for generating attribution processing. This means that events that do not conform to expectations may trigger the search for an explanation or reason for the event (Laufer, 2002). Attribution theory is the systematic study of the perception of causality. In a complaint behaviour context, product failure is the kind of negative and unexpected event that has been shown to bring about causal search (Weiner, 2000). Consumers may attribute product failure to themselves (internal focus), or to the retailer or some outside agent in the environment (external locus). The main themes in extant literature on customer complaint behaviour encompass issues such as complaint handling in the affective nature of satisfaction (Dube & Menon, 2000), recovery-related emotions (Schoefer, 2008; Schoefer & Ennew, 2005), and negative WOM (Lerman, 2006). A retailer's resistance to listening and responding to consumer complaints increases the likelihood that consumers will complain in private – in the form of negative WOM to family, friends and third parties (McAlister & Erffmeyer, 2003). Ways of seeking redress include refunds, exchanges, repairs, discounts on future purchases, or some combination of these (Blodgett et al., 1997; Orsinger, Valentini & Angelis, 2009).

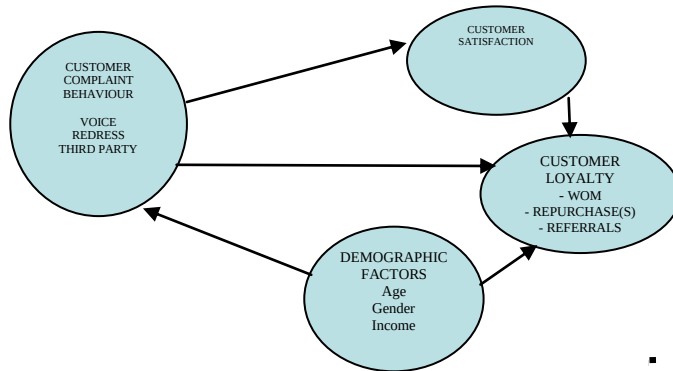
A service failure perceived as insignificant from the organization's perspective can be of great importance to the customer. For example, as McDougall and Levesques (1999) demonstrated, a customer's reason for buying a meal affects his or her perception of the seriousness of a service failure: a meal that is intended as a celebration is much more important to the customer than a casual meal, and a policy of fixed compensation from the provider will not always appease the dissatisfied customer. A provider's failure to eradicate disappointment can lead to customers making strong negative judgments of the organization (Marmorstein et al., 2001; Boshoff, 1997 & 2005), and such dissatisfied clients will seek every opportunity to criticize the offending companies, thus becoming what Heskett et al. (2003) characterize as "terrorist" customers. There are investigations on the cognitive and affective antecedents of satisfaction with complaint handling. Stauss (2002) defines complaint satisfaction as "the satisfaction of a complainant with a company's response to her/his complaint" (p. 174). A meta-analysis of satisfaction with

complaint handling has identified antecedents such as expectation, performance, disconfirmation of expectations (Szymanski & Henard, 2001) and another study has looked at the affective responses to complaint handling experienced by the customer (Varela-Neira, Vazquez-Casielles & Iglesias, 2010). A meta-analysis by Orsinger, Valentini and Angelis (2009) looks at satisfaction and complaint handling (SATCOM) in relation to return intent, WOM behaviour and SATCOM outcomes.

The outcome of a purchase situation could be attributed to something temporary (unstable), or something likely to occur each time the product is purchased or used (stable) – customers expect the product to fail if they purchase it again in the future; if unstable, customers will purchase it again (Weiner, 2000). A consumer's perception of attribution, in terms of locus, stability and controllability dimensions, is explained by Weiner (2000), who investigated different affective reactions. For example, when retailers are thought to have control over the cause of product failure and it is stable (re-occurs), consumers feel angry and desire revenge more than when the retailers are believed to lack control over the failure. And it is not until retailers comprehend the customers' complaint behaviour, their reasons for engaging in specific complaint behaviour, and reasoning behind their behaviour (cognitive processes), that they will recognize the link between complaint handling and customer loyalty.

Customer loyalty could be described as a “customer's commitment to do business with a particular organization, purchasing their goods and services repeatedly, and recommending the services and products to friends and associates” (McIlroy & Barnett, 2000, p. 348). Customer loyalty is neither easy to gain nor maintain, rather it is vulnerable, where “even if (a company's) customers are satisfied with the service they will continue to defect if they believe they can get better value, convenience or quality elsewhere” (McIlroy & Barnett, 2000, p. 349). Oliver (1999, pp.34, cited in Chumpitaz & Paparoidamis, 2007) defines loyalty as: “a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing despite situational influences and marketing efforts having the potential to cause switching behaviour.” Brand loyalty consists of behavioural aspects and attitudinal aspects (Aaker, 1991; Assael, 1998; Jacoby & Chestnut, 1978; Oliver, 1999; Turker, 1964, as quoted by Chumpitaz & Paparoidamis, 2007). Behavioural loyalty refers to repeated purchases of a brand, whereas attitudinal loyalty refers to a degree of dispositional commitment. Behavioural loyalty is partly determined by situational factors, and attitudinal loyalty is more enduring (Chumpitaz & Paparoidamis, 2007; Colgate & Norris, 2001). Loyal customers are the backbone of any business because it is less expensive to keep customers than to recruit new ones (Gee, Coates & Nicholson, 2008).

Figure 1: Conceptual Framework



In conceptualizing CCB, customer satisfaction and customer loyalty, customer complaint behaviour focuses on satisfaction or dissatisfaction through voicing a complaint, private action or public action. Demographic factors may have a relationship with both CCB and customer loyalty. Figure 1 illustrates the constructs that extant literature consider relevant when conceptualizing satisfaction and complaint handling. We investigate the relationship between the dependent variable (customer loyalty) and the independent variables (CCB and customer satisfaction), with the moderating variable of demographic factors.

Methodology

This study undertook a cross-sectional survey that involved qualitative and quantitative approaches. The methodological design of the study was correlational in nature. Using a self-administered questionnaire modified from previous studies, data was collected from a sample of 140 customers in Uganda as per Krejcie and Morgan's (1970) table for determining sample size. The sample was selected through convenience sampling due to the nature of the respondents. The response rate for supermarket customers was 68%. Using a 5-point Likert scale (1 Strongly agree, 2 Agree, 3 Not sure, 4 Disagree, 5 Strongly disagree), respondents were asked key issues about variables in the study. A pilot test was carried out to test the validity of the research instrument to make sure that it was not vague. The questions in the questionnaire were tested using Cronbach's alpha. The study was done to expand the understanding of how people who buy from supermarkets interpret the concepts of CCB, customer satisfaction and customer loyalty. After collecting the data, the raw data was coded and entered into the computer. The frequencies and percentages were then used to compare the responses. Validity and reliability tests were carried out. Thereafter, data from the reliable instruments was entered in the SPSS packages and correlations and regression tests were run. Data analysis: The instrument was reliable since the variables were higher than 0.60.

Findings

Research Q1: What is the relationship between demographic factors and customer satisfaction?

Regarding gender, the majority of shopping at the supermarkets is done by males (57%), while females represent 43% of shoppers. It is mainly men who do most shopping because they are the ones who are employed and therefore earn, while majority of women either manage their homes (housewives) or earn little income. From the interaction with Kato, men want to be felt as the heads of the home (male chauvinism) and they express this by doing the family shopping. Kahunda added: 'A man must be a major provider of his family – that is what makes you a real man and not a woman. On the other hand, men want to control the expenditure of the family

income and feel unsafe when the women go shopping. They say that women sometimes buy even what is not budgeted for and hence overspend. It therefore becomes a control method of the family finances when the men do most of the shopping for the family’.

With regard to age, the group doing most of the shopping at the supermarkets is the 20-29 years age group (38%). This is a category of people who spend most of the income on shopping. Most of the people in this category do not have big expenditure like paying school fees for children. The money earned is mainly spent on shopping in the super markets as they are starting off their new homes like buying radio, television, home equipment, etc. And the age group with the least amount of shoppers is >60 years (1.2%). The people who are more than 60 years of age do the least shopping mainly because they are out of formal employment and are retired; usually the income at that age has reduced. And at retirement, majority of the people go back to their country homes and produce their own food for home consumption and do minimum shopping. And the people who do most of the shopping in the supermarkets fall in the income bracket 100,000-399,000 UGX (34%). The people who fall in that income bracket are mainly those who have just started employment and are doing alot of shopping to start up a home with kitchen equipment, electronics for entertainment, etc. And from the survey, 35% of the sample responded that supermarkets meet their expectations. This is in terms of handling customer complaints and they are mainly the simple cases like of exchange of good products for faulty ones, simple repairs, etc.

38% of the respondees felt supermarket staff do not respond adequately to customer complaints. This is unfortunate when staff do not respond well to complaints because handling customer complaints well enables one to get feedback on how the business is performing and in case of complaints, there is an opportunity for redress. Unfortunately, many companies do not pay sufficient attention to handling complaints effectively (Homburg and Furst, 2007; Stauss and Schoeler, 2004) and that is partly the reason why disappointed customers exit the service (Bodey and Grace, 2006). This is because they already have a set mind and do not expect to have their complaints handled to their expectation. Failure to meet the customer’s complaints will lead to double deviation which some customers call ‘double portion of disappointment’. Some staff just performs duty because they are employed to work but do not handle customer complaints well. They do not listen to the customers attentively and consequently they waste customer’s time and many times do not address the disappointments to customer’s expectations. Customer complaints are made in person with very few expressed on the telephone, and this increases the congestion at the customer care desk.

Correlations: The correlations were performed to test associations between the dependent variable (customer loyalty) and the independent variables (CCB and customer satisfaction). The findings are shown in the table below.

	1	2	3
Customer loyalty	1		
Customer complaint behaviour	0.621** 0.000	1	
Customer satisfaction	0.595** 0.000	0.801** 0.000	1
Significance at 0.01			

level (2-tailed)			

Table 1: Relationship between dependent variable and independent variables

Table 1 shows the correlations between stable variables. The results revealed that customer loyalty is positively related to the variables in the study, i.e. to customer complaint behaviour ($=0.621^{**}$, $P=0.000$), and to customer satisfaction (0.595^{**} , $P=0.000$). CCB is also positively related to the customer satisfaction variable (0.801^{**} , $P=0.000$).

Research Q2: What is the relationship between CCB and customer loyalty?

The findings showed there was a significant relationship between CCB and customer loyalty at 0.621^{**} with a significance level of 0.000. This means that when returns and exchanges are handled well and meet the expectations of the customer, customers feel well taken care of and appreciated, and are more inclined to become loyal to the supermarket. Customers expect supermarket service providers to show courtesy and a sincere interest when handling their queries, by keeping the customers' best interests at heart. When the staff discuss and try to resolve the complaints, the customers are more inclined to become loyal to them. According to this survey, some employees do not listen attentively to the cause of the dissatisfaction, resulting in further customer disappointment. Yet, in attribution theory, the handling of complaints with an external locus (where the cause of service failure stems from the organization) has been recognized as a critical task for service managers (Hess et al., 2003).

Research Q3: What is the relationship between CCB and customer satisfaction?

There was a significant relationship between CCB and customer satisfaction, at 0.801^{**} , with a significance level of 0.000. Handling customer complaints requires a willingness on the part of the employees and management of the supermarkets to handle the queries. Of the customers surveyed, 47% were satisfied with the services of the supermarkets; According to the respondents, 34% of staff were willing to handle customer complaints, while a larger percentage (over 50%) were not willing. Customers expected staff to be courteous, attentive, and competent in handling their complaints. These qualities were at times lacking. Unfortunately, supermarket staff did not show much effort in making the filing of complaints accessible for customers; other staff lacked competence in handling customer complaints, with slow responsiveness and failing to calm down angry customers. Kakuru, a customer of Game Supermarket, said "that customers who sought redress expected employees to courteously provide accurate information and show a sincere interest in solving their problems, yet the staff lacked professionalism in handling customer complaints, sending the customers around from one staff to another, which irritated the customers". There was lack of courtesy where the staff asked questions like 'Yes, what is the problem, ... maybe you are the one who does not know how to use the product or you spoilt the product yourself. They push the blame onto the customer. That was very annoying to the customers. There were some incompetent staff who lacked professionalism when handling customer complaints through use of guess work where the staff could not handle technical faulty products and yet they could keep sending the disappointed customers from one manager to another. That was very irritating to the customers. It was further confirmed by Hansen, Wilke and Zaichkowsky (2010) that non-active complaint handlers do not perceive complaint management as a strategic tool. In the current survey, 49% of customers felt committed to the store, 38% were uncertain, and 18% were not committed. This may have a negative impact on sustainability of the business.

A regression analysis was also carried out and the results are shown in the table below.

Model	B	Standard error	Beta	t	Sig.
1 (constant)	1.786	0.243		7.358	0.000
CCB	0.487	0.074	0.621	6.586	0.000
2 (constant)	1.443	0.305		4.729	0.000
CCB	0.315	0.120	0.402	2.631	0.011
Cust satisf	0.265	0.147	0.276	1.806	0.075

R = 0.578 R-square= 0.335 Adjusted R-square = 0.331 Standard error of estimate = 65.991

Table 2. Regression model summary - Dependent variable (Customer loyalty)

The results in the prediction model (Table 2 above) were generated to explore the extent to which the predictors, i.e. CCB and Customer Satisfaction, can explain the dependent variable, i.e. Customer Loyalty. The results indicated that the predictors together have the potential of explaining up to 39.2% of the observed changes in customer loyalty of an institution (Adjusted R-Square = 0.331). Among these predictors, CCB ($t = 7.358$) and Customer Satisfaction ($t = 4.729$) were observed to be best at predicting Customer Loyalty. These results imply that, for instance, for every 1000 increment increase in loyal customers a supermarket attains, 331 of these customers will be loyal as a result of the way staff manage the predictors.

Research Q4: What is the relationship between customer satisfaction and customer loyalty?

There was a significant relationship between customer satisfaction and customer loyalty, at 0.595**, with a significance level of 0.000. This means that when the supermarket meets the expectations of the customer, the customer may be loyal. Ideally, customers expect that their complaints will receive a quick response, and that mistakes will be quickly noticed and acknowledged by supermarket staff. That is, when a mistake has been made, employees will respond to the complaint as expected by the customers, such as apologizing or providing some form of compensation, and when compensation is promised, they don't go back on their word. When the service is rated as extremely satisfying, in terms of overall quality, this may lead customers to recommend the supermarket's products and services to others (positive WOM). Evidence of the moderating role of failure attributions has been shown in previous studies in the service failure context (Grewal et al., 2008; Tsiros et al., 2004). Grewal et al. (2008) added that compensation is necessary only when the company is responsible for the failure and the failure occurs frequently. Tsiros et al. (2004) found customer satisfaction to be stronger when the client's perception of the dimensions of causal attribution is low; in other words, when service failure is attributed to unstable (may not continue to re-occur) or uncontrollable causes.

Conclusion and Implications of this Study

At least one retailing study has shown that more than 70 per cent of customers who complain can be persuaded to continue shopping with the offending retailer provided that some effort is made to recover (Boshoff, 1997). This study contributes to extant literature by exploring the concept of CCB with a view to establishing the relationship between handling customer complaints, customer satisfaction and customer loyalty. A lot is required to turn disappointed customers into loyal customers for improved business performance in Africa. Disappointed customers are hardly

encouraged to forward their complaints to the staff of supermarkets, so retailers miss out on the strategic asset of customer's complaints that could provide important knowledge concerning the performance of the business. Some customers who complain receive little attention, exhibited through a lack of active listening, and a lack of competence and professionalism in handling complaints. The levels of significance of CCB and customer loyalty were very high for those respondents who were satisfied with the handling of customer complaints. Also, if product failure was attributed to something stable, then customers expected the product to fail when they purchased it again in the future. And when retailers are thought to have control over the cause of the product failure, consumers feel angry and want revenge, engage in negative WOM, and opt not to be loyal to the supermarket.

In order to improve customer satisfaction, supermarket owners should strive to consider the following items, which deserve priority, so as to improve customer loyalty: i) Staff should respond quickly in handling customer complaints; ii) Ugandan supermarkets should have staff who give customers personal attention; iii) Staff should be trained to give them the skills and knowledge to handle customers' complaints; iv) Supermarket staff should listen attentively to understand the specific complaints of customers; v) Supermarket staff should do more than just smile to address the needs of customers. No matter how excellent service the company delivers, mistakes will still be made in meeting customer expectations and customers will become more demanding and less loyal (Nakibin et al., 2011). When complaints are handled well, this may lead to customer loyalty (34% according to the responses), where customers can be retained through more future purchases. Post-purchase dissatisfaction is very important because it may be closely linked to negative outcomes such as less favourable purchase attitudes, lower or non-existent purchase intentions, negative WOM, complaining, and changes in shopping behaviour (Onyeaso, 2007). Based on the study, negative WOM communications to friends, relatives and the media is generally considered detrimental to retailers and this was confirmed by Halstead (2002). Companies discourage complaints by not providing convenient opportunities for customers to lodge complaints, and when staff display negative attitudes towards disappointed customers they miss out on valuable information for improvement (Sheth et al., 1999).

In addition to the dissatisfaction that results from product failure, consumers experience further dissatisfaction due to the disappointment caused by retailers who turn a deaf ear to their complaints. This is mainly because complaint management is left to front-line staff that lack adequate skills and authority. It is also confirmed that some customers who do not perceive any avenues to complain simply exit with their dissatisfaction (Hansen, Wilke & Aichkowsky, 2010). In Ugandan supermarkets, overall customer satisfaction after a failure has not improved in the last decade (since we did our last study), and many managers claim their organizations cannot respond to and fix recurring problems quickly enough. Supermarkets ought to be aware of the problems that lead to customer complaints. Efficient management of customer complaints efficiently also provides feedback that can be used in managing, and ultimately resolving, future complaints. This is also confirmed by Boshoff (1997) and Crie (2003). Employees' efforts to handle customer complaints – providing prompt attention to complainants and detailed explanations constitute the most effective organizational responses, which in turn can have an impact on behavioural aspects of the loyalty constructs of WOM communications, recommendations and repurchase intention (e.g. see findings in conjunction with Question 4 presented above).

References

- Anderson, E.W. (1998). Customer satisfaction and word-of-mouth. *Journal of Service Research*, 1(1), 5-17.
- Bamford, D. & Xystouri, T. (2005) A case study of service failure and recovery within an international airline, *Managing Service Quality*, 15(3), 306-322.
- Bick, R., Geoffrey, B., Andrew B. & Abratt, R. (2004). Customer perceptions of the value delivered by retail banks in South Africa. *International Journal of Bank Marketing*, 22(4/5), 300-318
- Bodey, K. and Grace, D. (2006), "Segmenting service 'complainers' and 'non-complainers' on the basis of consumer characteristics", *Journal of Services Marketing*, Vol. 20 No. 3, pp. 178-87.
- Boshoff, C. (1997) "An experimental study of service recovery options", *International Journal of Service Industry Management*, 8(2), 110 – 130
- Boshoff, C. (2005). A re-assessment and refinement of RECOVSAT: an instrument to measure satisfaction with transaction-specific service recovery. *Managing Service Quality*, 15(5), 410-25.
- Chumpitaz. R. & Paparoidamis N.G. (2007). Service quality, relationship satisfaction, trust, commitment and business to business loyalty. *European Journal of Marketing*, 41(7/8), 836-867.
- Crie, D. (2003). Consumer's complaint behaviour, taxonomy, typology and determinants: Towards a unified ontology. *Journal of Database Marketing and Customer Strategy Management*, 11(1), 60-66.
- Dabholkar, P.A., Sheperd, C.D. & Thorpe, D.I. (2000). A comprehensive framework for service quality: An investigation of critical conceptual and measurement issues through a longitudinal study. *Journal of Retailing*, 76(2), 139-73.
- del Rio-Lanza, A.B., Vazquez-Casielles, R. & Diaz-Martin, A.M. (2009). Satisfaction with service recovery: Perceived justice and emotional responses. *Journal of Business Research*, 62(8), 775-81.
- Gee, R., Coates, G. & Nicholson, M. (2008). Understanding and profitably managing customer loyalty, *Marketing Intelligence & Planning*, 26(4), 359-374.
- Gould, G. (1995). Why it is customer loyalty that counts (and how to measure it)? *Managing Service Quality*, 7(4), 4-26.
- Grewal, D., Roggeveen, A.L. & Tsiros, M. (2008). The effect of compensation on repurchase intentions in service recovery, *Journal of Retailing*, 84(4), 424-34.
- Gruber, T., Szmigin, I. & Voss, R. (2006). The desired qualities of customer contact employees in complaint handling encounters. *Journal of Marketing Management*, 22(5-6), 619-642
- Gruber, T., Szmigin, I. & Voss, R. (2007). Developing a deeper understanding of the attributes of effective customer contact employees in personal complaint handling encounters. *Journal of Services Marketing*, 23(6), 422-435.
- Gruber, T., Szmigin, I. & Voss, R. (2009). Handling customer complaints effectively. A comparison of the value maps of female and male counterparts. *Managing Service Quality*, 19(6), 636-656.

- Hansen, T., Wilke, R. & Zaichkowsky, J. (2010). Managing consumer complaints: differences and similarities among heterogeneous retailers. *International Journal of Retail & Distribution Management*, 38(1), 6-23.
- Hess, R.L., Ganesan, S. & Klein, N.M. (2003). Service failure and recovery: the impact of relationship factors on customer satisfaction. *Journal of the Academy of Marketing Science*, 31(2), pp. 127-45.
- Heung, V.C.S. & Lam, T. (2003). Customer complaint behaviour towards hotel restaurant services. *International Journal of Contemporary Hospitality Management*, 15(5), 283-89.
- Homburg, C. & Fürst, A. (2005). How organizational complaint handling drives customer loyalty: An analysis of the mechanistic and the organic approach. *Journal of Marketing*, 65(6), 95-114.
- Homburg, C. & Fürst, A. (2007). See no evil, hear no evil, speak no evil. A study of defensive organizational behavior towards customer complaints. *Journal of the Academy of Marketing Science*, 35(4), 523-36.
- Homburg, C. and Fürst, A. (2007), "See no evil, hear no evil, speak no evil: a study of defensive organizational behavior towards customer complaints", *Journal of the Academy of Marketing Science*, Vol. 35 No. 4, pp. 523-36.
- Kim, C., Kim, S., Im, S. & Shin, C. (2003). The effect of attitude and perception on consumer complaint intentions. *Journal of Consumer Marketing*, 20(4), 352-71.
- Krejcie, R.V. & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.
- Marmorstein, H., Sarel, D. & Lasser, W.M. (2001). Increasing the persuasiveness of a service guarantee: The role of service process evidence. *Journal of Services Marketing*, 15(2), 147-59.
- Mattila, A.S. (2001). The effectiveness of service recovery in a multi-industry setting. *Journal of Services Marketing*, 15(7), 583-96.
- Maxham, J.G.I. & Netemeyer, R.G. (2003). Firms reap what they sow: The effects of shared values and perceived organizational justice on customers' evaluation of complaint handling. *Journal of Marketing*, 67(1), 29-45.
- McDougall, G.H.G. & Levesques, T.J. (1999). Waiting for service: The effectiveness of recovery strategies. *International Journal of Contemporary Hospitality Management*, 11(1), 6-15.
- McIlroy, A. & Barnett, S. (2000). Building customer relationships: do discount cards work? *Managing Service Quality*, 10(6), 347-55.
- Michel, S., Bowen, D. & Johnston, R. (2009). Why service recovery fails: Tensions among customer, employee, and process perspectives. *Journal of Service Management*, 20(3), 253-73.
- Nakibin, D., Ismail, I., Marimuthu, M. & Abu-Jarad, I. (2011). The impact of firm reputation on customers' responses to service failure: The role of failure attributions. *Business Strategy Series*, 12(1), 19-29.
- Nyer, P.U. (2000). An investigation into whether complaining can cause increased consumer satisfaction. *Journal of Consumer Marketing*, 17(1), 9-19.
- Reichheld, F. & Sasser, W.E. (1990). Zero defections: Quality comes to services. *Harvard Business Review*, 68(5), 105-11.
- Sekaran, U. (2003). *Research Methods for Business: A Skill Building Approach*. New York, NY: Wiley.

- Sheth, J.N., Mittal, B. & Bruce, I.N. (1999). *Customer Behaviour: Consumer Behaviour and Beyond*. Hinsdale, IL: Dryden Press.
- Singh, J. & Sabol, B. (2002). Consumer trust, value, and loyalty in relational exchanges. *Journal of Marketing*, 66(1), 15-37.
- Stauss, B. and Schoeler, A. (2004), "Complaint management profitability: what do complaint managers know?" *Managing Service Quality*, Vol. 14 Nos 2/3, pp. 147-56.
- Tsiros, M., Mittal, V. & Ross, W. (2004). The role of attributions in customer satisfaction: A re-examination. *Journal of Consumer Research*, 31(3), 476-83.
- Varela-Neira, C., Vázquez-Casielles, R. & Iglesias, V. (2010) "Explaining customer satisfaction with complaint handling", *International Journal of Bank Marketing*, 28(2), 88 – 112
- Vázquez-Casielles, R., del Río-Lanza, A.B. & Díaz-Martín, A.M. (2007). Quality of past performance: Impact on consumers' responses to service failure. *Marketing Letters*, 18(4), 249-64.
- Volkov, M., Harker, D. & Harker, M. (2002). Complaint behaviour: A study of the differences between complainants about advertising in Australia and the population at large. *Journal of Consumer Marketing*, 19(4), 319-32.
- Weiner, B. (2000). Attributional thoughts about consumer behavior. *Journal of Consumer Research*, 27(3), 382-387.
- Wisniewski, M. (2001). Using SERVQUAL to assess customer satisfaction with public sector services. *Managing Service Quality*, 11(6), 380-388.
- Woldie, A. (2003). Nigerian banks – Quality of services. *Journal of African Business*, 14(2), 69-87.

Does the Effect of Government Ownership Affect Financial Performance? A Survey of Partially Privatized Firms Listed at the Nairobi Securities Exchange

Martin K Odipo

Abstract

The objective of the study was to assess the effect of government ownership/ control on financial performance of partially privatized listed companies. A sample of 16 firms with government shareholding was selected. Of these 7% were controlled by the government. The rest were considered as government investments. Secondary data was collected from the annual financial statements of the sampled companies from Capital Markets Authority and Nairobi Securities Exchange for three years 2008 to 2010. A descriptive, univariate and multivariate analysis of data was performed with the aid of SPSS version 19. Using non-parametric tests, the study found that there were no statistically significant differences between those which were controlled by the government and those that were not with respect to all the variables. The study concluded that financial performance of firms listed on the NSE is not affected by government shareholding or control since financial performance of partially privatized but listed firms is indifferent to the government control.

Introduction

Economists usually perceive government ownership as being harmful to firm's financial performance. For example, Estrin and Perotin (1991) argues that with the government as owner will not concentrate on profit maximization since the government has dual objectives of political and economical and that corporate performance in such firms will be inferior due to weaker governance arrangements. Shleifer and Vishny (1998), show that private ownership is favored to government ownership because the government extorts firms to the merits of politicians and bureaucrats. Megginson and Netter (2001) conclude that the weight of empirical research is now decisively for the proposition that privately owned firms are more efficient and more profitable than otherwise comparable to government-owned firms. This has led to increased interest in disassociation of the state from production of goods and services, (World Bank, 1995),

The main assumption is that privatization generates sufficient funds and that the privatized enterprise, apart from being large, continues to operate efficiently post privatization and that the divestiture price at least equals the government's investment in the enterprise; the proceeds are used for repaying a corresponding amount of public debt. Megginson and Netter (2001) notes that change of ownership that accompanies privatization often leads to improved efficiency. Empirical findings however show that the government is either reluctant to sell or only sells a stake and retains a large portion especially in the strategic entities (Wei and Varela, 2003; Bortolotti and Faccio, 2004; Huang and Wang, 2004; Omran, 2004; Ranja, 2004; Boubakri, Cosset and Guedhami, 2005; Tian and Estrin, 2007; Garcia, Anson and Rodriguez, 2008; Roland 2008; OECD, 2010).

A key decision to be made by the government is the method of privatizing public entity. Generally the following factors are considered: (1) the history of the assets' ownership, (2) the financial and competitive position of the public entity, (3) the government's ideological view of markets and regulation, (4) the past, present and potential future regulatory structure in the country, (5) the need to pay off important interest groups in the privatization, (6) the

government's ability to credibly commit itself to respect investors' property rights after divestiture, (7) the capital market conditions and existing institutional framework for corporate governance in the country, (8) the sophistication of potential investor, and (9) the government's willingness to let foreigners own divested assets(Megginson and Netter, 2002)

Literature Review

Privatization is connected with a number of theories. All these try to justify the need for the government to disentangle itself from the business activities in the economy. Avishur (2000) states that motivation to privatize is closely related to assessment of the outcomes of possible dynamics in the parameters of political market relevant to the choice of privatization design. Ownership might affect incentives through objectives conveyed to managers by owners. Shareholders in private firms expect managers to pursue maximization of shareholders value. In contrast, ministers responsible for state owned firms are particularly interested in how decisions affect societal welfare. Shapiro and Willig (1995) argue that managers of SOE are given an objective that gives weight to private and welfare objectives. These objective based theories suggest that privatization insulates management from political and social goals. Hence new private owners focus on financial objectives and redirect incentives to enhance financial performance. Laffont and Tirole, (1991); Hart, (2003); Szentpeteri, (2006); Roland, (2008) argue that managers of SOE pursue objectives that differ from those of private firms and face little monitoring. Kornai, Maskin and Roland,(2003) assert that because it is in the government interest to bail out SOE in case of financial distress, bankruptcy is not a real threat to managers in these firms. But this is not the case with private firms. Thus political meddling is what distorts the objectives of a SOE (Sheshinski and Lopez- Calva, 2003)

Alchian (1965), Demsetz (1988) justify privatization of SOE through property rights theories. They argue that shareholders are the residual claimants to profit in publicly traded firms. Under state ownership, property rights are ill defined. Although the state is the residual claimant to profits in SOE, the minister has no financial interest in the returns stemming from his action. The minister is unlikely to personally benefit from the profits that may accrue from state firms. Thus, so long as there is no personal gain and some personal cost in designing or managing an effective governance system, state representatives will neither work hard at monitoring managers nor design governance systems to enhance efficiency. To increase this agency problem, managers of SOE are insulated from the threat of takeover and bankruptcy common to privately owned firms (Rowley and Yarrow, 1981).

De Allesi (1980) argues that the critical difference between private and public owned firms is that ownership in the latter is effectively nontransferable. Property rights theory predicts that privatization will enhance incentives tied to firm financial performance by replacing disinterested ministers with shareholders who will design an effective governance system out of self interest.

Both agency and public choice theorists argue that private ownership is superior to state ownership and that privatization should lead to improved performance. Agency theory focuses on the different agency problems and solutions to them that are available under each form of ownership. Managers in both private and state owned firms are assumed to maximize their own utility rather than that of the owners (Jensen and Meckling, 1976). In private firms this divergence is reduced through external mechanisms such as markets for managers, capital and

corporate controls including internal mechanisms such as managerial participation in ownerships, reward systems and the board of directors. In state owned firms these mechanisms are virtually absent.

Under the public choice theory more focus is on the performance. The theory predicts that SOE are low performers because politicians impose objectives on these firms that might help them gain votes but might conflict with efficiency (Buchanan, 1972). For the general public, the cost of monitoring this behavior offsets the benefits. Therefore privatization is expected to trigger a change in the goals of the firm and in the bargaining power of different actions in the political market thereby increasing efficiency (Shleifer and Vishny, 1994). Haskel and Szymanski (1999) argue that following privatization, the public places a lot of expectation on future of the firm. This expectation theory covers areas of efficiency and productivity. Empirical evidence however does not pin point how much the government should transfer to private hands so as to have maximum allocation and achieve productive efficiency (Qi, Wu and Zhang, 1999 ; Tian and Estrin, 2007).

Meggison *et al.* (1994) argue that the switch from public to private ownership causes firms to decrease the proportion of debt in their capital structure. This reduction of debt is as a result of state withdrawing its' debt guarantee on the firm thereby exposing the privatized firm to financial distress. Meggison *et al.* (1994) report reduced debt financing as a result of privatization. This reduction in debt financing is attributed to one of the two factors, either they have become stable profitably thus require low leverage (Fama and French, 2002; Strebulaev, 2007) or the withdrawal of government guarantee would expose them to financial distress. Thus financing decisions are not a major issue when SOEs are privatized but their subsequent performance is an issue at hand.

Despite massive literature on effects of governments' ownership, (Boardman and Vining, 1989; Nellis 1994; Wei and Varela, 2003; Bortolotti and Faccio, 2004; Huang and Wang, 2004; Tian and Estrin, 2007) there is still no consensus on the impact of government ownership/control on firm's performance. Estrin, Hanousek, Kocenda and Svejnar (2007), through their survey, note the inconclusiveness of recent empirical findings on the effect of government ownership on performance.

Wang (2004) fails to identify any significant negative relationship between government ownership and company performance. Sun and Tong (2002 and 2003), using market to book ratio, net income to sales and operating income to sales to measure performance, only identify marginal significant negative relationship at 10% level for the market to book ratio. Wang (2005) documents a sharp decline in the operating performance of Chinese firms after going public and attributes it to high levels of information asymmetry in emerging markets which is prone to agency effects where the manager is entrenched and extracts value from non-controlling shareholders interest. Wei, Xie and Zhang (2003) find that compared with the performance changes of the fully state owned enterprises during the same period, listed firms after share issue privatizations have higher productivity though not profitability. Bai *et al.* (2004) and Wei *et al.* (2005) note a convex relationship between government ownership proportion and firm performance.

Bos (1991) argues that when the state has a dominant ownership position, it may have an incentive to closely monitor management, thus reduce agency costs for other shareholders, hence increasing profitability and firm value. Conversely, government ownership may be less desirable to private ownership in competitive markets for such as government's preference for socio-political goals as opposed to value maximization; ability to appoint political allies at the expense of experienced staff to managerial position; and higher transaction cost (Vining and Boardman, 1992; Megginson et al. 1994; Boycko et al. 1996; Djankov and Murrell, 2002).

The existing literature on Kenya post privatization ownership structure and performance is relatively scarce and tends to be descriptive and very brief. These include (Weche, 2003; Hongo, 2006; Thambu, 2006; Biryia, 2009). Odipo (2010) carried out a comparative study on performance of pre and post performance of firms that been privatized over a period of seven years (three years before privatization and three years after privatization). The results were mixed some firms performed better after privatization for a short time and slumped two years after privatization. Others continued to perform badly after privatization.

Researches in various economies based on the linkage between government ownership/control and firm financial performance have come up with contradicting results. This suggests that there is need for further studies in this area especially in developing countries. In Kenya there have been a number of privatizations where government often retains a portion of shareholding as opposed total privatization. A study on financial performance of these firms would contribute to knowledge. This study makes an attempt on in-depth analysis on the financial performance of firms that are partially held by government where ownership is minority.

Methodology

The study took all firms that are listed in NSE where the government has minority shareholding. These were sixteen in number. They covered all sectors of the economy. The following model was used:

$$\text{Perf (Tobin Q or ROA)} = \alpha + \beta_1 \text{GOV\_CONT} + \beta_2 \text{GOV\_SIZE}^2 + \beta_3 \text{AGE} + \beta_4 \text{SIZE} + \beta_5 \text{TAN} + \beta_6 \text{LEV} + \beta_7 \text{IND} + e,$$

Where Perf is a proxy for performance (Tobin Q or ROA), GOV_CONT, and GOV_SIZE² are government control and government shareholding size respectively. Control variables include age, size, tangible, leverage and industry. Alpha (α) and error term (e) represent y intercept error term respectively. These are defined in Table 1. The data is organized using MS Spreadsheets with all variables in Table 1 for all 16 firms in the sample. These are then transferred into the SPSS version 19. Descriptive statistics especially the mean scores and median values are then used to show the characteristics of firms sampled. Tests of differences are done using non-parametric tests. The model above is analyzed using multiple regression analysis. In order to determine the effect of government ownership on firm performance, the regression output is interpreted based on the R², significance of F- statistic and p value of coefficient of independent variables. The regression is done for each of the dependent variables (Tobin Q and ROA). The same interpretations are made for the effect of government shareholding on firms' financial performance

Table 1 Definition of Variables

Variables	Definition
Tobin's Q	This is the adjusted market value of a firm. It is calculated as the market value of equity and book value of debt over book value of assts
ROA	A proxy of corporate accounting profitability. It is calculated as net profit over assets.
GOV_CONT	This is a dummy variable for government control. If government has more than 50% stake in a firm, the firm scores a value of 1 otherwise 0
GOV_SIZE ²	This is the size of government shareholding in a company. It is calculated as the government-owned shares over total common shares.
AGE	This measures the number of years the company has been listed on the NSE as at 2010
SIZE	This is corporate size. It is calculated as the log

Descriptive Analysis

The descriptive results are shown in table 2. The results show the lowest (minimum) and the highest (maximum) values for each variables, the mean and standard deviations. According to the statistics in table 2, the proportion of share led by the Treasury ranged between a minimum of zero and a maximum of 70%. The mean shareholding by the Treasury was 21.1% with a standard deviation of 22.4%. The proportion of share held by other government institution ranged between a minimum of zero to a maximum of 48.1%. The average shareholding by government affiliated institutions was 12.7% with a standard deviation of 15.4%. The combined government shareholding ranged from a minimum of 4.5% to a maximum of 71.2%. The average total government shareholding was 34.1% with a standard deviation of 23.1%. The age of the companies on the stock exchange ranged from a minimum of 3 years to a maximum of 39 years. The average age of the firms on the NSE was 17.27 years with a standard deviation of 10.44 years.

Tobin's Q which represents firm performance has an average value of 0.58 and is much lower than most reported values such as in Wei et al (2005) i.e. (2.92) and Hennessy et al.(2007)(i.e. 2.49). The minimum value was 0.14 while the maximum value was 0.87. Another performance measure, ROA ranged from a minimum of zero to a maximum of 0.27. The mean ROA was 0.09. The ratio of fixed assets to total assets (tangible) range from a minimum of 0.005 to a maximum of 0.783. The mean was 0.425. The results show that on average, these firms had higher proportions of tangible assets (57.5%). The results also showed that outside debt does not seem to be a popular method of financing for these companies; an average company has a debt-to-equity ratio (leverage) of only 23 per cent.

Table 2: Descriptive statistics

Minimum	Maximum	Mean	Std. Deviation		
Tobin Q	.145	.869	.581	.243	

ROA	.000	.274	.086	.086
Treasury	.000	.700	.212	.224
Govt. Institutions	.000	.481	.127	.154
Total Govt. shares	.045	.712	.341	.231
Govt. size squared	.002	.507	.166	.181
Age	3.00	39.00	17.27	10.44
Size	13.97	19.34	17.17	1.43
Tangibles	.005	.783	.425	.303
Leverage	.001	.844	.234	.236

Univariate Analysis

It is very important to determine whether the data are parametric or not, in order to decide which statistical techniques should be used. If parametric tests are used when data are not parametric, then the results are expected to be unreliable (Field, 2005:63). There are some assumptions of parametric tests which should be checked before deciding upon appropriate tests. These tests are carried out as follows

Test of Normality of Distribution

This test is carried out and shown in table 3. The advice from SPSS is to use the Shapiro-Wilk's statistic for normality when sample sizes are small ($n < 50$) (Innes, 2007). Therefore, with fewer than 50 cases the Shapiro-Wilk's statistic for normality was used. If the test is significant ($p < .05$), then the distribution is not normal and the null hypothesis is rejected (Field, 2005:93). From the result, the test was for all the variables except total government share, age and size were significant. The distribution is therefore not normal for all the variables in the study.

Table 3 Test of normality

	Kolmogorov-Smirnov			Shapiro-Wilk	
	Statistic	df	Sig.	Statistic	df
Sig					
Tobin Q	.219	15	.052	.850	15
.017					
ROA	.214	15	.062	.868	15
.032					
Treasury	.182	15	.193	.862	15
.026					
Govt. Institutions	.274	15	.004	.781	15
.002					
Total Govt. shares	.166	15	.200	.915	15
.159					
Govt. size squared	.238	15	.022	.826	15
.008					
Age	.197	15	.123	.891	15
.070					
Size	.110	15	.200	.961	15
.706					

Tangibles	.243	15	.017	.843	15
.014					
Leverage	.275	15	.003	.838	15
.012					

Homogeneity of variance

Levene's test is used to test homogeneity of variance for groups of data. If Levene's test is significant at ($P \leq 0.5$), then the assumption of homogeneity of variance between the groups is rejected. If, however, Levene's test is non-significant ($P \geq 0.5$) then the assumption of homogeneity of variance between the group is accepted (Field, 2005). From the results in table 4, the Levene's test was non-significant hence the assumption of homogeneity is accepted. The data is therefore homogeneous.

Table 4: Test of homogeneity of variance based on mean

	Levene statistic	Df1	Df2
Sig.			
Tobin Q	0.240	13	4.13
0.632			
ROA	4.523	13	12.262
0.053			
Treasury	4.311	13	3.918
0.058			
Govt. Institutions	3.269	13	3.718
0.094			
Total Govt. shares	1.313	13	9.500
0.273			
Govt. size squared	0.351	13	4.932
0.564			
Age	1.746	13	3.740
0.209			
Size	0.247	13	7.476
0.627			
Tangibles	1.413	13	4.353
0.256			
Leverage	0.003	13	5.738
0.955			

Level of Measurement

Each of the parametric approaches assumes that the dependent variable is measured at the interval or ratio level i.e., using continuous scale (Pallant, 2001). In this study, the dependent variables, Tobin's Q and ROA, were measured on a continuous scale.

Independence

Independence means that the data from different participant are independent; therefore the behavior of one participant does not affect the behavior of another (Field, 2005). Pallant (2001) added that the observations that makeup the data should be independent of one another. This

assumption is not satisfied by this study. Table 5 presents the correlation coefficients between the independent variables. There is multicollinearity between size of government shares (Gov_ size²) and government control. Leverage is also strongly correlated with size of the firm and while industry is strongly correlated with tangibles.

As the four assumptions of parametric tests, and particularly the first (normality) and the last (independence) were not satisfied completely, it was decided to use non parametric test, which many statisticians (Field, 2005; Pallant, 2001; Dancey and Reidy, 2002) have recommended to be used in such cases.

Hypothesis Testing

The following are the hypothesis which the present study seeks to test:

Hypothesis 1: There are no statistically significant differences between government controlled firms and non government controlled firms in terms of their performance government shares, age, size, tangibles and leverage.

Hypothesis 2: There are no statistically significant differences between performance of firms in terms of their industry classification and control.

Table 5: Correlation matrix for independent variables

Sr. No.	1	2	3	4	5	6	7	8	9	
10										
Treasury	1									
Govt. Institutions	-.302	1								
Total Govt. shares	.757**	.389	1							
Govt. size squared	.741**	.380	.975**	1						
Govt. control	.648**	.293	.817**	.876**	1					
Age	-.554*	.305	-.333	-.295	-.061	1				
Size	.476	-.379	.194	.202	.105	-.145	1			
Tangibles	.204	-.407	-.081	-.122	-.162	-.074	.229	1		
Leverage	.367	-.275	.168	.090	.049	.027	.534*	.175	1	
Industry	.277	-.295	.063	.089	.144	.032	-.124	.635*	.076	1

** Correlation is significant at the 0.01 level (2 tailed)

* Correlation is significant at the 0.05 level (2 tailed)

Testing Hypothesis 1

Mann-Whitney U Test

The Mann-Whitney test has been used in this study to determine whether there are significant differences between two groups of companies: companies that are controlled by the government and those that are not controlled by the government. The method tests hypothesis1. This method has been selected because the scale is continuous. The results are shown in table 6. The results of the Mann-Whitney U Test show that there are no statistically significant differences between the two groups of companies, those which were controlled by the government and those that were not with respect to all the variables except for the shares owned by treasury (Asymp. Sig= 0.024) and the total shares owned by the government (Asymp. Sig = 0.004). this is expected as the control is measured by the proportion of shares the government holds in a company. Thus it is important to note that from the analysis, financial performance of the firms did not differ between the two groups: government controlled and non-government controlled.

Kendall's Rank Correlation

Kendall's rank correlation was chosen because it is a better estimate of the correlation in the population as more accurate generalization can be drawn from Kendall's statistic than from spearman's (Field, 2005). The results in table 7 show that there was a significant correlation between tangibles and Tobin's Q ($p < 0.05$). None of the other correlations were significant.

Table 6: Mann-Whitney U test results.

	Tobin	ROA	Treasury	Gov_ins	Gov_size	Gov_size2	Size	Tan	Lev
Age									
Mann-Whitney U	18.000	12.000	5.000	17.00	.000	.000	21.000	18.000	19.000
Wilcoxon W	84.000	22.000	71.000	83.000	66.000	66.000	87.000	28.000	85.000
Z	-522	-1.306	-2.260	-655	-2.872	-2.872	-131	-522	-392
656									
Asymp. Sig. (2-tailed.)	.602	.192	.024	.512	.004	.004	.896	.602	.695
Exact Sig. [2*(1-tailed Sig.)]	.661a	.226a	.026a	.571a	.001a	.001a	.949a	.661a	.753a
.571a									

a. Not corrected for ties.

b. Grouping Variable: Government control.

Table 7: Kendall's tau correlations between dependant and independent variables.

	Tobin Q	ROA
Treasury	.210	-.230
Gov_ins	-.232	-.077
Gov_size	.105	-.181
Gov_size2	.105	-.181
Age	-.293	.000
Size	-.010	-.067
Tangibles	.524**	.010
Leverage	.238	-.238
** Correlation is significant at the 0.01 level (1-tailed)		

4.4.2 Testing Hypothesis 2

To test H2, one-way analysis of variance (Kruskal-Wallis test) was used to test whether more than two independent groups significantly differ from each other (Field, 2005:736). It is a non-parametric alternative to one way ANOVA. It is used when the data do not meet the assumptions required for the parametric ANOVA (Dancey and Reidy, 2002:532). As mentioned by Pallant (2001:263) it is similar to a Mann-Whitney test but it allows comparison to be made among more than one group. Scores are converted into ranks and the mean rank for each group is compared.

In this study Kruskal-Wallis was used because there are seven groups of industries and data do not meet the assumptions of parametric tests.

The first hypothesis was tested using Mann-Whitney and Kendall's rank correlation as the independent variables were continuous (ratio and interval). The next hypothesis; industry type is categorical. Therefore, Kruskal-Wallis was used to examine the relation between the industry type and government control.

Table 8: Association between Industry Membership and Financial Performance

	Tobin Q	ROA
Chi-Square	8.613	3.167
df	6	6
Asymp. Sig.	.197	.788

The results of the test shown in table 8 revealed that there is no significant difference between the seven industries at 5% level and 1% level and 6 degrees of freedom(Chi-Square= 8.613 for Q and 3.167 for ROA; $p = .197$ for Q and $.788$ for ROA).

Table 9: Association between Industry Membership and Financial Performance

	Tobin Q	ROA
Chi-Square	.273	1.705
df	1	1
Asymp. Sig.	.602	.192

The results of the test shown in table 9 revealed that there is no significant difference in the performance of government controlled firms and non-government controlled firms as the 5% level and 1% level and 1degree of freedom (chi-Squared= 0.273) for Q and 1.705 for ROA; $p = .602$ for Q and $.192$ for ROA).

Multivariate Analysis

Testing Conditions for Multiple Regression

In order for a multiple regression analysis to be run, a number of assumptions for the same must be checked. These assumptions are normality, non multicollinearity, homoscedasticity of variance, independence of errors and outliers. Normality was already tested using Sharipo-Wilk and it was shown that the distribution was not normal. Non- multicollinearity was tested using correlation analysis and it was found that some of the independent variables were significantly correlated. Homoscedasticity of Variance refers to the residual at each level of the independent variable being similar. This was tested using Levene's test and since the Levene's test was insignificant at ($P \leq 0.5$) for all of the variables, then the assumption of homogeneity of variance is related to the assumption of homoscedasticity will not be met either. The independence of error (also called autocorrelation) is usually tested using the Durbin –Watson test. The test statistic varies between 0 and 4, and a value of 2 indicates uncorrelation of errors. Negative correlation occurs if the value of the test is significant above 2, while positive correlation occurs if the value is significantly below 2 (Field , 2005). The Durbin-Watson was 1.943 thus there was no serial autocorrelation. Outliners are the values that can have a remarkable influence on the correlation coefficient particularly in small samples because they are significantly lower or higher than other

values in the data set (Pallant, 2001). They can under or over estimate the value of the correlation coefficient. The standard deviations of residual statistics were unchecked and none of the standard deviation exceeded 2 standard deviations. The advice from SPSS is that the standard deviations should not exceed 3. If it does then there exist outliers.

Most of the assumptions of multiple regressions were met except for the normality of distribution and multicollinearity. But the data was homogeneous; there was no serial autocorrelation, no outliers, and no homoscedasticity of variance. A decision is therefore made to use rank regression analysis as opposed to OLS regression analysis. To do this, the data must be first transformed.

Transformation of Data

Cooke (1998:210) stated that data transformation is beneficial if problems of linearity, normality and homoscedasticity of variance exist. Transformation of data is useful if the assumptions of Standard Ordinary Least Square (OLS) are not entirely fulfilled. OLS is not preferable because of the non-normality of the distribution of most of the dependent and independent variables. Cooke (1998:209) added that a recent development in dealing with such problems is to transform the data and use Rank Regression rather than conventional OLS. The data was transformed, into normal score transformation was done using Van der-Waerdens formula.

Ranked and Normal Score OLS Regression Analysis

Full rank normal score OLS regression models were run for each of the dependent variables- Tobin's Q and ROA. From table 10, the ranked score regression of the Tobin's Q model explained around 26.8% measured by adjusted R^2 with an F – ratio of 1.732, which is insignificant with a probability more than 0.05. The tests show that none of the independent variables had a significant impact on the performance as measured by Tobin's Q at 5% level.

Table 10: Full rank regression model of Tobin's Q

R	R2	Adjusted R2	SE of estimate		F	Sig F
0.796	0.634	0.268	3.826		1.732	0.243
Coefficients	B	Std error	Beta	t-value	Sig	
Constants	6.450	5.346		1.207	0.267	
Gov- size2	-0.286	0.519	-0.286	-0.550	0.599	
Gov- cont	4.030	4.621	0.413	0.872	0.412	
Age	-0.238	0.288	-0.236	-0.825	0.437	
Size	-0.322	0.293	-0.322	-1.102	0.307	
Tan	0.732	0.369	0.732	1.986	0.087	
Lev	0.171	0.306	0.171	0.559	0.593	
Industry	0.004	0.740	0.002	0.005	0.996	

From table 11, the ranked score regression of ROA model explained around 53.1% measured by adjusted R^2 with an F-ratio of 0.307, which is significant with a probability more than 0.05. The test showed that none of the independent variables had a significant impact on the performance as measured by ROA at 5% level.

Table 11: Full rank regression model of ROA

R	R2	Adjusted R2	SE of estimate		F	Sig F
0.484	0.235	-0.531	5.533		0.307	0.929

Coefficients	B	Std Error	Beta	T-value	Sig.
Constants	5.875	7.731		0.760	0.472
Gov- size2	0.444	0.750	0.444	0.592	0.573
Gov- cont	-6.566	6.683	-0.672	-0.983	0.359
Age	0.144	0.146	0.143	0.345	0.740
Size	0.097	0.423	0.097	0.228	0.826
Tan	-0.060	0.533	-0.060	-0.112	0.914
Lev	-0.436	0.443	-0.436	-0.985	0.357
Industry	0.593	1.070	0.288	0.555	0.596

From table 12, the normal score regression of the Tobin's Q model explained around 35.8% measured by adjusted R^2 with an F-ratio of 2.117, which is insignificant with a probability more than 0.05. The t test showed that none of the independent variables had a significant impact on the performance as measured by Tobin's Q at 5 of % level.

Table 12: Normal score regression model of Tobin's Q

R	R2	Adjusted	SE of estimate	F	Sig F
0.824	0.679	0.358	0.696	2.117	0.172
Coefficients	B	Std Error	Beta	t-value	Sig
Constants	-0.332	0.488		-0.679	0.519
Gov- size2	-0.326	0.538	-0.326	-0.606	0.564
Gov- cont	0.933	0.914	0.492	1.021	0.341
Age	-0.283	0.289	-0.281	-0.980	0.360
Size	-0.326	0.281	-0.326	-1.161	0.284
Tan	0.678	0.339	0.678	1.998	0.086
Lev	0.291	0.309	0.291	0.936	0.379
Industry	0.021	0.136	0.052	0.153	0.883

From table 13 the normal score regression of ROA model explained around 60% measured by an adjusted R^2 with an F – ratio of 0.250, which is insignificant with a probability of more than 0.05.

Table 13: Normal score regression model of ROA.

R	R2	Adjusted R2	SE of estimate	F	Sig. F
0.447	0.200	-0.600	1.099	0.250	0.956
Coefficients	B	Std Error	Beta	t-value	Sig.
Constants	-0.023	0.771		-0.029	0.997
Gov- size	0.345	0.850	0.345	0.406	0.697
Gov- cont	-1.218	1.443	-0.642	-0.844	0.426
Age	0.091	0.456	0.091	0.201	0.847
Size	0.143	0.444	0.143	0.322	0.757
Tan	-0.103	0.536	-0.103	-0.193	0.852
Lev	-0.366	0.488	-0.366	-0.749	0.479
Industry	0.087	0.214	0.217	0.405	0.697

Summary, Conclusions and Recommendations

Summary and discussion of findings

This study was designed to assess the effect of government ownership and control on the financial performance of partially privatized listed firms. Using a combination of descriptive, univariate and multivariate analysis, the results were revealed and presented in chapter 4.

Here is a summary of those findings.

A sample of 15 (25.9%) firms listed on the Nairobi Stock Exchange with complete data was used in this study. Of the 15 firms, only 4 (or 26.7%) are controlled by the government as their shares exceed 50% in these firms. This on the other hand means that about 7% of the firms listed on the NSE are government controlled either ownership by the treasury or a combination of the treasury and other government affiliated institutions. Differences in financial performance of firms were tested using non parametric test because the conditions for performing parametric tests were not fully met. The result of Mann-Whitney U Test show that there are no statistically significant differences between the two groups of companies, those which were controlled by the government and those that were not with respect to all variables except for the shares owned by the treasury (Asymp. Sig = 0.024) and the total shares owned by the government (Asymp. Sig=0.004). The rank correlation showed that there was a significant correlation between tangibles and Tobin's Q ($p < 0.05$) while none of the other correlations were significant. The results were consistent with the result of a number of studies such as Kole and Mulhedrin (1997) in the US, Feng, Sun and Tong (2004) in china. These findings support the view that it is not who owns but the institutional governance framework in place that affects financial performance

The Kruskal-Wallis test for industry differences in performance showed no significant difference between the seven industries at the 5% level and 1% level and 6 degrees of freedom (chi-square= 8.613 for Q and 3.167 for ROA; $P = .197$ for Q and $.788$ for ROA.) The same test also showed no significant difference in performance of government controlled firms at 5% level and 1% level and 1 degree of freedom (Chi-Square=0.273 for Q and 1.705; $p = .602$ for Q and $.192$ for ROA).

This study performed a rank regression analysis instead of the Pearson regression because the conditions for the latter were not fully met. Both the ranked and normal score OLS regression did not reveal any significant influence of the independent variables on either Tobin's Q or the ROA at 5% level. Further, none of the F-statistics were significant.

Conclusion

This study concludes that there are very few firms on the NSE that the government of Kenya still retains some shares (about 26% of the firms) further, the government controls only about 27% of these firms. Therefore the government does control a significant number of firms listed on the NSE. The study concludes that there are no significant differences in the performance of government controlled firms and non-government controlled firms. Neither government ownership nor government control leads to differences in firms' financial performance.

This study concludes that firm performance is not influenced by the government shareholding or by the government control. This means that whether the government has some shares in a company or not or whether it has the controlling shares, the performance of firms listed on the NSE is not affected by such shareholding or control.

Recommendations

Based on the finding of this study, it's recommended that the government doesn't necessarily need to shed of its shareholding as has been the practice in the recent past the Treasury sells of their shareholding to the public to reduce their control on the firms. This is because the financial performance of partially privatized listed firms is indifferent to the government shareholding or control. There is also need to rethink on the government policy to sell off state corporations. As much as it has been fashionable to do the same, evidence in this study suggests that firm performance is unaffected by government ownership. Therefore, effort to sell off government owned enterprise that began in the 90's through Structural Adjustment Programs (SAP) should be channeled towards better corporate governance and overall management of the organizations.

Limitations to the study

One of the major limitations of this study is that the number of companies in which government owns shares is very small. This reflects the growing trend of government to sell of its shares in most companies in which it used to have shares. Therefore, it is difficult to generalize the results of this study because the sample sizes used are relatively small.

Secondly, R^2 (explanatory power) in multiple regression analysis ranged between 20% and 68% which means that the multiple regression model, which contained seven variables, explains about 20%- 68% of the variation in performance. Further, the F statistic was insignificant in all the models. Although this percentage is considerable, it means that other variables that were not included could affect the performance.

Lastly there were some instances in which the shareholding of the government changed yet the present study did not analyze the effect of this change and only used the current shareholding as at 2010. This might affect the accuracy of results in terms of the proportion of shares held by the government and hence the control in each of the firms. Further, control was measured as the total number of shares held by the treasury and all the government institutions such as NSSF. Thus the interpretation of results on control should consider this definition of control.

Suggestions for further Research

There is need for future studies to use secondary data in order to establish other factors which might influence financial performance of firms in which government has retained some shareholding in.

This study can be replicated with the inclusion of other firms in which government does not hold any shares in determine whether there are significant differences in firms in which the government has some shareholding and those that the government does not have any shareholding in

References

- Alchian, A & Demsetz, H. (1973) "The property rights paradigm," *Journal of Economic History*, 33 (17), 16-27.
- Backx, M., Carney M., & Gedajlovic E. (2002). Public, private and mixed ownership and the performance of international air lines. *Journal of Air Transport Management* 8, 213-220.

- Bai, C.E., Liu, Q., Lu, J., Song, F. & Zhang, J. (2004). Corporate governance and market valuation in China. *Journal of Comparative Economics* 32, 599-616.
- Bayliss, K. (2001). Privatisation of electricity distribution: Some economic, social and political perspectives. Centre on Regulation and Competition, *Working Paper Series*, University of Manchester, April.
- Berle, Adolf and Gardiner Means (1932). *The Modern Corporation and Private Property*. New York, Macmillan.
- Birya, F.T. (2009). Effects of privatization on financial performance of commercial banks listed at the NSE. *Unpublished MBA Project*. University of Nairobi.
- Boardman, A.E. & Vining, A.R. (1989). Ownership and performance in competitive environments: A comparison of the performance of private, mixed, and state-owned enterprises, *Journal of Law and Economics* 32, 1-33.
- Bortolotti, B. & Faccio, M. (2004). Reluctant privatization. *Working Paper* 04-37, Fondazione Eni Enrico Mattei.
- Bos, D. (1991). *Privatization: a Theoretical Treatment*. Clarendon Press, Oxford.
- Boubakri, N. & Cosset, J.C. (1998). The financial and operating performance of newly privatized firms: Evidence from developing countries. *Journal of Finance*, Vol. 53(3) 1081-1110.
- Boubakri, N., Cosset, J. and Guedhami, O. (2005): Post privatization corporate governance: the role of ownership structure and investor protection. *Journal of Financial Economics*, No 76 (2), 369-399.
- Boycko, M., Sheleifer, A. & Vishny, R.W. (1996). A theory of privatization. *Economic Journal*, 106, 309-319.
- Browning, E. & Browning J.M. (1983). *Public Finance and the Price System*. New York: Macmillan Pub. Co.
- Claessens, S., Djankov, S., Fan, J.P.H. & Lang, L.H.P. (2002). Disentangling the incentive and entrenchment effects of large shareholdings. *Journal of Finance* 57 (6), 2741-71.
- Coase, R. (1960). The problem of social costs. *Journal of Law and Economic*, (3), 1-44.
- Cooke, T.E. (1998). Regression analysis in accounting disclosure studies. *Accounting and Business Research*, 28 (3), 209-224.
- De Alessi, L. (1980). The Economics of property rights: a review of the evidence in Zerbe R.O., (Ed). *Research in Law and Economics*. JAI Press, Greenwich, Conn.
- De Alessi, L. (1983). Property rights transaction costs and x-efficiency: an essay in economic theory. *American Economic Review* 73, 64-81.
- Debrah Y.A. & Toroitich, O.K. (2005). The making of an African success story: The privatization of Kenya airways. *Thunderbird International Business Review*, Vol. 47(2)205-230. Retrieved from: <http://www.au.af.mil/awc/aficom/documents/kenyaairways.pdf>.
- Djankov, S. & Murrel, P. (2002). Enterprise restructuring in transition: A quantitative survey. *Journal of Economic Literature*, 40, 739-793.
- Ehrlich, I., Gallais-Hamonno, G., Liu, Z. & Lutter, R. (1994). Productivity growth and firm ownership: an analytical and empirical investigation. *Journal of Political Economy* 102, 1006-1038.
- Estrin, S., Hanousek, J., Locenda, E. & Svejnar, J. (2007). Effects of privatization and ownership in transition economies. *Discussion paper No. 2007-181, CERGE-E1*. Retrieved from: <http://home.cerge-ei.cz/hanousek/jel-survey/>.

- Estrin, S. & Perotin, V. (1991). Does ownership always matter? *International Journal of Industrial Organization* 9 (1), 53-73.
- Feng Fang, Sun Qian and Tong Wilson H.S. (2004). Do government-linked companies underperform? *Journal of Banking and Finance*, 2004, Vol.28, issue 10, pages 2461-2492.
- Field, A. (2005) *Discovering Statistics Using SPSS: (and sex, drugs and rock 'n' roll)*, London, Sage.
- Garcia, L.C., Anson, S.G. and Rodriguez, V.S, (2008). Post privatization ownership concentration: Determinants and influence on firm efficiency. Project EC02008-01439/ECON.
- GOK (2005) - Privatisation Act: Government of Kenya: Nairobi.
- Gorritz, C.G., & Fumas, V.S. (1996). Ownership structure and firm performance: Some empirical evidence from Spain. *Managerial and Decision Economics*, 17, 575-586.
- Hart, O. (2003). Incomplete contracts and Public Ownership: Remarks, and an Application to Public-Private Partnerships. *The Economic Journal*, Vol.113, No. 486, Conference Papers, C69-C76, Blackwell Publishing for the Royal Economic Society. [URL:http://www.jstor.org/stable/3590047](http://www.jstor.org/stable/3590047).
- Hess, K., Gunasekarage, A. & Hovey M. (2010). State-dominant and non-state-dominant ownership concentration and firm performance: Evidence from China", *International Journal of Managerial Finance*, Vol. 6 Iss: 4, 264-289.
- Hongo, A.A. (2006). Gradual vis a vis rapid privatization and financial performance of privatized companies quoted in NSE. *Unpublished MBA Project*. University of Nairobi.
- Huang, Z. & Wang, K. (2004). Ultimate privatization and change in firm performance: Evidence from China. *Unpublished Research Thesis*, Tsinghua University Retrieved form: <http://ccg.tsinghua.edu.cn/uploads/%E5%8A%A0%E5%/85%A5%E6%88%91%E4%BB%AC/Ultimate%20Privatization%20and%20Change%20ine%20Firm%20Performance.pdf>.
- Jelic, R., Briston, R. & Aussenegg, W. (2003). The choice of privatization method and the financial performance of newly privatized firms I transition economies. *Journal of Business Finance and Accounting* 30, 905-930.
- Jensen, M.C. & Meckling, W.R. (1976). Theory of the firm: managerial behaviour, agency costs, and ownership structure. *Journal of Financial Economics*, 3: 305-60.
- Johnson, S., La Porta, R., Lopez-de.Silanes, F. & Shleifer, A. (2000). Tunneling. *American Economic Review Papers and Proceedings*, 90, 22-27.
- Kang Y.S., Kim, B.Y., & Xu, C. (2007). Ownership structure and firm performance: evidence from the Chinese corporate reform. Retrieved from <http://www.wcu-snucon.co.kr/upload/catalogue-file/6179e7fc2454ed44934011693431.pdf>.
- Kornai, J., Maskin, E & Ronald, G. (2003) Understanding the soft budget constraint. *Journal of Economic Literature* Vol. XLI, 1095-1136.
- Kole, S., & Mulherin, J. (1997). The Government as a Shareholder: A Case from the United States. *The Journal of Law and Economics*. 40(1), 1-22. Retrieved from <http://www.journals.uchicago.edu/doi/abs/10.1086/46364>.
- Laffont, J.J. and Tirole, J. (1991), Privatization and incentives. *Journal of Law, Economics and Organization*, 7, 84-105.

- Levy, N. (1987). A theory of public enterprise behavior. *Journal of Economic Behaviour and Organization*, 8, 75-96.
- Liu, G.S. & Sun, S.P. (2002). "The class of shareholdings and its impacts on corporate performance: a case of state shareholding composition in Chinese publicly listed companies" *Economics and Finance. Working Papers*, Brunel University, 02-19 Retrieved from: <http://www.brunel.ac.uk/about/acad/sssl/ssslresearch/efwps\2002>.
- López-Calva, L.F. (1998). On privatization methods. Harvard Institute for International Development, *Discussion Papers-Central America Project*, Series No. 665, Harvard University.
- Meggison, W.L., Nash, R.C. & Randenborgh M.V. (1994). The financial and operating performance of newly privatized firms: An international empirical analysis. *Journal of Finance*, 49, 403-452.
- Meggison, W.L. & Netter, J.M. (2001). From state to market: A survey of empirical studies on privatization. *Journal of Economic Literature*, 39, 321-389.
- Muganda, O. & Mugenda, G. (2003). *Research Methods: Quantitative and Qualitative Approaches*. ACTS, Nairobi Kenya.
- Nellis, John. 1994. Is privatization necessary? *World Bank Viewpoint Note 17*, Washington D.C: World Bank.
- NSE (2011) NSE Handbook 2010 Edition. Nairobi Stock Exchange: Nairobi.
- Organisation for Economic Cooperation and Development. (2010). *Privatisation in the 21st Century: summary of recent experiences*. Paris OECD. Retrieved from: www.oecd.org/daf/corporate-affairs.
- Omran, M. (2004). The performance of state-owned enterprises and newly privatized firms: Does privatization really matter? *World Development* 32, 1019-1041. Retrieved from: <http://www.investment.gov.eg.fr/Publications/NonPeriodicPublications/Documents/MWORLDDEVELOPMENT.pdf>.
- Ongore, V.O. (2011). The Relationship between ownership structure and firm performance: An empirical analysis of listed companies I Kenya. *African Journal of Business Management* Vol. 5(6). 2120-2128.
- Qi, D., Wu, W. & Zhang, H. (2000). Shareholding structure and corporate performance of partially privatized firms: Evidence from listed Chinese companies. *Pacific-Basin Finance Journal* 8 (5), 587-610.
- Pallant, J. (2001) *SPSS Survival Manual; A Step by Step Guide Analysis Using SPSS for windows (versions 10 and 11)*, Buckingham, Open University Press.
- Ranja, T. (2004). Privatization in East Africa: Gaps and omissions in the techniques. *Economic and social Research Foundation*. Retrieved on 11/8/2011 from <http://papers.ssrn.com/sol3/papers.cfm?abstract-id=895621>.
- Ronald, G. (2008). *Privatisation: Successes and failures*. Columbia University Press. Retrieved from: <http://books.google.ca/books?id=IUNqywVGWLwC&pg=PA9&source=gbs-toc-r&cad=3#v=onepage&q&f=false>.
- Sappington, D.E. & Stiglitz, J. (1987). Privatization, information, and incentives. *Journal of Policy analysis and Management*, 6, 567-582.
- Shapiro, C. & Willig, R. (1990). Economic rationales for the scope of privatization, in: Suleiman and Waterbury (eds). *The Political Economy of Public Sector Reform and Privatization*, Westview Press.

- Sheshinski, E. & Lopez-Calva, L.F. (2003). Privatization and its Benefits: Theory and Evidence. *CESifo Economic Studies*, Vol. 49, (3), 429-459.
- Shleifer, A. & Vishny, R. (1994). Politicians and firms. *Quarterly Journal of Economics* 109, 995-1025.
- Shleifer, A. & Vishny, R. (1998). The grabbing hand: *Government Pathologies and their Cures*. Harvard University Press, Cambridge, MA. Retrieved from: <http://www.entrepreneur.com/tradejournals/article/67532371.html>.
- Starr, Paul. (1998). The meaning of privatization. *Yale Law and Policy Review*, 6, 6-41. Retrieved from: <http://jstor.org/pss/4029271>.
- Szentpeteri, Á. (2006). Government objectives, incentives, and privatization. *Unpublished PhD Thesis*, Economics Department. Retrieved on 10/8/2011 from: <http://www.econ.ceu.hu/download/thesis/Thesis-Szentpeteri.pdf>.
- Sun, Q. & Tong, H.S. (2003). China share issue privatization: The extent of its success. *Journal of Financial Economics* 70, 183-222.
- Sun, Q., Tong, H.S. & Tong, J. (2002). How does government ownership affect firm performance? Evidence from China's privatization experience. *Journal of Business Finance and Accounting* 29, 1-27.
- Tian, L. Esrin, S. (2007). Retained state shareholding in Chinese PLCs: Does government ownership always reduce corporate value? *Journal of Comparative Economics*, 36,, 74-89. Retrieved on 8/8/2011 from: [http://personal.lse.ac.uk/esrin.Publication%20PDF's/Retained%20state%20state%20shareholding%20in%20Chinese%20PLCs.pdf](http://personal.lse.ac.uk/esrin/Publication%20PDF's/Retained%20state%20state%20shareholding%20in%20Chinese%20PLCs.pdf).
- Thambu, Z. (2006). Privatization and performance of public corporations listed in the NSE. *Unpublished MBA Project*. University of Nairobi.
- Vickers, J. & Yarrow, G. (1988) Privatization: An economic analysis. *MIT Press Series on the Regulation of Economic Activity*, no. 18. Cambridge, Mass and London: MIT Press.
- Vickers, J. & Yarrow, G. (1989). Privatisation in Britain. In MacAvoy, P.W. et al *Privatisation and State Owned Enterprises*, Kluwer Academic Publishers, Boston.
- Vining, A.R. & Boardman, A.E. (1992). Ownership versus competition: *Efficiency in Public Enterprise, Public Choice*, 73, 205-239.
- Wang, C. (2005). Ownership and operating performance of Chinese IPOs'. *Journal of Banking & Finance* 29, 1835-1856.
- Wang, X., Xu, L.C. & Zhu, T. (2004). State-owned enterprises going public. The Case of China. *Economics of Transition*, 12, 467-488.
- Weche, E.A. (2005). Pre and post financial performance of firms privatized through the NSE. *Unpublished MBA Project*. University of Nairobi.
- Wei, A. & Verela, O. (2003). State equity ownership and firm market performance: Evidence from China's newly privatized firms. *Global Finance Journal*, 14, 65-82.
- Wei, Z., Verela, O., D'Souza J. & Hassan, M.K. (2003). The financial and operating performance of China's newly privatized firms. *Financial Management* 32, 107-126.
- Wei, Z., Xie, F. & Zhang, S. (2005). Ownership structure and firm value in China's privatized firms. *Journal of Financial Quantitative Analysis*, 40, 87-1-8.
- Welch, D. & Fremond, O., 1998. The case-by-case approach to privatization techniques and examples. *Papers 403*, World Bank – Technical Papers.
- Williamson, O. (1985). *The Economic Institutions of Capitalism: Firms, markets, rational contracting*. London: Macmillan.

- World Bank (1995) *Bureaucrats in business: the economics and politics of government ownership*. World Bank, Oxford University Press.
- Wu, L., Wang, Y., Lin, B. & Bai, Y. (2010). Full Privatization, expropriation, and firm performance: Evidence from China. *William A. Orrne working Paper Series*.
- Xu, L.C., Zhu, T. & Lin, Y. (2001). Politician control, agency problems, and firm performance: Evidence from a national survey of ownership restructuring in China. Retrieved from: <http://www.econometricsociety.org/meetings/esem02/cdrom/papers/225/ownership-restructuring>.
- Yu, H., Hans V.S. & Lensink, R. (2007). State Control, Group affiliation and Corporate Performance: Evidence from China's Listed Firms. Retrieved from: <http://sf.cufe.edu.cn/news/jiangzuo/20100701>.
- Zeckhauser, R.J. & Horn, M. (1989). The control and performance of state-owned enterprises. In P.W. MacAvoy, W.T. Stanbury, G. Yarrow, and R.J. Zeckhauser, (Eds). *Privatization and State-owned Enterprise*, Kluwer, Bosto, MA, 7-57.

Analysing Monthly Bulk Electricity Sold By Uganda Electricity Transmission Company Limited Using Arima Model

Mawanga Freddie Festo

Abstract

Uganda Electricity Transmission Company has monopoly of buying bulk electricity from all generating companies within Uganda and selling it to local distributors and other distributors within the East African neighbouring countries. However, up to now, the monthly units of electricity sales are reported in tables or graphs and forecasts are mainly judgmental thus failing to provide quantitative input data required for her strategic planning. The purpose of this study was to; identified the main characteristics in the trends of the monthly units of sales, analyse the units of sales using a simple linear regression and ARIMA models and evaluate the estimated ARIMA model equation using in-sample forecasting in an interactive analysis. The analysis used Eviews 3.1 econometric package covering the period 2006:02 to 2011:07.

The study revealed a general upward trend, with variations from one month to another but not showing any distinctive seasonality within each year. A simple linear regression was found to be unsuitable for representing the monthly electricity sales since most of the actual sales were lying outside confidence limits of the estimated model. However, a good fit model was found to be ARIMA(1,1,0) showing that the model depended mainly on the previous lag monthly sales after first order differencing. This was confirmed through identification of the model and carrying out predictive and diagnostic tests. Furthermore, an evaluation forecast showed that the real time series fitted in the confidence limits of the estimated ARIMA model which could reasonably be used for actual forecasting of the sales beyond the period 2011:07.

This study provides managers of the company an innovation with a practical and yet simple tool to provide input quantitative data in describing, explaining, intervening and forecasting monthly electricity sales during strategic planning.

Key Words: ARIMA, Non-stationary, Stationary, ACF, PACF, Monthly Electricity Sales, Differencing

Introduction

Energy is one of the key drivers in any economic development. Optimal use of this resource is therefore vital even in achievement of full integration of the East African Community. Since colonial days, Uganda has exploited her abundant natural hydro power reserves for local use and to parts of all her regional member countries within the Community. Uganda Electricity Transmission Company Ltd. (UETCL) is the company licensed make these bulk electricity sales to the distributors. However, extant literature reveals that the company presents her units of monthly electricity sales using only statistical descriptions like tables and graphs. By its nature, this business trend varies from one month to another, so, a simple linear model could possibly be poor in providing a management science tool to support the company with input data required for strategic management. Many scholars like Himanshu & Lester (2007) in a study of electricity sales in Sri Lankan and Li & Zhang (2010) in another study in China found that a non-stationary time series approach provides good models for explaining, describing and forecasting such varying trends in electricity sales.

A non-stationary time series is a collection of data points recorded as a function of time, Box & Jenkins (1976). Studies, by Cranage (2003) and Borovkov (2003) confirm that most human activities exhibit a non-stationary time series trend and this covers areas like; economic forecasting, sales forecasting, budgetary analysis, process and quality control, workload projections, population growth and utility services like sales of electricity. Box, Jenkins & Reinsel (1994), Makridakis, Wheelwright & Hyndman (1998), assert that there is a key characteristic in non-stationary time series whereby current values are dependent on their lags values. That is why, Box & Jenkins (1976) suggested that non-stationary time series analysis could provide a more reliable model with information to support strategic, tactical and operational planning, forecasts and providing better descriptions, explanations and interventions in such human businesses.

Different methodologies exist in analysing non-stationary time series such as; the moving average and weighted smoothing, however, Box & Jenkins (1976) suggested an ARIMA (Auto Regressive Integrated Moving Average) modelling as being one of the most efficient methodologies for analysing such series and it has been used by a number of scholars like; (Ching-Hsue & Liang-Ying, 2009; Granger, 2007; Dunis, Laws & Evans, 2006), Robinson (2000), Himanshu & Lester (2007), Granger (2007) and Kantz & Schreiber (2003) in modelling different economic trends. Unfortunately, Himanshu & Lester (2007) in a study of electricity sales in Sri Lanka and another study by Li & Zhang (2010), concur that there has been little modelling of electricity using the ARIMA, though found to be very simple, efficient and effective in forecasting short-term sales.

Problem Statement

In Uganda, extant literature shows that there has never been any study to describe, explain and forecast energy sales by UETCL using a quantitative approach. This has made the company use mainly judgemental input information in her strategic planning. In this study, a non-stationary time series approach using ARIMA modelling was used to analyse the monthly sales covering the period 2006:02 to 2011:07 and it was found to be a better tool than the common simple linear regression as confirmed by earlier studies by Himanshu & Lester (2007) and Robinson (2000).

Specific objectives

Specifically, the study was carried out to:

- (a) Identify the main patterns in the monthly sales of electricity sold;
- (b) Develop a linear regression model using the monthly sales of electricity;
- (c) Develop an ARIMA model for the monthly sales of electricity;
- (d) Evaluate the estimated ARIMA model using in-sample monthly electricity forecasting.

Characteristics of monthly electricity sales

The theoretical frame of this study according to Box & Jenkins (1976) shows that when any non-stationary time series is plotted it takes a general pattern as shown in Figure 1 which is an extract of monthly volumes of passengers by an airline. The trends exhibit long term upward patterns, seasonality within a business cycle and randomness between successive months (Verdes, Granitto, Navone, & Ceccatto, 2001).



Figure 1

Long term trend is the general pattern in a time series and their individual models have been given by scholars like Box & Jenkins (1976), Velleman & Hoaglin (1981) and Granger (2007) to be in the form:

$$Y_t = \alpha Y_{t-1} + (1-\alpha)Y_{t-1} = \alpha Y_{t-1} + (1-\alpha)[Y_{t-1} + (1-\alpha)Y_{t-2} + (1-\alpha)^2 Y_{t-3} + \dots] + (1-\alpha)^{t-1} Y_0$$

Where Y_t is the observed value after time t , α is a smoothing coefficient ($0 < \alpha < 1$), Y_{t-1} is an observed value one lag behind the current observation Y_t etc. Gardner(1985) found that most suitable values of α were less than 0.3, though Makridakis et al (1998) used values more than 0.3 and got better result in their particular studies. Other scholars like Brockwell & Davis(2002) and Robinson (2000) assert that any a time series can be expressed as $Y_t = a + b_1 t + b_2 t^2 + \dots + b_n t^n$ and the practical value of n hardly exceed the order of 3. Special modifications of this general equation include the exponential curves for constant-elasticity trends denoted as $Y = AX^b$ and exponential curve for constant growth or decay given as $Y = Ae^{bx}$. In sales of bulk electricity, developments in manufacturing companies, urbanisation, change in social economic trends contribute to general increase in demand for more sales.

Seasonality is a regular fluctuation in time series repeated from one business cycle to another and generally occurring at the same timing and with the same level of intensity (Kendall & Ord, 1990). Box and Jenkins (1976) and Kendal & Ord (1990) say that when time series are converted into standard distribution plots, residuals greater than 2 standard errors from the mean are statistically significant autocorrelation indicating recognised seasons. Other scholars like Robinson (2000), Himanshu & Lester (2007) and Dobre & Alexandru (2008) recommend that seasonal variations in non-stationary time series be expressed as percentages called seasonal indices given as a ratio by how much the average for that particular period tends to be above (or below) the grand average and expressed as $S_i = D_i/D$. Seasonality can be caused by weather fluctuations, business and administrative trends like start and end of school terms and can also be due to social and cultural behaviour of consumers like religious festivity seasons (Kendal & Ord, 1990, Makridakis et al, 1998). In bulk sale of electricity, some semblance of seasonality could be detected during Christmas season due to need for high production of goods needed by consumers and increase in social-recreational activities.

Outliers are data values in time series caused by unpredictable influences. Outliers can be a one time, seasonal or sequential impulses with the same magnitude and direction. For example, Ogbuagu & Ubi (2009) in a study on privatisation of electricity supply in Nigeria cite inadequacies in hydro electric plants particularly during dry seasons, vandalism of electricity equipment and un-scheduled maintenance as likely causes of outliers in transmission of electricity.

Linear regression model

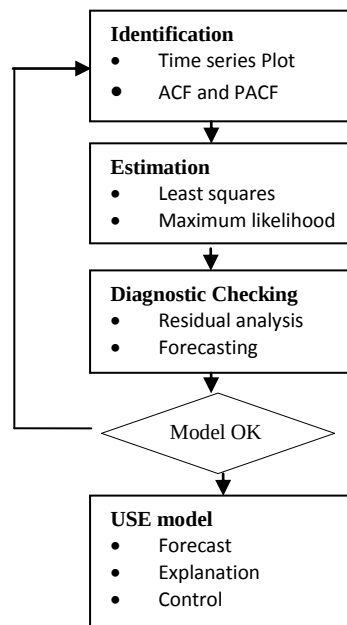
The linear regression model is a mathematical relationship between a dependant and one or more independent variables Dielman(1991) and many scholars have used it to model cross-sectional data with high degree of certainty. In this study, I adapted this approach by using the month 2006:02 as a base year and all successive months being a data series with a step of one month as the independent variable. One drawback in this modelling according to Cranage (2003) is that it requires knowing all independent variables in the equation and even in forecasting, the corresponding values are required.

ARIMA modelling

Ekpenyong (2008) and Kendal & Ord (1990) assert that monthly sales of electricity are continuous non-stationary time series and this was reconfirmed by Shang & Hyndman (2009) and HyungSeon & Robert (2010) in their study on electricity sales and that the determinants of the sales include economic activities, nature of buildings, technology choices, load level and government policy. This assertion would require another study for the case of UETCL.

Unlike in linear regression modeling, Box-Jenkins(1976) says the lag effect in ARIMA modeling requires only a minimum of one category of time series and gave a schematic approach to analyzing non-stationary time series modeling as shown in Figure 2.

Figure 2



To model using an ARIMA requires transformation the series into a stationary trend and one common transformation process is through differencing (Francis (2004) and (Shang & Hyndman,

2009) which was used in this study. According to Box & Jenkins (1976), Simon (1999) and Ogbuagu & Ubi (2009) the first order differencing is $D_t^1 = D_t - D_{t-1}$ and second order differencing is $D_t^2 = D_t^1 - D_{t-1}^1$. Ching-Hsue & Liang-Ying, 2009; Clive, 2007, and Dunis et al, (2006) explain that stationary time series have constant mean, variance and auto correction. However, when the raw data shows a changing variance, the data could be transformed considering first the logarithms or square root of the series and establishing seasonality later on.

The ARIMA model can be considered to be a combination of the AR (auto regression) and MA (moving average) models and expressed as:

$$y_t = a_0 + a_1 y_{t-1} + a_2 y_{t-2} + \dots + a_p y_{t-p} - b_1 u_{t-1} - b_2 u_{t-2} - \dots - b_q u_{t-q} + u_t$$

where $a_1 y_{t-1} \dots$ is the AR component and $b_1 u_{t-1} \dots$ is the MA component (Box Jenkins, 1976; Dobre & Alexandru, 2008). When a time series trend depends purely on previous outputs it is an Autoregressive (AR) model and when it depends purely on the inputs to the system it is a Moving Average (MA) model and one which is based on both inputs and outputs is an Autoregressive-moving-average model (ARIMA). An ARIMA model is therefore, a special regression model in which a stationarised dependent variable uses all its lags and or errors as independent variables (Box-Jenkins, 1976).

According to Iqbal, Bakhsh, Maqbool & Ahmad (2005) Nogales, Contreras, Conejo & Espínola (2002) the ARIMA model is denoted as ARIMA(p,d,q) where; p: is an Autoregression representing influence of previous values on the current value; d: is an Integration or Differencing factor showing number of times the series is to be differenced to yield stationary series; and q: is Moving Average which is serially correlated data consisting of the current random shock and portions of the previous shocks. The parameters are determined using plots of ACF (Auto Correlation Function) and PACF (Partial Auto correlation Functions). ACF is bar chart of the coefficients of the correlation between a time series and lags of its self. PACF is a plot of partial correlations coefficients between the series and lags of itself so PACF is correlation between two variables which is not explained by their mutual correlations with all other variables

Application of ARIMA model by Granger (2007) and Kantz & Schreiber (2003) showed that seasonality is identified by differencing until the series is stationary. Therefore, in case of monthly data it is possible to typically include either a seasonal AR 12 term or a seasonal MA 12 term in the general model. Box Jenkins (1976) expresses a model with seasonality to be ARIMA(p,d,q)x(Ps,Ds,Qs)_s where s is a business cycle and for a monthly time series the value of s is 12, while quarterly time series s will be 4.

Robinson (2000) analyses some specific models of the ARIMA(p,d,q) like ARIMA (0,0,0) which is a simple model of a stationary series given as $Y_t = a_t$; the autoregression process ARIMA (p,0,0) given as $Y_t = \alpha Y_{t-1} + a_t$ showing an exponential decline ($-1 < \alpha < 1$); differencing or integration process ARIMA (0,d,0) given as $Y_t = Y_{t-1} + a_t$ and the moving average process ARIMA (0,0,q) given as $Y_t = a_t - \alpha a_{t-1}$. Values for p, d, and q hardly exceed 2 giving five possible models for any non-stationary data series.

The ARIMA modelling requires a minimum of 50 data points to give reliable analysis, Francis (2004) and according to Han Lin Shang & Hyndman (2009) and Iqbal, Bakhsh, Maqbool & Ahmad (2005). if long term, seasonality, autocorrelation and outliers have to be investigated it would require identifying, predicting and carrying out a diagnostic test on the model. Generally, Robinson (2000) say that identifying the model covers determining the main characteristics of raw data and this includes the long term trends, seasonality, and any outliers in additions to confirming that the series is non-stationary. Predicting a model according to Iqbal, Bakhsh, Maqbool & Ahmad (2005) and Nogales, Contreras, Conejo & Espínola(2002) involves testing for its accuracy by investing its normality using the unit root and ADF test when the Null hypothesis is that their values are significant at a certain level of confidence. The same authors show that prediction can also involve showing that the model is the best fit and least complex among other closely related models. Iqbal, Bakhsh, Maqbool & Ahmad (2005) say that one of the processes in diagnosis of a model is to prove that the correlogram of the residuals are not significant. In this study, most of these tests were carried out to reconfirm the best fit choice of the model.

ARIMA model evaluation as forecasting tool

Evaluation of an estimated ARIMA model is an aspect of forecasting. Forecasting is a necessary input to planning whether in business or government. Often, forecasts are generated subjectively by group discussion, Dobre & Alexandru ((2008) though simple quantitative input data could enrich the required data for better implementation and validation of the forecast. In forecasting, a model with AR signature includes past values while a model with MA signature includes past residuals. Forecasting of next time series value X_{t+1} by implication is:

$$X_{t+1} = X_t + \emptyset(X_t - X_{t-1}).$$

Evaluating the estimated model, requires the raw data divided into two sets, the testing and evaluation data and this approach is called in-sample forecasting. Box & Jenkins (1976) adds that such forecasting can use control limits which could be one, or two-standard-errors and any value outside the limit would deem revision of the model

Ching-Hsue & Liang-Ying (2009), Nogales, Contreras, Conejo & Espínola(2002) and Robinson (2000), found that approaches to forecast electricity sales have not involved much of ARIMA modelling and this is because tools like ARIMA are not easily comprehended by policy-makers. As a way forward, Francis (2004), Dobre & Alexandru (2008) and Robinson (2000) say that forecasts should include only the long-term and seasonal trends where they exist.

In conclusion, ARIMA modelling of provides a simple but powerful modelling tool, though need for stationarising the data first, identifying any seasonality and failure by most business community to comprehend the modelling concepts still make it hard to be adapted by many people.

Methods and Materials

A linear regression and ARIMA modeling were both carried out using EvIEWS 3.1 because of its flexibility and ease of analysing time series. The ARIMA modelling is interactive, analytical and exploratory using plots of ACF and PACF. Data collected had 66 observations (> 50) from 2006:02 to 2011:07 as shown in Table 1. The modeling (testing) data consisted of 59 series (2006:02 to 2010:12) and forecasting (evaluation) data had seven cases (2011:01 to 2011:07).

Linear regression modelling had monthly sales as the dependent variables, while a dummy variable called mthregress was the independent variable with values 1, 2, 3,... for month periods 2006:02; 2006:03; 2006:04; ... The hypotheses were tested, results plotted and interpreted. The regression was based on the hypothesis that:

H₀: As months pass by it has no effect on the monthly sales of electricity

H₁: As months pass by there is an effect on monthly sales of electricity.

ARIMA modelling involved identifying the characteristics in the model and stationarising the series in which the value for d in the model equation was determined. Existence of seasonality was investigated and thereafter values for p and q were determined through interpretation of the correlogram plots. Lastly diagnosing the model was carried out and then it was used to make an evaluation forecast of the sales.

Table 15

Month of Year	Sales (GWh)	Month of Year	Sales (GWh)	Month of Year	Sales (GWh)	Month of Year	Sales (GWh)	Month of Year	Sales (GWh)	Month of Year	Sales (GWh)
2006:01		2007:01	157	2008:01	167	2009:01	179	2010:01	196	2011:01	21
2006:02	112	2007:02	148	2008:02	154	2009:02	165	2010:02	179	2011:02	19
2006:03	122	2007:03	159	2008:03	165	2009:03	184	2010:03	198	2011:03	22
2006:04	122	2007:04	145	2008:04	159	2009:04	178	2010:04	194	2011:04	20
2006:05	126	2007:05	155	2008:05	170	2009:05	186	2010:05	203	2011:05	21
2006:06	123	2007:06	151	2008:06	165	2009:06	185	2010:06	200	2011:06	21
2006:07	129	2007:07	165	2008:07	168	2009:07	197	2010:07	205	2011:07	20
2006:08	133	2007:08	164	2008:08	172	2009:08	195	2010:08	206		
2006:09	124	2007:09	157	2008:09	171	2009:09	185	2010:09	201		
2006:10	135	2007:10	165	2008:10	172	2009:10	193	2010:10	207		
2006:11	138	2007:11	170	2008:11	171	2009:11	172	2010:11	204		
2006:12	144	2007:12	169	2008:12	177	2009:12	178	2010:12	208		

Results and Discussion

Results, interpretation and discussion of the characteristics, linear regression and ARIMA modelling are presented in an interactive way because of the nature of the study (Dobre & Alexandru, 2008; Iqbal et al, 2005).

Characteristics of the trend

An “Eyeball Metric” of the raw data (Figure 2), shows an upward trend of the series without systematic peaks or troughs. However, September reflect low sales and December high sales using a 12-month business cycle and these two months were more like outliers rather than outstanding seasonal patterns and this assumption was investigated further in the study. The pattern did not reflect any systematic increase in variance of the trends, thus suggesting that transformation of the raw data before further analysis would not be necessary, though this was again to be confirmed after stationarising the data.

The trend was a typical non-stationary time series, which was being influenced by more generation of bulk electricity from both hydro and thermal source. On the demand side, it was being influenced by continuous increase in the manufacturing and fabricating sectors, urbanisation, increased socialisation centres, construction of high rise buildings, rural electrification and acquisition of more electronic gadgets for use by the consumers. Variations in monthly sales could be attributed to differences in length of months, week-end effect, holiday effect and cultural effects like Christmas periods.

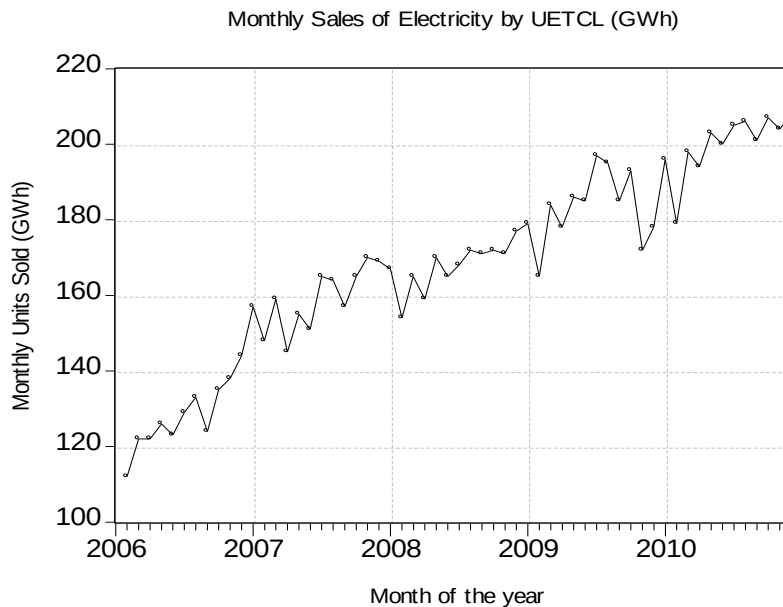


Figure 3
Linear regression

A simple linear regression was carried out and the output is shown in Figure 3. Interpreting the output shows that the linear regression equation between the monthly sales and the successive months using 2006:02 as a base month is:

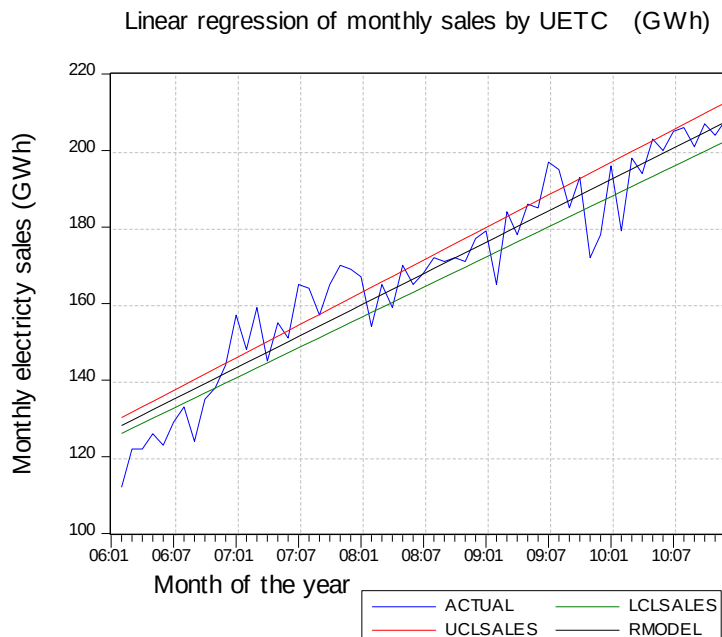
$$\text{Monthly Sales} = 126.8 + 1.3670 * \text{mthregress}$$

The uncertainty in the constant and the variable mthregress were 1.9898 and 0.0516 respectively. Furthermore, the standard error of the regression in the model is 7.9911 and passage of time contributes about 92% of the monthly sales. A t-statistic measures extent to which a variable is considered to be part of the regression and the output showed that we are 95% confident that these two parameters are part of the equation (t-value > critical value) and that their coefficients are not zero since the p-values of the t-statistic for both are less than 0.05 (they are significant). In conclusion, the Null hypothesis is rejected.

Dependent Variable: ACTUAL				
Method: Least Squares				
Date: 05/07/12 Time: 09:37				
Sample(adjusted): 2006:02 2011:07				
Included observations: 66 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	126.8131	1.989845	63.73010	0.0000
MTHREGRESS	1.366955	0.051634	26.47419	0.0000
R-squared	0.916327	Mean dependent var		172.6061
Adjusted R-squared	0.915020	S.D. dependent var		27.41245
S.E. of regression	7.991111	Akaike info criterion		7.024371
Sum squared resid	4086.903	Schwarz criterion		7.090724
Log likelihood	-229.8042	F-statistic		700.8825
Durbin-Watson stat	1.589158	Prob(F-statistic)		0.000000

Figure 4

The findings would mathematically present a good model, but most of the actual sales were outside the confidence limits of the estimated model, thus making it unsuitable for the trends as shown in Figure 3 at 95% confidence level.



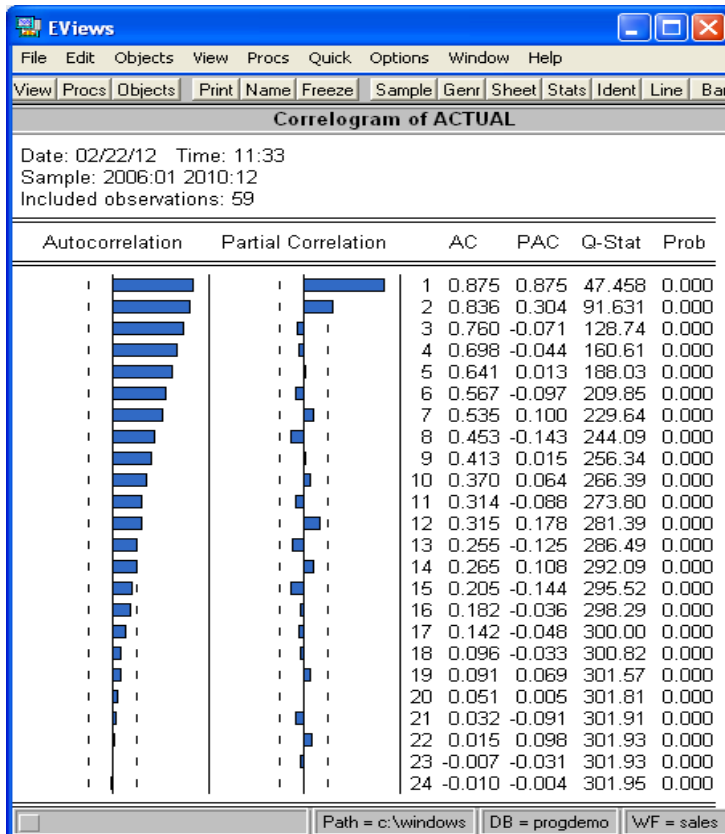
ARIMA Modelling

The main study focused on modelling the monthly electricity sales of UETCL using the ARIMA model and this is presented in the following sub-sections.

Identification of the model

A graphical pattern of the raw data is shown in Figure 3 using 24 lags which was greater than 59/4, (Box-Jenkins, 1976). A Correlogram of the series is shown in Table 2, with the ACF having an exponential decline up to 14 spikes and the PACF having 2 spikes at lag one and two. The ACF does not show any seasonality within a business cycle of 12 months, thus reconfirming that variations in September and December sales are just outliers.

Table 2



From the PACF characteristics, it is possible to make an initial guess of an AR(2,0,0) model for the trends though the characteristics of ACF which indicate varying mean, variance and autocorrelation, Iqbal, Bakhsh, Maqbool & Ahmad (2005) suggest need to difference the data if it had to be stationary.

After the first differencing a line graph plotted was found to be stationary as shown in Figure 4, suggesting that a better model for the series would be ARIMA(p,1,q) rather than the initial ARIMA(2,0,0). It is also clear that consecutive patterns in the sales demonstrate a symmetrical variation about point 0 (an assumed mean) without increasing variance, thus the data is stationarised and there are no systematic peaks or troughs within each business cycle.

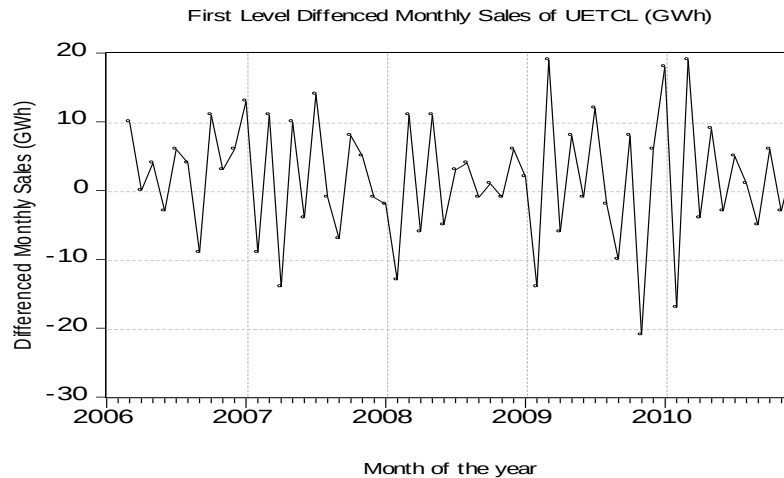


Figure 2

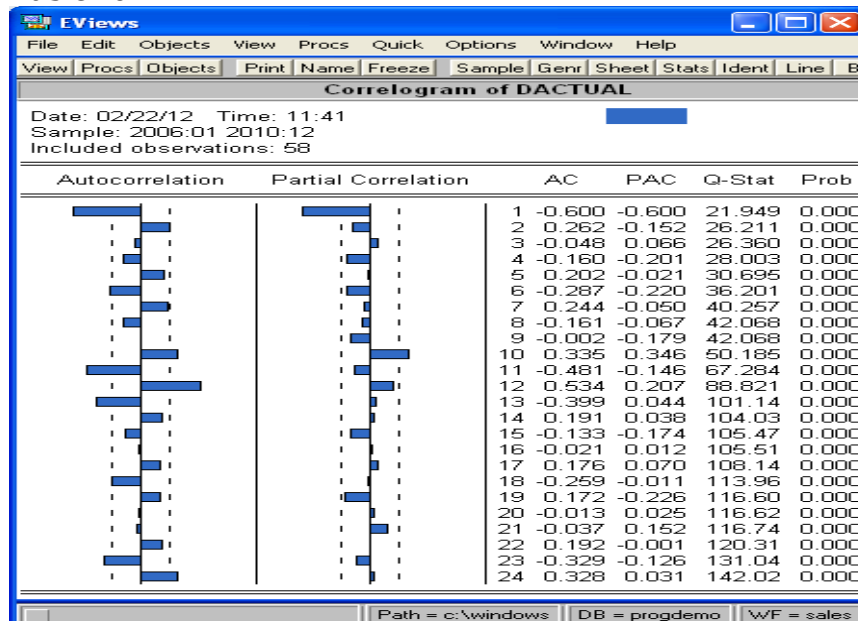
A Correlogram of the stationary data shown in Table 3 revealed an exponential declining pattern in the ACF and one spike in the PACF at lag 1 suggesting an AR(1) signature which improves the model from just being an ARIMA(2,0,0), ARIMA(p, 1, q) to ARIMA (1,1,0).

The equation for ARIMA(1,1,0) according to Box & Jenkins (1976), Velleman & Hoaglin (1981), Granger (2007) and Iqbal, Bakhsh, Maqbool & Ahmad (2005) is:

$$Y_e = \mu + Y_{(t-1)} + \emptyset Y_{(t-1)} - \emptyset Y_{(t-2)} + \epsilon ;$$

where μ is a constant, $\emptyset$ is the coefficient of the ARIMA variable, Y_e is the model value at time t, $Y_{(t-1)}$ is the observed value one lag and $Y_{(t-2)}$ is the value two lags of the current value and ϵ is a random error in model.

Table 16



Estimation of an equation for this model produced an output shown in Table 4 with coefficient of C representing the mean trend in the sales. The coefficient and standard error of the estimated model variable y_t are (-0.6004 and 0.1066) respectively and the estimated value of the intercept was $1.5482/(1-(-0.6004)) = 0.9675$ with standard error of $0.5892/(1-(-0.6004)) = 0.3682$, (Gardner & McKenzie 1985). The t-statistic tests revealed that we are 95% confident that these two parameters are part of the equation and that their coefficients are not zero. The lag values contribute about 35% of any current month sales as shown by the Adjusted R-square. The estimated equation of the model given becomes:

$$Y_e = 0.9675 + Y_{(t-1)} - 0.6004*Y_{(t-1)} + 0.6004*Y_{(t-2)} + \epsilon$$

Table 17

Dependent Variable: DACTUAL				
Method: Least Squares				
Date: 02/22/12 Time: 11:53				
Sample(adjusted): 2006:04 2010:12				
Included observations: 57 after adjusting endpoints				
Convergence achieved after 3 iterations				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
	t			
C	1.548263	0.589237	2.627574	0.0111
AR(1)	-0.600426	0.106588	-5.633127	0.0000
R-squared	0.365864	Mean dependent var		1.508772
Adjusted R-squared	0.354334	S.D. dependent var		8.860270
S.E. of regression	7.119524	Akaike info criterion		6.798016
Sum squared resid	2787.820	Schwarz criterion		6.869702
Log likelihood	-191.7435	F-statistic		31.73212
Durbin-Watson stat	2.202898	Prob(F-statistic)		0.000001

Prédiction of the model

A Unit Root test according to Igbal, Bakhsh, Maqbool & Ahmad(2005), was used to predict the model using the Augmented Dickey-Fuller (ADF) ARIMA regression with a prediction based on the hypothesis that:

H_0 : ADF value =1 (the series is not stationary)

H_1 : ADF value < 1 (the series is stationary)

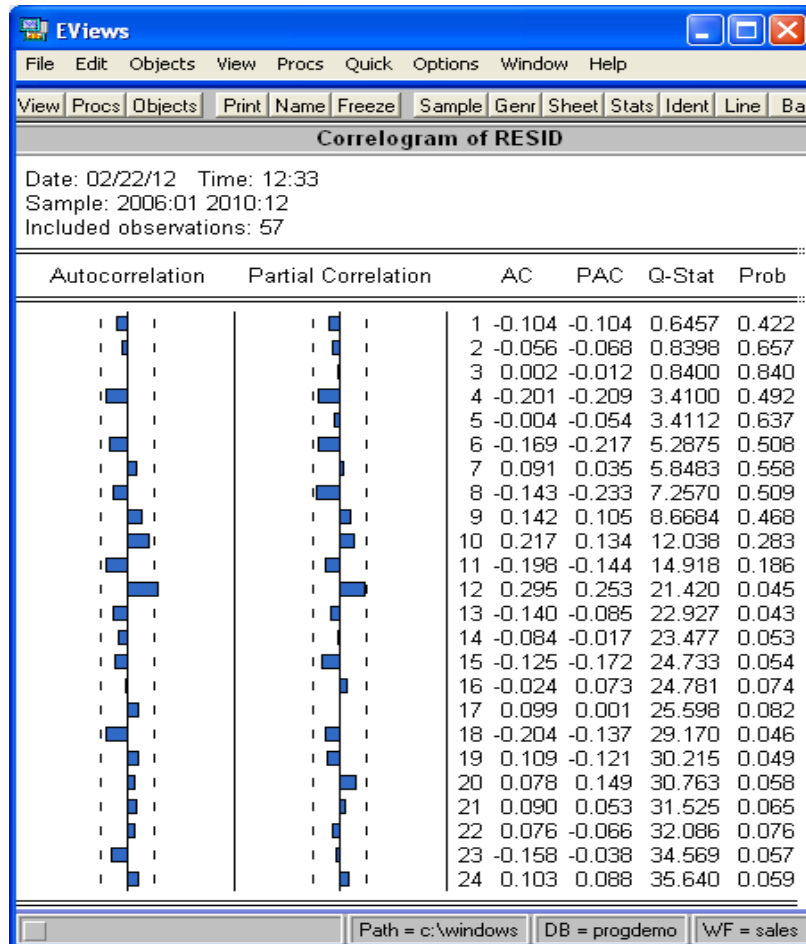
An output of the analysis revealed an ADF Test statistic of -7.6996 (less than critical value of -4.1281 at 1% level of significance) predicting the estimated model to be stationary, thus rejecting the Null hypothesis.

Diagnosis of the model

Diagnosis of the model can be done in a number of ways and one of them is by plotting a Correlogram of the residuals of the estimated ARIMA model equation (Robinson, 2000 and Velleman & Hoaglin, 1981). The ACF and PACF show that the residuals are not significant as shown in Table 5, thus confirming that the remaining data trends are outliers in the estimated

model ARIMA (1,1,0). The residuals or outliers in each month can be attributed to variations of number of days, weed-ends, public holidays and cultural days in each month among other factors.

Table 18



Another diagnostic test was the residual test-histogram-normality test of the model whose output is shown in Figure 5. It is based on the hypothesis that:

H_0 : p-value = 0 (the residual distribution is not normal)

H_1 : p-value > 0 (the residual distribution is normal)

The critical Jarque-Bera value using chi-square with 2 degrees of freedom at 95% confidence is 5.99. The computed value was 3.661 and its p-value was 0.16 confirming that the residuals follow a generally a normal distribution though skewed to the left and had a kurtosis as shown in Figure 5.

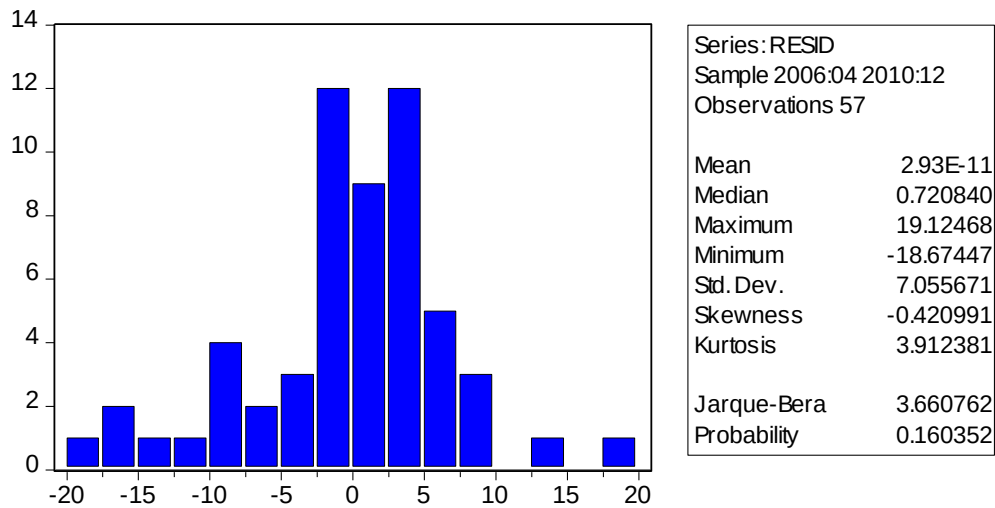


Figure 3

The critical value at 95% confidence interval is 1.96 and this was multiplied by the standard errors of the parameters to get their respective margin of errors giving the constant in the equation as 0.7217 and the coefficient of the variable y_t as 0.2089. The estimated model sales with their upper and lower confidence limits and the actual monthly sales were plotted as shown in Figure 6, thus reconfirming that the model is good.

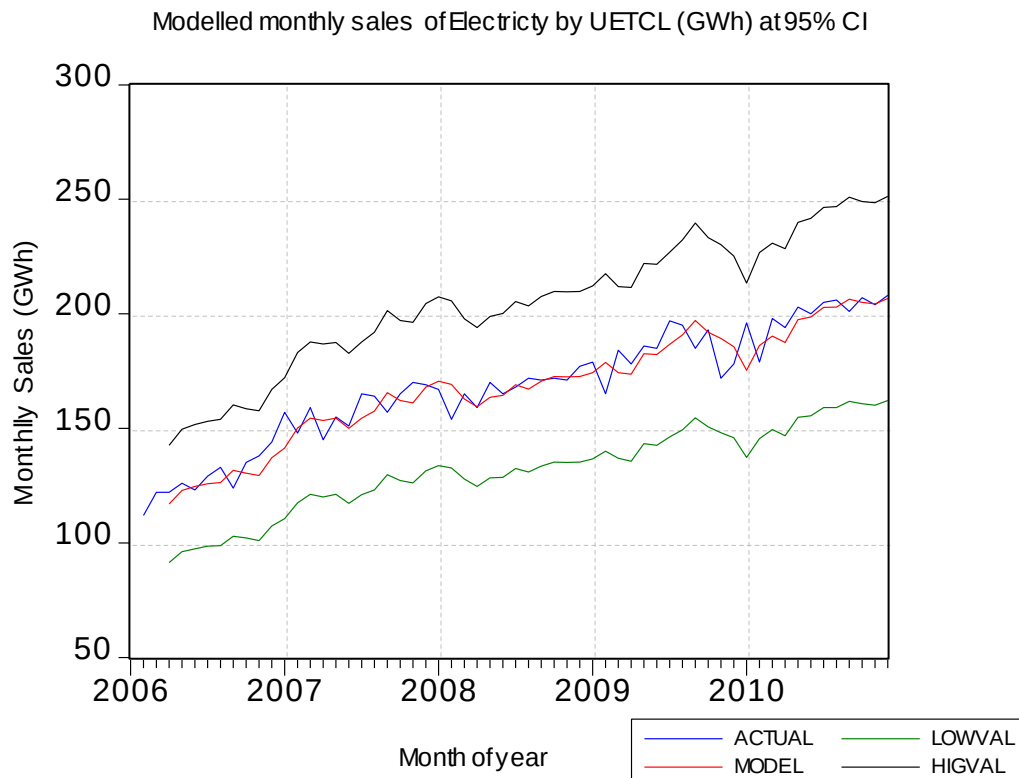


Figure 4

ARIMA Model Evaluation

When evaluating an estimated model, the testing data is assumed to be the actual, while the evaluation data set is used to determine the real-time performance of the model. This process makes the forecasting as a confidence building forecast rather than an actual forecasting tool. One drawback in this approach is that there is no rigid technique in determining the best point of splitting the data. In this study, forecasts for the model estimate, upper and lower confidence limits were calculated for periods 2011:01 to 2011:07 and thereafter plotted with the actual monthly sales for that period as shown in Figure 7.

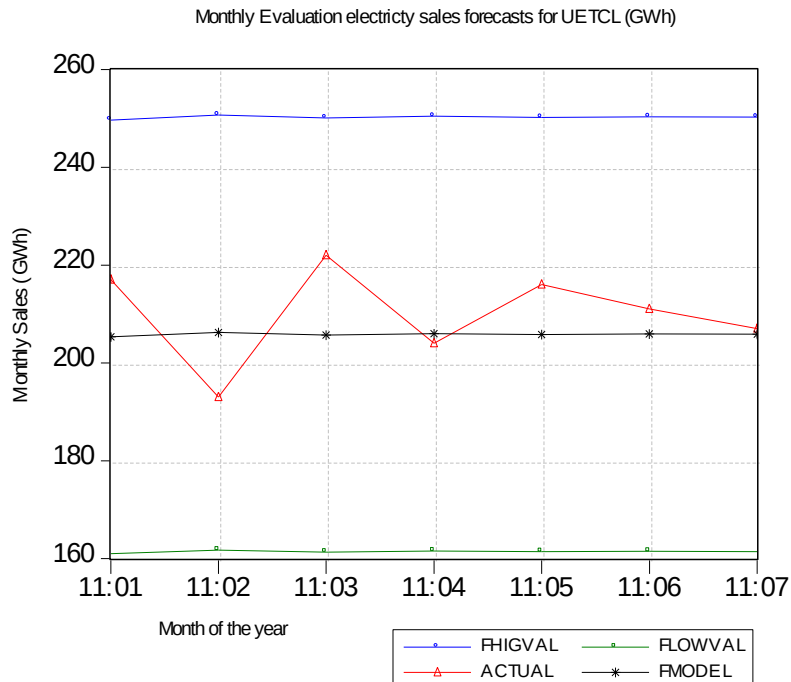


Figure 5

According to Figure 7, all data set of the actual monthly are within the upper and lower evaluation forecast limits of the estimated model. One could therefore urge that the model forecasts the sales using the in-sample data. With this confirmation, assuming other factors that influence monthly sales of electricity by UETCL remain the same, one can use the model to forecast monthly sales beyond the period 2011:07.

Managerial Implication and Limitation

The ARIMA modeling using Eviews is a simple and yet powerful tool in providing a quantitative relationship for the monthly electricity sales by UETCL and this could provide vital input quantitative data to support qualitative information in planning, explaining, describing, intervening, forecasting and resource allocation of this service.

According to the study, some of the outlier sales could be a result of power generation factors and foreseen increased demands like in December when there are many production and domestic activities requiring electricity.

The ARIMA model utilises lag values and this is based on a strong assumption that other factors in the business remain the same, which is not always the same. Utilisation of the model therefore, would require support of qualitative data to take care of any such changes as a way of making more realistic strategic decisions.

Lastly, sale of electricity by UETCL is a unique service influenced by unique factors within Uganda, this makes the estimated model not to be just applied “as is” to another bulk transmission company, and certainly when UETCL increases its sales by the 250GWh energy from the new Bujagali power generation dam, the model would need to be reviewed.

References

- Box, G., Jenkins, G., Reinsel, G., 1994. *Time series analysis : Forecasting and control*. Delhi: Pearson Education
- Box, G., & Jenkins, G., 1976. *Time Series Analysis: Forecasting and Control*. San Francisco: Holden-Day.
- Brockwell, P., & Davis, R., 2002. *Introduction to time series and forecasting*, 2nd Ed. New York: Springer
- Ching-Hsue, C., & Liang-Ying, W., 2009. One step-ahead ANFIS time series model for forecasting electricity loads. *Optimization and Engineering*, 11(2), pp. 303-317.
- Cranage, D., 2003. Practical time series forecasting for the hospitality manager. *International Journal of Contemporary Hospitality Management*, 15(2), pp. 86-93.
- Dielman, T., 1991. *Applied regression for business and economics*. Boston: PWS-Kent.
- Dobre, I., & Alexandru, A., 2008. Modelling unemployment rate using Box-Jenkins Procedure. *Journal of Applied Quantitative Methods*, 3(2), pp.156-166.
- Dunis, C., Laws, J. & Evans, B. (2006), Modelling and Trading The Soybean-Oil Crush Spread with Recurrent and Higher Order Networks: A Comparative Analysis. *Neural Network World*, 16(3), pp. 192-213
- Ekpenyong, E., 2008. Pseudo-Additive (Mixed) Fourier Series Model of Time Series. *Asian Journal of Mathematics and Statistics*, 1(1), pp. 63-68.
- Gardner, E., & McKenzie, E., 1985. Forecasting Trends in time series. *Journal of Management Science*, 31(10), pp. 1237- 1246
- Granger, C., 2007. Strategies for Modelling Nonlinear Time-Series Relationships, *Economic Record*, 69(3), pp. 233–238.
- Han Lin Shang & Hyndman, R., (2009). *Non parametric time series forecasting with dynamic updating*. In Anderssen, R.S., R.D. Braddock and L.T.H. Newham eds., 18th World IMACS Congress and MODSIM09 International Congress on Modelling and Simulation, 13-17July, 2009, Modelling and Simulation Society of Australia and New Zealand and International Association for Mathematics and Computers in Simulation. Cairns, Australia
- Himanshu, A. & Lester, H. (2007), Electricity Demand for Sri Lanka: A Time Series Analysis, [*Energy*](#), 33(5), pp.724–739
- Iqbal, N., Bakhsh, K., Maqbool, A., & Ahmad, A., 2005. Use of the ARIMA Model for Forecasting Wheat Area and Production in Pakistan. *Journal of Agriculture & Social Sciences*, 1(2), pp. 120 – 122.
- Kantz, H. & Schreiber, T. (2003), *Nonlinear Time Series Analysis*. [Cambridge University Press](#)
- Kendall, M., & Ord, K., 1990. *Time series*, 3rd Ed. London: Griffin.

- Li, W. & Zhang, Z. (2010). *Based on time sequence of ARIMA model in the application of short-term electricity load forecasting*. In [Research Challenges in Computer Science](#), Proceedings of 2009 International Conference on Research Challenges in Computer Science, 28-29 Dec 2009, Institute of Electrical and Electronics Engineers (IEEE). Shanghai, China.
- Makridakis, S., Wheelwright, S., & Hyndman, R., 1998. *Forecasting methods and Applications*, 3rd Ed. New York: John Wiley.
- Nogales, F., Contreras, J., Conejo, A. & Espínola, R., 2002. Forecasting next-day electricity prices by time series models, *IEEE Trans. Power Syst.*, 17(2), pp. 342–348,
- Robinson, T., 2000. Electricity pool prices: a case study in nonlinear time-series modelling. *Applied Economics*, 32(5), pp.527–532.
- Simon, P., 1999. Nonlinear Time Series Modelling: An Introduction. *Journal of Economic Surveys*, 13(5), pp. 505-528.
- Verdes, P., Granitto, P., Navone, H. & Ceccatto, H., 2001. Nonstationary Time-Series Analysis: Accurate Reconstruction of Driving Forces. *Physical Review Letters*, 87(12). DOI: 10.1103/PhysRevLett.87.124101

Factors Affecting the Pricing of Telecommunication Products and Services in Uganda

Kituyi G. Mayoka and Moya Musa

Abstract

Improving universal access to telecommunications has become a very critical area of concern in both developed and developing countries in the recent past due to the huge contribution of the sub-sector to socio-economic and political lives of the populace world over. However, the prices of these products and services still remain high and unstable (Afedraru, 2010). Many factors that influence the prices of these products and services are largely unknown. Using a quantitative approach, we studied the factors affecting prices for telecommunications products and services in Uganda and made a number of recommendations that we hope can help in setting and stabilizing prices for telecommunications products and services in Uganda and other developing countries.

Key Words: Telecommunications, Prices, Developing Countries, Uganda

Introduction

Universal access to telecommunications services has become a very critical area of concern in both developed and developing countries in the recent past due to the huge contribution of the sub-sector to socio-economic and political lives of the populace world over (Nasasira, 2003). Benefits such as job creation, improved taxation base for governments among others have all accrued from telecommunications. Further more, the DSTI (2008) argues that telecommunications have made international communication cheaper as the ability of developing countries to communicate globally has consistently improved while at the same time enhancing political and social-economic relations across borders. To this effect, the International Telecommunications Union (ITU) has urged national governments to put in place strategies and policies for improving telecommunication penetration, quality of service (QoS), affordability, and above all universality.

In Uganda, a regulatory body, Uganda Communications Commission was set up to champion the proliferation of telecommunications in the country. These developments, including liberalization of the sector has increased investor confidence and attracted many international players in the local telecommunications sector in Uganda. Although sector liberalization has ushered in competition and in a way helped reduce prices, a number of challenges in the Ugandan telecommunications sector exist. For example, telecommunication prices in Uganda are very high and volatile (Afedraru, 2010). The (ITU) has since setup a group (Study group 3) of experts to study and advise the body on telecommunication tariff structures and accounting principles to be used for better pricing of telecoms (ITU, 2008). However, little success has been registered because other than costs, the factors affecting the pricing decision in Uganda are not well known and documented. The World Telecommunication Standardization Assembly (WTSA) held a meeting in October 2008 to discuss and make recommendations for a harmonized pricing strategy based on (ITU-T D.1566). Subsequently they recommended that developing countries examine and charge tariffs based on telecommunication costs. This resolution did go well with members as 28 ITU member States openly expressed dissatisfaction with this recommendation and stated that they would not apply it.

The 1990s telecommunications reforms introduced by the ITU propagated cost-based pricing as the most appropriate pricing method for telecoms. The method emerged as the internationally

accepted pricing approach, in which prices were determined basing on the fixed and average costs (Kelly, 1999; Craig, 2002). The Cost-based pricing model has also found favor in the eyes of many national regulatory bodies around the globe who have actively promoted it. Apart from recommending the cost-based pricing approach however, the ITU has made little effort to establish the factors affecting telecoms and regulate pricing in its member states OECD (2008). Prices for telecommunication services in Uganda have never been stable. This is in addition to being one of the highest rates in the East African region. The Uganda Communications Commission (UCC) was set up by an ACT of parliament of Uganda in the late 1990s to help regulate pricing among other roles such as promoting the growth and use of Information Communication Technologies (ICTs) in the country, most of which is telecommunications. However, the effort of UCC to ensure fair prices for telecommunication services is always undermined and sometimes sabotaged by “powerful” operators in the sector. For example in January 2010, the UCC was taken to court by one of the operators for trying to reduce interconnection rates between the incumbent operator and other operators RoU (1998). The UCC opted to settle the matter out of court. Subsequently, the interconnection rate was raised in favor of the incumbent operator instead (The New vision, May 25th, 2010). This study therefore aimed at identifying and examining the factors that affect the prices of telecommunication services and products in Uganda and give some useful recommendations for better pricing.

The study specifically aimed at examining (i) the approaches used to set prices for telecommunication products and services in Uganda and (ii) the factors affecting telecommunication prices in Uganda

Research Design

This study adapted a quantitative research approach in trying to answer the above listed objectives. A self-administered questionnaire was used to collect data from 50 respondents, who comprised of employees of telecommunication service providers (WARID, MTN, UTL and ZAIN) and employees of the regulatory institution (UCC). Purposive sampling was used to select managers, heads of department, marketers and regulators directly involved in setting telecommunication prices. This sample is in line with Roscos’s 1970 rule of thumb that any sample between 30 and 500 is adequate. Table 2.1 shows the study sample:

Table 2.1: Study Sample

Source	Number of respondents	Sampling method
MTN	10	Purposive sampling
UTL	10	
ZAIN	10	
WARID	10	
UCC	10	
Total	50	

Out of the above sample size, 45 questionnaires were returned but only 41 that did not have incomplete and inconsistent responses were coded into SPSS and analyzed.

Pretesting of research instrument and data analysis methods

Content validity index was used to test for validity of the questionnaire (CVI > 0.50 for both experts) and cronbach alpha coefficient was used to test for reliability (Cronbach alpha >0.60) for all variables as seen in table 2.2. Descriptive statistics and Factor analysis with principal component and varimax rotation methods were used to extract the most important factors influencing prices in telecommunication sector.

Table 2.2: Pretest results for validity and reliability

Variable	N of items	Anchor	Cronbach Alpha Coefficient	CVI
Telecommunications pricing approaches	3	5 point	0.621	0.673
Factors affecting telecommunication prices in Uganda	7	5 point	0.682	0.712
Telecommunications Pricing Goals	5	5 point	0.633	0.713

Findings

In this section presents a statistical analysis of the findings from primary data. The findings are presented under the following themes: - character (3.1), participation (3.2), approaches (3.3) and factors affecting telecom prices (3.4).

Sample characteristics

Descriptive statistics were used to extract the respondents attributes necessary for understanding the respondents' characteristics. Information on gender, age, marital status, level of education, job title, level in the organization hierarchy, work experience and involvement in setting of telecommunication prices in their respective organizations were helpful in understanding the reliability of data collected from the respondents.

Respondents' Gender

Descriptive statistics were used to examine the respondents' gender as seen in figure 3.1:

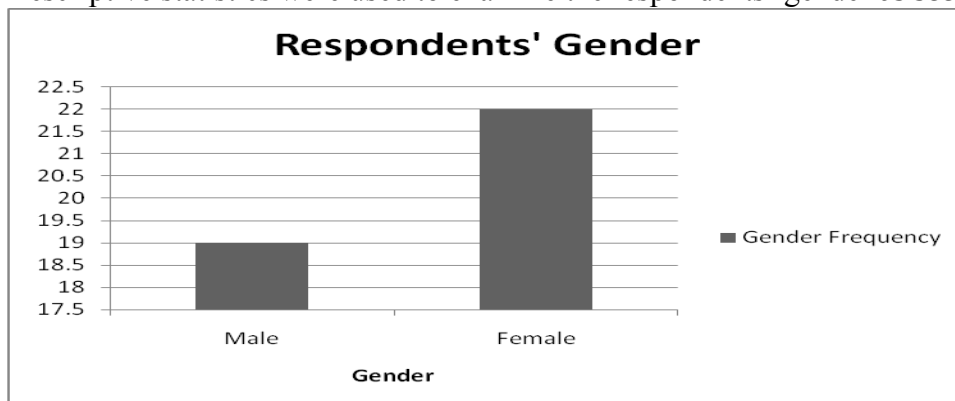


Figure 3.1: Respondents' Age

Results in figure 3.1 show that majority respondents were female constituting 22. Male respondents were 19, hence a total of 41 respondents.

Respondents' Age

Descriptive statistics were used to determine the age bracket of respondents based on seven age brackets as seen in figure 3.2:

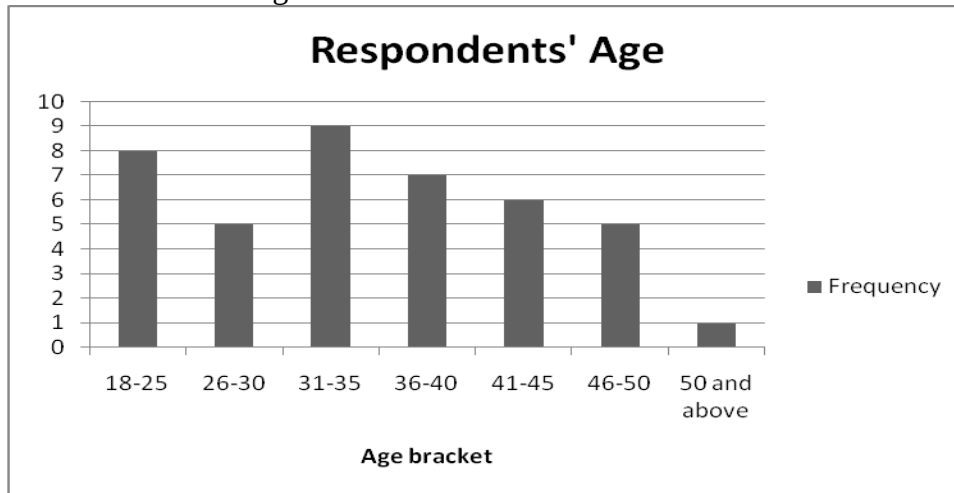


Figure 3.2: Respondes' Age Bracket

Results in figure 3.2 above show that age bracket 18-25 had 18 respondents, age bracket 26-30, 5 respondents, age bracket 31-35, 9 respondents, age bracket 36-40, 7 respondents, age bracket 41-45, 6 respondents, age bracket 46-50 had 5 respondents, while those above 50 years of age were 1 respondent.

Respondents' level of education

Descriptive statistics were also used to determine the respondents' level of education as seen in figure 3.3:

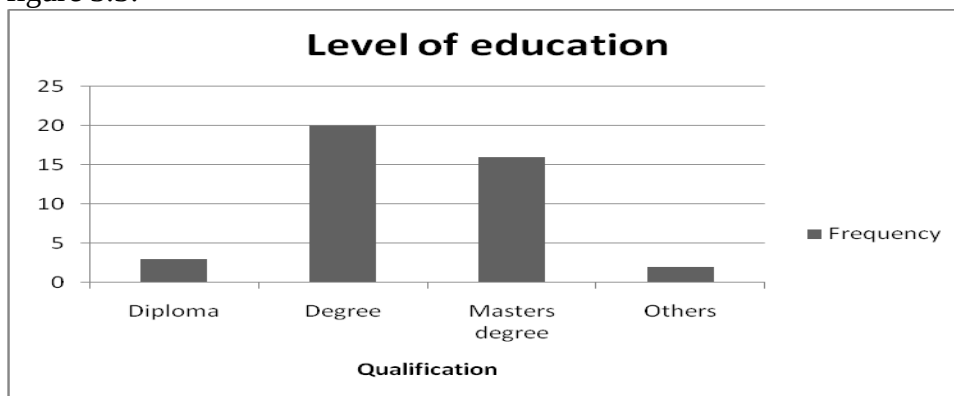


Figure 3.3: Respondents' level of education

Results in figure 3.3 show that most of the respondents had one degree (freq=20). This was followed by those respondents with a matser's degree who totaled to 16. Respondents with a diploma were 3 while only 2 resdents had other qualifications.

Respondents' job title

Descriptive statistics were again used to determine the respondents' job title in their current place of work. Figure 3.4 shows respondents' job titles:

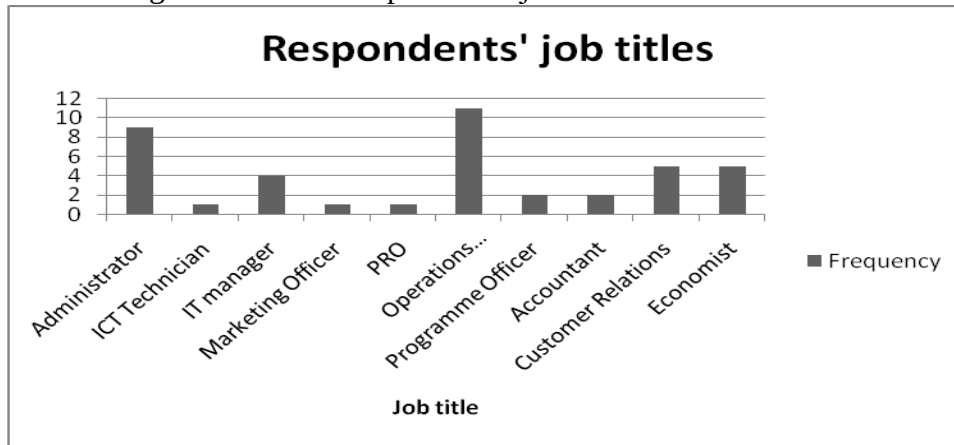


Figure 3.4: Respondents' level job title

Results in figure 3.4 show that most of the respondents were operations managers (freq=11). This was followed by administrators who were 9. Customer relations officers and economists tallied at 5 each, while IT managers were 4. Accountants and programme officers were 2 each. Other respondents were ICT Technician (freq=1), Marketing Officer (freq=1) and PRO (freq=1).

Level in the organization hierarchy

Descriptive statistics were also used to determine the respondents' level in their organizations as seen figure 3.5:

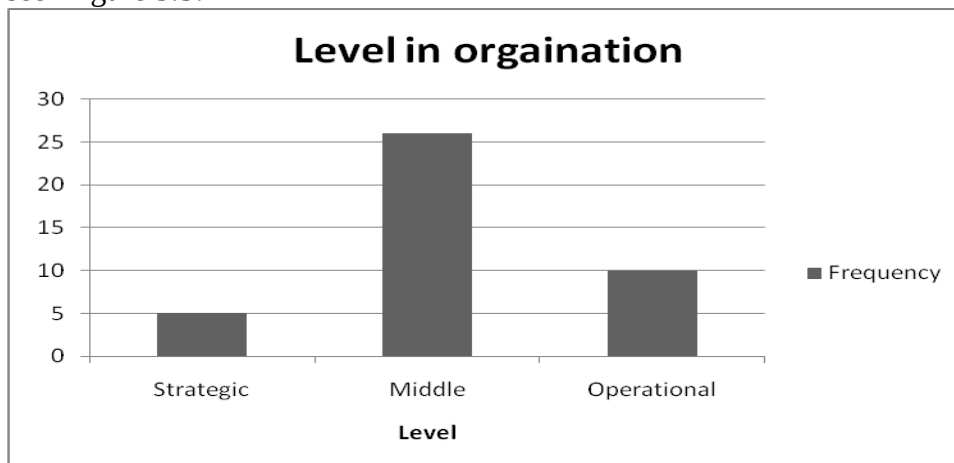


Figure 3.5: Respondents' level in the organization

Results in figure 3.5 show that most of the respondents were at the middle level (freq=26). This was followed by operational level respondents (freq=10) and lastly those at strategic level in the organization's hierarchy (freq=5).

Respondents' Length of service in the organization

Descriptive statistics were used to determine the respondents' length of service in their current job positions. Results were analyzed and presented on a chart. Figure 3.6 shows respondents length of service:

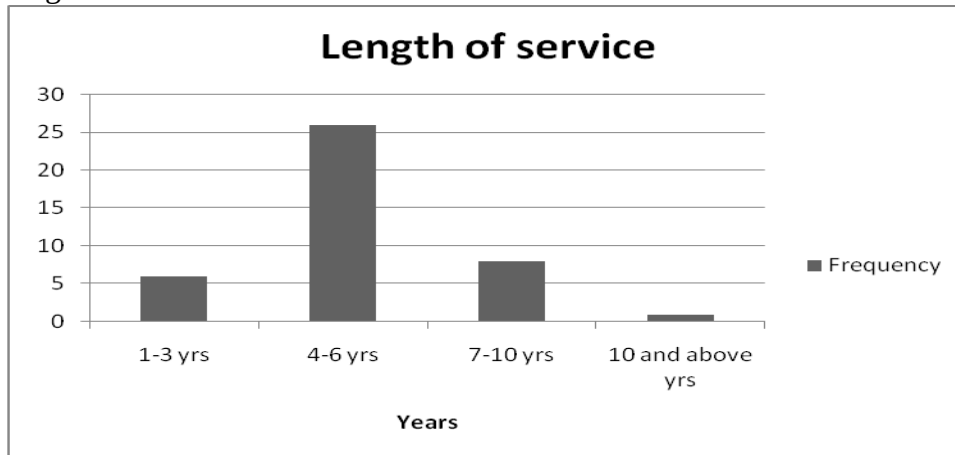


Figure 3.6: Respondents' length of service

Results in figure 3.6 show that most respondents had stayed on their current job positions for years ranging from 4 to 6 (freq=26). 8 respondents had stayed in their current job positions for years ranging from 7 to 10 while 6 respondents had stayed in their current job positions for years ranging from 1 to 3. Only 1 respondent had stayed on his current job position for years ranging from 10 and above.

Participation in setting telecoms prices

Descriptive statistics were also used to determine the respondents who had ever participated on setting of prices for telecommunication services and products. Results were analyzed and presented on a chart as seen on figure 3.7:



Figure 3.7: Particition in pricing decisions

Results in figure 3.7 show that most respondents (freq=38) had ever participated in setting of prices for telecommunication products and services. Only 3 respondents had never participated in setting of prices for telecommunication products and services.

Pricing Approaches

Descriptive statistics and factor analysis were used to examine and extract the most important approaches used to set prices for telecommunication products and services in Uganda as shown in tables 3.1 to 3.2 below:

Table 3.1: Descriptive Statistics for Approaches

	Mean	Std. Deviation	Analysis N
Cost-Based Pricing	3.0732	.51915	41
Demand-based pricing	2.6579	.56019	41
Market-based pricing	3.1579	.79140	41
Average	2.963	0.62358	

Source: Primary data

Results in table 3.1 indicate that most of the respondents on average (mean= 2.963 Approx = 3, Agree) indicated that cost based pricing (mean= 3.0732), market based pricing (mean = 3.1579) and demand based pricing (mean = 2.6579) are used to set prices for telecommunication products and services in Uganda.

However, factor analysis results in table 3.2 show that only Demand and market based pricing approaches significantly explain 60%. Cost based pricing had factor loading of less than 0.1 indicating very insignificant contribution to pricing.

Table 3.2: Component Matrix for Approaches

	Component
Demand-based pricing	.947
Market-based pricing	.947
Cost-Based Pricing	
Eigen value	1.792
% of variance	59.748

Source: Primary data

Factors affecting telecommunication prices

Descriptive statistics and factor analysis were used to examine and extract the most important factors affecting the prices of telecommunication products and services as shown in tables 3.3 and 3.4:

Table 3.3: Factors affecting telecom prices

	Mean	Std. Deviation	Analysis N
Capital Expenditure	3.4444	.81989	41
Inflation	2.7576	.67195	41
Interconnection rates	3.1515	.63723	41
Excessive competition	3.4634	.59572	41
Forces of demand & supply	3.1053	.29912	41
Foreign exchange rate	3.1951	.51086	41
Operating costs	3.2439	.43477	41
Average	3.1945		

Source: Primary Data

Results in table 3.3 show that most of the means for the factors are above average (3.1945, Agree), indication that capital expenditure (mean=3.4444), inflation (mean=2.7576), interconnection rates (mean=3.1515), excessive competition (mean=3.4634), forces of demand & supply (mean=3.1053), foreign exchange rate (mean=3.1951) and operating costs (mean=3.2439) are factors affecting pricing of products and services.

Table 3.4: Factor analysis for factors affecting telecom prices

	Component
Operating costs	.879
Forces of demand & supply	.822
Foreign exchange rate	.814
Inflation	.741
Capital Expenditure	-.597
Interconnection rates	-.541
Excessive competition	.525
Eigen value	3.585
% of variance	51.217

Source: Primary data

Results in table 3.4 show that 51.217% of the pricing of telecommunication products and services in Uganda is positively influenced by operating costs, forces of demand and supply, foreign exchange rate, inflation and excessive competition. While capital expenditure and interconnection rates influenced negatively.

Telecommunications Pricing Goals

Descriptive statistics and factor analysis were used to examine and extract the most important goals of pricing for pricing of telecommunication products and services prices as shown in tables 3.5 and 3.6 below:

Table 3.5: Descriptive Statistics for Goals

	Mean	Std. Deviation	Analysis N
Profit maximization	3.1842	1.22179	41
Wealth maximization	2.0833	.83417	41
Market expansion	3.6316	.47016	41
Beat competition	3.7561	.43477	41
Break-even	2.8333	.53229	41

Source: Primary data

Results in table 3.5 show that beat competition (mean=3.7561), market expansion (mean=3.6316), profit maximization (mean=3.1842), break-even (mean=2.8333) were the goals used in setting prices for telecommunication products and services. While Wealth maximization (mean=2.0833) was not the appropriate goal used in setting prices for telecommunication products and services.

Table 3.6: Component Matrix for Goals

	Component
Market expansion	.954
Profit maximization	.840
Beat competition	.800
Break-even	-.578
Eigen Values	2.624
% of variance	52.485

Source: Primary data

Results in table 3.6 show that market expansion, profit maximization and beat competition positively explained 52% of the goals applicable in the setting of prices for telecommunication products and services in Uganda.

Discussion of Findings

This section presents a discussion of findings from primary data in comparison with findings from literature. We summarize by giving recommendations basing on the research findings.

Telecom Pricing Approaches

Factor analysis results in the previous section showed that only demand and market based pricing approaches significantly explained approaches used to set prices for telecommunication products and services. This is not in line with literature where the cost based approach was stated as the most commonly used approach for setting prices for telecommunications products and services (see French & Craig, 2002; Kelly 1999; ITU 2008).

Factors Affecting Telecommunication Prices in Uganda

Results from primary data indicated that pricing is positively influenced by operating costs, forces of demand & supply, foreign exchange rate, inflation and excessive competition as had been suggested by the literature (Gans & King, 2009; Alleman *at, el.* 2009; Bank of Uganda,

2008; Wray, 2002). While capital expenditure and interconnection rates influenced negatively in contradiction with the literature (Tusubira *et al.* 2002).

Conclusion and Recommendation

Demand and market based pricing approaches are the significant approaches used to set prices for telecommunication products and services in Uganda.

Operating costs, forces of demand & supply, foreign exchange rate, inflation and excessive competition are the most important factors that affect pricing of telecommunication products and services in Uganda.

Based on these findings, we recommend that governments apply monetary policies to check inflation and foreign exchange rates since they significantly affect telecommunication prices. Through regulatory institutions, governments should also ensure a health competition among service providers to eliminate pre instability which is mainly caused by excessive competition as seen in table 3.4. We also recommend that governments put in place policies such as investment incentives to encourage more investment, especially those that promote wealth creation as it has been identified as a key pricing goal.

Limitations of the Study and Areas for Further Research

This study was carried out in Uganda, which is a developing country and where communication is not a necessity but rather a need. To some Ugandans, owning a phone is actually a luxury! Because of these and many other discrepancies between nations, we can not affirm that the identified factors universally apply across borders. In some countries such as the newly created South Sudan, liberalization is not yet. In others interconnection rates, inflation and other factors indentified in this study are so prevalent. Based on these, we recommend that studies be carried out in different countries so that they can identify their unique challenges and design appropriate policies. We also recommend studies that can design new pricing models, frameworks and/or theories targeting the telecommunications sector.

References

- Afedraru Lominda (2010). MTN sues Uganda Telecom over Shs7b. Daily Monitor of 1 March, 2010, *Nation Group Publications*.
- Alleman James, Jonathan Lieben and Paul Rappoport (2009). The New Economics of ICT: The Regulatory Implications of Post-neoclassical Economics for the ICT Sector. *Proceedings of the 3rd ACORN-REDECOM Conference Mexico City May, 2009*.
- DSTI (2008). Working Paper on Communication Infrastructures and Services Policy. Network Externality Premiums and International Telecommunications Traffic Exchange. *DSTI, JT03262997*
- Gans Joshua S. and Stephen P. King (2009). Using “Bill and Keep” Interconnect Arrangements to Soften Network Competition”. <http://www.webaustralia.com.au/magazine/articles/it2.htm>.
- RoU (1998). Interconnection Agreement between Uganda Telecom Ltd. and MTN Uganda Ltd(1998), *the Republic of Uganda*.
- Kelly Tim (1999). Pricing domestic telecommunication services to reflect costs. *ITU Seminar on Cost-based Tariffing, Delhi, February 1999*
- Craig Kirkwood W. (1998). System Dynamics Methods: A Quick Introduction. *College of Business, Arizona State University*

Nasasira John (2003). National Information and Communications Technology Policy paper forwarded. *Ministry of Works, Housing and Communications, Uganda*.

The New Vision (25th May, 2010). *New Vision Publication Ltd*

Tusubira F. F., Mary M. Shirley, Frew Gebreab and Luke Haggarty (2002). Telecommunications Reforms in Uganda. *World Bank Policy Working Paper*.

UCC (2008). Status of the Communications Market March 2008. UCC market report for the month of March, 2008. *Uganda Communications Commission*. <http://www.ucc.co.ug/>. Retrieved in April, 2010

<http://wirelessfederation.com/news/12246-mtn-uganda-telecom-and-warid-battling-over-pricesuganda/>. Retrieved in February, 2010.

A Survey of the Factors Influencing Consumers' Choice of Edible Oils in Buruburu Area, Nairobi Kenya

Chepkwony Kipkorir Sammy and Justus M Munyoki

Abstract

This study sought to establish the factors that influence consumers' choice of edible oils in Buruburu, Nairobi, and to establish the extent of effects of labels, price and individual attitude on consumers' choice of edible oils. A convenient sample of 120 customers in Buruburu area of Nairobi, Kenya, was used, with the respondents being intercepted as they shopped in the supermarkets. The findings established that the price of edible oils, the quality of the edible oil and the ease of pouring the oil from the container were the most significant factors influencing purchase of edible oils cooking. The least driver for the consumption of edible oil was the label of the product and re-usage of the container after the edible oil is finished. The study found that the choice of healthier edible oil is dependent on the price because the healthier it is the more expensive for the customer to afford. The study further found that there was a significantly positive correlation between educational level and package, and a significantly positive correlation between age of the customer and usage types of the edible oil, but there was a significantly negative correlation between age of the customer and quality of the edible oil.

Key words: Consumer choice, Edible oils,

Introduction

During the last two decades food consumption patterns in Kenya have been changing gradually. These changes have significantly influenced consumer's choice of edible oils. Forces responsible for shaping the demand for food are varied. They include not only economic and demographic factors but also changes in lifestyles which influence consumers' tastes and preferences (Henneberry and Charlet, 2002).

Studies have been done in the general theory of choice-making for products (including food items) with novelty attributes among the consumers (Brookes and Barfoot, 2006; Henneberry and Charlet, 2002). The implicit benefit-cost of consumers' choice-making is translated into their utilities, and a choice will be made if the resulting expected utility is greater than the alternative decision (Darby and Karni, 2003). Because the consumption of edible oils is often associated with particular benefits and costs (Brookes and Barfoot, 2006), which may be either privately or socially relevant, some manufacturers have made the effort to communicate these benefits and costs so as to influence the consumers' choice of edible oils. For instance, Presentation of the nutritional facts to the consumers on the back side of the label that show the exact concentration of fats in edible oils is critical in influencing consumer consumption. Labeling differentiates edible oils from the ones with or without the enrichment to someone's health. Zhong et al. (2004) believes that labeling cannot actually change consumers' attitudes toward edible oils if it is merely a mechanism to differentiate the product from another and that consumers do not check food labels for information on a product.

Similarly, Sulzer (2005a) argues that price strongly influences choices consumers make in the consumption of edible oils. In addition, price is necessary to compute willingness-to-pay values. Also, it can be argued that the origin plays a role in the choices of the consumers. Many studies have shown that the certificate of origin does influence the decision-making of the consumers

(Wirthgen et al., 1999). On their part, Noussair et al. (2002) suggest that personal characteristics play a role in the consumption of edible oils. For instance, there are consumers who pay attention to healthy eco-friendly product. In addition, higher educated consumers are more likely to consume healthy food, a trend that is less consistent with consumers who are less educated (Springer et al., 2002). Further, consumers who are more open-minded about food benefits have a significantly higher preference for healthy edible oils (Sulzer, 2005a). It is for these reasons that the study aims to establish the factors that influence consumers' choice of edible oils on the basis of labels, price changes and individual attitude as effective measures on consumer responsiveness in the consumption.

According to Noa and Waithaka (2005), vegetable oil is one of the key sub-sectors of agriculture, with soybean and palm oil being the leading sources in production of vegetable oil in the world respectively. At present, Kenya's domestic production of edible oils is estimated at 380,000 tones, only about one-third of its annual demand. Currently there are about 30 vegetable oil refiners in the Kenya. The larger companies include Bidco Oil Refineries, KAPA Oil Refineries, Palmac Oil Refiners, Pwani Oil Refiners and Unilever. These companies engage in production of cooking oils, fats, edible oils, copra oil and corn oil among other oil products. Some of the large vegetable oil refiners are also involved in growing of vegetable oil crops and supporting small scale farmers in better farming methods to increase the vegetable oil production in Kenya (Noa and Waithaka, 2005).

Previous studies have mainly focused on consumer behavior in the purchase of clothing products. For instance, Owino (2000) conducted a study on the influence of attitudinal and normative factors on the choice and satisfaction derived from selected apparel among university students. Further, Nyang'or (1994) conducted a study on the factors influencing consumer's selection of imported over local clothing among working women in Nairobi, Kenya. Moreover, Mwangi (2005) conducted a study on the determinants of consumers' choice of milk brands in selected estates in Nairobi. None of these studies was based on the factors that influence consumers' choice of edible oils on the basis of labels, price and individual attitude. Hence it is against this background that the study sought to establish the factors that influence consumers' choice of edible oils in BuruBuru, Nairobi. The objectives of the study were; to establish the factors that influence consumers' choice of edible oils in Nairobi, and to establish the extent of effects of labels, price and individual attitude on consumers' choice of edible oils.

Literature Review

Available literature shows that there are many factors that may affect a consumer's choice of a product. For instance, according to Bloch et al. (2006), a label, which is the part of a product that carries information about the product and the seller, labels provide consumers with information to make a reasonable decision in buying a product. The effect of labeling is essential in differentiating edible oil from non-edible oil (Bloch *et al.*, 2006). While mandatory labeling for edible oil is informative to some consumers, it can also lead to greater confusion while reducing economic efficiency. An alternative to mandatory labeling is a voluntary labeling system in which product information is conveyed to consumers who prefer to purchase only non-edible oil. Labeling also requires standards as to which are to be followed in relation to the governing policies in order to crack down on retailers that were violating the regulations (Bell and Rolls, 2001).

In determining the impact of edible oil labeling on consumers' purchasing behavior, developing a flexible demand system that captures the effects of all relevant variables on consumers' purchasing decisions, including own- and cross-prices of vegetable oils, household budget, consumer preferences in each of the retail outlets, seasonal variables, and sales promotion is important (Darby and Karni, 2003).

Zhong *et al.* (2006) employed a supermarket retail sales data to show that the market share of vegetable significantly decreased 4 percent as a result of product label enforcement. Zhong *et al.* classified the factors that influence consumers' purchasing decisions into four: buyer's demographic characteristics including gender, age and education; risk consciousness including child, food allergy, concern over the product label and concern over ingredients used to make the product; household socioeconomic factors comprising monthly income per capita and city size. Considering consumers in supermarkets, only 13.2 percent of consumers have concern over nutritional ingredients when making their purchasing decisions, lower than concern over price and brand. Eighty six (86%) percent of consumers in supermarket have concern over food label than concern over price label and brand label. If concerns over nutritional ingredients label are significant in influencing consumers' decision making, there was a decrease in the market share of the edible oil as the result of label enforcement. Fortunately, this anticipation has been verified in the analysis of aggregate sales data in supermarkets (Zhong *et al.*, 2006).

Hallman *et al.* (2002) indicates that men were shown be less keek on buying edible oil as compared to women. The quadratic relation between age and purchasing decisions indicates that the young and the old are more likely to avoid buying edible oil, as compared with the middle aged people. It may result from more sensitive attitudes towards negative information among young people, while the old are more sensitive towards potential health related issues. Concerning household socioeconomic factors, results show that respondents in higher income categories are more likely to buy edible oil. Compared with people of low income, the budget share of vegetable oil in total expenditure is lower among the rich, which may make the rich choose edible oil. This also implies those consumers' attitudes towards edible oil are not only affected by their immediate economic interests, but their inclination to avoid risks (Hallman *et al.*, 2002).

Similarly, price can sometimes be used to eliminate choices of edible oil before the consumer makes a selection. Knowing the price ahead of time would determine whether the consumer will purchase the product (Zhong *et al.*, 2006). Lowering the price may encourage people to buy edible oil as compared to when it is increased. In addition, the choice of healthier edible oil is dependent on the price because the healthier it is the more expensive for the customer to afford (Zhong and Ding, 2004). Hence, price, budget and value are used to eliminate or confirm edible oil choices.

Not all households respond to price reductions and deals similarly. Evidence suggests that households with ample resources (a strong financial base rather than a high income) are more likely to take advantage of deals than are other households (Wirthgen *et al.*, 1999). Thus, stores oriented toward financially established consumers can anticipate a strong response to price reductions and other promotional deals (Bell and Rolls, 2001). Similarly, products subject to

stockpiling by consumers (non-perishables) exhibit more price elasticity than do perishable products (Zhong and Ding, 2004). The individual values and attributes associated with the product appear as key determinants underpinning consumer attitudes (Bell and Rolls, 2001). Risk and benefit perceptions towards a product are found to be conditioned to what is known as “individual values” such as environmentalism, conservationism, materialism, equity etc. Moreover, the stronger this association – determining the strength of the trade-off perception vs. values the more pervasive becomes the influence of underlying individual attitudes (Lin et al., 2006). On the other hand, the less important the role of values the more important it becomes the role of new information in order so as to shift consumer behaviour.

In markets where consumers have limited knowledge of edible oil, one would expect to find information searchers whilst in those with very negative (positive) information conveyed one might find pessimistic (optimistic) attitudes (Zhong et al., 2006). In a way, values can be argued to predetermine knowledge as a filter of information by means of elements such as trust and confidence. Therefore the level of trust of consumers on the different sources of information must also be considered. In fact, worldwide consumers trust more those sources of information that are supposed to be driven towards the protection of individuals’ wellbeing and environmental rights. This is the case of consumer organizations, environmental groups, physicians and also scientists. In contrast, the manufacturing industry and governments are less trusted (Marchant *et al.*, 2003).

One very interesting finding from Zhong *et al.*, (2008) study was that including health claims and nutritional information significantly affected attitude toward the product, nutrition attitude, purchase intentions and perceived credibility. Even more interesting was the finding that the effects of including nutritional information were stronger for the consumers in making the purchase decision. Another finding of interest was that consumers tended to trust nutrition facts more than health claims.

The effects of individual brand equity on brand knowledge influence the individual who is the consumer on reactions of marketing activities. Also, this influences the perceptions, preferences, and behavior of customers as a result of the marketing mix and the decision of the brand choice. Zhong et al. (2006) indicated that brand awareness and a positive brand image should increase the probability of brand choice and customer-based brand equity is enhanced by creating a favorable response to pricing, distribution, advertising, and promotion activity of the brand. This predominant theory with well developed propositions and strong empirical support is used to examine customers’ reactions to brands that result from marketing activities (Zhong and Ding, 2004).

Eventually, customers-based brand equity is the result of the customer’s perceptions and the customer’s reaction to the marketing mix. Using customer-based brand equity, customer’s perceptions and reactions to the elements of the marketing mix can be explained by the individual’s choice from the marketing mix. Bell and Rolls (2001) stated that the direct approach attempts to measure customer-based brand equity more directly by assessing the impact of brand knowledge on consumer responses to different elements.

Consumer food preferences are likely to take more than just price changes; it will take education, attitude changes and time. Individual choice relates back to Lin et al. (2006), that sometimes

consumers will purposefully choose the less healthy diet even if they have the income to support the more healthful alternatives. Lin et al. (2006) relate this to palatability of the calorie dense edible oil, but it could also be due time cost, peer influences and other factors effecting individuals decision making processes. Learning more about the underlying aspects of food choices of people will give some insight to potential ways to increase healthful choices when it comes to making the purchase decision.

Research Methodology

This research adopted a descriptive research design. The population of the study was consumers in BuruBuru area, Nairobi. A sample of 120 respondents was selected using convenience sampling. The respondents were intercepted, screened and interviewed at the supermarket. Every 10th customer was intercepted, screened and interviewed on meeting the criteria, provided that he/she was aged above 18 years. Convenience sampling technique preferred owing to the diverse nature of consumers in the area concerned, which made it difficult to come up with a clear sampling frame

Primary data was collected by the use of questionnaires. Descriptive statistics were used to analyses the data. Data analysis was mainly through descriptive analysis, cross tabulations, regression and Ccrrelation analysis.

Data Analysis, Results and Discussion

Among the respondents, 36% were male while 64% were female. Only 5% of the respondents had secondary school level of education while the rest had gone beyond high school. In terms of marital status, 51% were single, 46% were married, while 3% were divorced. 55% of the respondents were aged between 18 and 34 years while the rest were more than 34 years. The results indicated that most of the respondents earned less than Ksh. 50,000 (82%), while only 2% earned above Ksh 100,000 per month

The consumers were asked about the factors that drive consumers to purchase edible oils. The findings are indicated in Table 1

Table 1: Factors that Drive Consumer Purchase of Edible Oils

	Mean	Std. Deviation	Coefficient of Variation
Price of the product	4.84	0.369	0.0762
Quality of the product	4.52	0.535	0.1184
Ease of pouring it when using for cooking	4.26	0.619	0.1453
Usage to cook various types of foods	4.25	0.724	0.1704
Attractiveness of the package	4.07	0.581	0.1428
Label of the product	3.97	0.611	0.1539
Re-usage of the container after the edible oil is finished	3.39	0.943	0.2782

As indicated in Table 1, price of edible oils was a significant factor in its consumption (mean=4.84, sd=0.369). This was followed by the quality of the edible oil (mean=4.52, sd=0.535) and the ease of pouring it when using it for cooking (mean=4.26, sd=0.619). The least driver for

the consumption of edible oil was found to be label of the product (mean=3.97, sd=0.611) and re-usage of the container after the edible oil is finished (mean=3.39, sd=0.943).

In order to establish the correlation between the various drivers and the demographic variables of the respondents, Pearson correlation analysis was done and the results are given in Table 2

Table 2: Correlation between Demographic Factors and Consumer Purchase of Oils

		Price	Quality	Usage types	Label	Ease of use	Re-usage	Package
Education Level	Pearson Correlation	.000	.033	.030	-.126	.025	-.098	.310**
	Sig. (2-tailed)	.996	.722	.748	.176	.787	.291	.001
	N	118	118	115	116	118	118	118
Marital Status	Pearson Correlation	-.057	.103	.310**	.010	-.056	.126	-.094
	Sig. (2-tailed)	.551	.281	.001	.914	.555	.186	.325
	N	112	112	109	110	112	112	112
Age Range	Pearson Correlation	.072	-.218*	.194*	-.122	.044	-.068	.197*
	Sig. (2-tailed)	.440	.018	.038	.191	.636	.464	.033
	N	118	118	115	116	118	118	118
Income	Pearson Correlation	-	.004	.088	.019	.187*	-.103	.082
	Sig. (2-tailed)	.227*	.014	.352	.838	.042	.269	.378
	N	118	118	115	116	118	118	118

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed)

As indicated in Table 2, there was a significantly positive correlation between educational level and package ($r=0.310$, $p>0.01$). In addition, there was a significantly positive correlation between marital status and usage types of the edible oil ($r=0.310$, $p>0.01$). Similarly, there was a significantly positive correlation between age of the customer and usage types of the edible oil ($r=0.184$, $p>0.05$), but significantly negative correlation between age of the customer and quality the edible oil ($r=-.218$, $p>0.05$). This shows that as the higher the level of education by the customer, the more the package becomes a major consideration. Further, as consumers become older, they do not consider quality as being very important.

Consumers were asked to identify the attributes of labels that affect their choice of edible oils. The findings are indicated in Table 3

Table 3: Effect of Labels on Consumer Choice of Edible Oils

	Mean	Std. Deviation	Coefficient of Variation
Labels helps me make informed decision on the type of edible oil that am about to buy	4.81	5.052	1.0495
The physical labeling of edible oils are visually appealing	4.54	0.622	0.1370
Labels differentiate edible oils from another.	4.19	0.691	0.1651
Labels enable one to gain knowledge of the ingredients used to manufacture edible oils.	4.08	0.699	0.1711
Labels give information on the product's sizes.	3.97	0.620	0.1559
Labels give information on the product's storage.	3.97	0.577	0.1451
Labels are requirements for buying edible oils	3.93	0.581	0.1477
The facts about edible oils are well presented on the labels.	3.93	0.748	0.1902
Labels give information on the product's performance.	3.86	0.612	0.1584
Labels give information on the product's use.	3.86	0.653	0.1689
Labels carry information about the seller of edible oil.	3.03	1.134	0.3737
The standards of labeling are not followed in relation to the marketing of the products	2.91	1.227	0.4211
Labels provide confusing information on edible oils.	2.54	1.254	0.4930

The findings established that the labels helped them make informed decision on the type of edible oil that they were about to buy (mean=4.81, sd=5.052). This was followed by the physical labeling of edible oils that was visually appealing (mean=4.54, sd=0.622), labeling that differentiated edible oils from another (mean= 4.19, sd=0.691) and the labels enabled the consumers to gain knowledge of the ingredients used to manufacture edible oils (mean=4.08, sd=0.699). The least factors were; the standards of labeling were not followed in relation to the marketing of the products (mean=2.91, sd=1.227) hat the labels provided confusing information on edible oils (mean=2.54, sd=1.254)

Results of correlation analysis between the attributes of the label and the demographic characteristics of the consumers are given in Table 4.

Table 4: Correlation of demographic characteristics and attributes of labels

		Appealing labels	Presentation of facts	Labels requirements	Differentiation	Information Seller	Product's performance	Product's storage
Gender	Pearson Correlation	-.079	-.162	.068	-.242***	-.265***	-.192*	-.15
	Sig. (2-tailed)	.393	.080	.462	.008	.004	.038	.091
Education Level	Pearson Correlation	.290***	.197*	.038	.099	.079	.218*	-.09
	Sig. (2-tailed)	.001	.033	.682	.284	.402	.018	.291
Status	Pearson Correlation	.075	.212*	.303***	.207*	-.070	.078	.265
	Sig. (2-tailed)	.430	.025	.001	.028	.465	.412	.005
Age Range	Pearson Correlation	.141	.458***	-.083	-.029	.131	.255**	-.12
	Sig. (2-tailed)	.128	.000	.371	.751	.160	.005	.180
Income	Pearson Correlation	.016	.171	-.048	.048	-.135	.036	.087
	Sig. (2-tailed)	.860	.064	.603	.604	.148	.702	.347

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed)

As indicated in Table 4, there was a significant correlation between gender and the variable, label differentiate edible oil ($r=0.242$, $p>0.01$). In addition, there was a significant correlation between gender and the variable, labels carry information about the manufacturer of edible oil ($r=0.265$, $p>0.01$), between gender and the variable, give information on the product's sizes ($r=0.316$, $p>0.01$), between gender and the standards of labeling not being followed in relation to marketing of products ($r=0.258$, $p>0.01$).

Moreover, there was a significant relationship between educational Level and the variable, physical labeling are visually appealing ($r=0.290$, $p>0.01$), between marital status and the variable, labels are requirements for buying edible oils ($r=0.303$, $p>0.01$) and between age range and presentation of facts on the edible oil packaging ($r=0.458$, $p>0.01$).

Consumers were asked to identify the attributes of price that affect their choice of edible oils. The findings are indicated in Table 5

Table 5: Effect of Price on Consumer Choice of Edible Oils

	Mean	Std. Deviation	Coefficient of Variation
Lowering the price may encourage people to buy edible oil as compared to when it is increased	4.86	0.353	0.0726
Edible oils offer very good value for money	4.27	6.693	1.5670
The price of edible oils is a major consideration in my purchase	4.27	0.534	0.1249
The high price of edible oils confirms the choices I make in buying the product	4.25	0.630	0.1480
The ingredients of edible oil is a major consideration than its price	4.05	0.714	0.1763
With a good income I am able to afford edible oils	4.02	0.915	0.2278
I am attracted by price reductions and promotional deals in buying edible oils	4.02	0.539	0.1341
Edible oils are expensive to buy	3.86	0.631	0.1634
I prefer shopping around for low priced edible oils	3.78	0.572	0.1513
Price does not matter due to my interest in shopping	3.43	1.033	0.3011
The price of edible oils is less important as when I sought for convenient stores with friendly and helpful employees	3.20	1.075	0.3355
Regularly I buy edible oils on credit	2.56	1.195	0.4669
I am more uninformed about the prices of edible oils	2.52	0.931	0.3700

As shown in Table 5, majority of the respondents claimed that lowering the price may encourage people to buy edible oil as compared to when it is increased (mean=4.86, sd=0.353). This was followed by edible oils offered very good value for money (mean=4.27, sd=6.693) and the price of edible oils was a major consideration in the purchase (mean=4.27, sd=0.534). The least effect of price on consumer choice of edible oil was that the price of edible oils was less important when they sought for convenient stores with friendly and helpful employees (mean=3.20, sd=1.075), buying of edible oils on credit (mean=2.56, sd=1.195) and lack of information about the prices of edible oils (mean=2.52, sd=0.931). The attributes were correlated with the demographic characteristics of the consumers as shown in Table 6.

Table 6: Correlation of Demography and the Effect of Price on Consumer Choice of Oil

Price does not matter	The price is a major consideration	Importance of convenient stores	Price reductions and promotional	Good value for money	Income and affordability	Lack of information on prices

Gender	Pearson Correlation	-.039	-.297**	-.277**	-.110	-.253*	.033	.004
	Sig. (2-tailed)	.672	.001	.002	.237	.006	.722	.968
Educational Level	Pearson Correlation	.168	-.032	.254**	.015	.235*	.009	-.289**
	Sig. (2-tailed)	.068	.733	.005	.875	.010	.926	.002
Status	Pearson Correlation	-.146	-.278**	-.116	-.099	-.201*	.073	-.260**
	Sig. (2-tailed)	.125	.003	.222	.300	.034	.443	.006
Age Range	Pearson Correlation	.268*	-.198*	.213*	-.262**	.133	.055	.190*
	Sig. (2-tailed)	.003	.032	.020	.004	.151	.554	.040
Income	Pearson Correlation	.171	-.191*	-.175	-.159	-.076	.290**	.023
	Sig. (2-tailed)	.064	.038	.057	.086	.411	.001	.803

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed)

As indicated in Table 6, there was a significant correlation between gender and price as a major consideration in the purchase of edible oil ($r=-0.297$, $p>0.01$). Also, there was a significant correlation between gender and the importance of convenient stores ($r=-0.277$, $p>0.01$) in the purchase of edible oil and between gender and the price providing good value for money ($r=0.253$, $p>0.01$). The educational level was strongly correlated with the lack of information on prices ($r=0.289$, $p>0.01$) in the purchase of edible oil. There was a significant correlation between marital status and the price as a major consideration $r=0.278$, $p>0.01$) in the purchase of edible oil while the age range and unimportance of price was strongly correlated ($r=-0.268$, $p>0.01$). Consumers were asked to identify whether individual attitude affect choice of edible oils. The findings are indicated in Table 7.

Table 7: Effect of Individual Attitude on Consumer Choice of Edible Oils

	Mean	Std. Deviation	Coefficient of Variation
Edible oils helps support the healthy immune system	4.23	.886	0.2093
Edible oils has been linked with a reduced risk for heart disease	4.08	.780	0.1913

The availability of edible oils in different flavours influence my consumption	3.83	.560	0.1464
The oil brands stimulate my interest in buying	3.81	.714	0.1874
I consume what is consumed by people around me	3.72	.735	0.1979
I am confident of the ingredients of edible oils	3.71	.746	0.2013
I prefer edible oils that match my tastes rather than just the price	3.70	.681	0.1841
I trust nutrition facts more than health claims	3.64	.770	0.2117
I trust nutrition health claims than the facts	3.62	.801	0.2215
Edible oils leads to poor health in the society	3.51	.917	0.2613
I have limited knowledge of edible oils	3.30	.927	0.2813

The findings in Table 7 indicate that edible oils helped support a person's health immune system (mean=4.23, sd=0.886) as mentioned by majority of the respondents. This was followed by edible oils were linked with reduced risk for heart disease (mean=4.08, sd=0.780) while the least factors was on the consumers having limited knowledge of edible oils (mean=3.30, sd=0.927).

Discussion

The findings established that the price of edible oils ,the quality of the edible oil and the ease of pouring it were the most significant factors influencing purchase of edible oils cooking. The least driver for the consumption of edible oil was on the label of the product and re-usage of the container after the edible oil is finished with a relatively high variation of data. The findings established that the labels helped them make informed decision on the type of edible oil that they were about to buy with a relatively large variation of data. The findings are in contrast to Bell and Rolls (2001) argument that labeling does not supply sufficient information to a buyer. For this case, the labels provided the product necessarily needed or desired by a consumer in making a purchase decision. The finding confirms Darby and Karni (2003) arguments that the daily choices of the consumers are dependent on labels and brand names.

The study found that the choice of healthier edible oil is dependent on the price because the healthier it is the more expensive for the customer to afford (Zhong and Ding, 2004). Hence, price, budget and value are used to eliminate or confirm edible oil choices. There was a significantly positive correlation between educational level and package .In addition, there was a significantly positive correlation between marital status and usage types of the edible oil .Similarly, there was a significantly positive correlation between age of the customer and usage types of the edible ,but significantly negative correlation between age of the customer and quality the edible oil .

Conclusion

From the results obtained, it can be concluded that there are many factors that influence the choice of edible oils by customers. These include price of the product, quality, labeling, and information available. These factors are correlated either positively or negatively with demographic variables of the customers, such as age, income and level of education. The higher the level of education by the customer, the higher the package becomes a major consideration. However as consumers become older, they do not consider quality as being very important. It can also be concluded that consumer attitudes and their demographic characteristics influence the choice of edible oils

Value of the Study

The study will help consumers to understand their lifestyle patterns in the consumption of edible oils. The study aims to help the manufacturers of edible oils in understanding different consumer tastes and preferences so as to meet diverse consumer needs. The findings from this study can also have an impact on the company's marketing strategy with respect to segmentation of the market and positioning of the company's portfolio of products. This study will create awareness amongst employees on the factors influencing consumer choice and hence give them an opportunity to meet customer's expectations and measure their loyalty in relation to the purchase of the edible oils. This can create satisfaction among the consumers of edible oils and lead to the growth of market share. This study can act a source of reference and information to other researchers to develop further on the topic

Recommendations

The study makes the following recommendations based on the findings and conclusions:

Foremost, this study found that price is a major factor considered in the choice of edible oils. It is therefore recommended that pricing be done very carefully in order to make it as attractive to the consumer and as competitive as possible.

Secondly, physical labeling was found to influence the choice of edible oils. It is therefore recommended that labels be carefully done, giving all important information that can assist the consumer in making the decision to buy.

Suggestions for further research

This study focused on the factors influencing consumers' choice of edible oils in Buruburu area. It is therefore recommended that a similar study is conducted in another region such as Mombasa to confirm the similarities or compare the differences with the findings of this study.

References

- Bell, E.A., & Rolls, B.J. (2001). Energy density of foods affects energy intake across multiple levels of fat content in lean and obese women. *American Journal of Clinical Nutrition*, 73(6), 1010–1018.
- Biotechnology. Food Policy Institute Report, Rutgers University, New Brunswick.
- Bloch, J., Fallon, D., & Bitta, R. (2006). Study of buying behaviour of branded edible oils. *Indian Journal of Marketing*, 31 (7), 48.
- Brookes, G., & Barfoot, F. (2006). Consumer evaluation of brand Retention. *Journal of Marketing* 54, 27-41.

- Darby, M., & Karni, E. (2003). Free Competition and the Optimal Amount of Fraud. *Journal of Law and Economics*, 16, pg. 67-88.
- Hallman, W. K., Adelaja, A., Schilling, B., & Lang, J. T. (2002). Consumer Beliefs, Attitudes and Preference Regarding Agricultural
- Henneberry, S. R., & Charlet, B. (2002). A Profile of Food Consumption Trends in the United States. *Journal of Food Products Marketing*, vol. 1 (1), pg. 3-21.
- Lin, W., Somwaru, A., Tuan, F., Huang, J., & Bai, J. (2006). Consumer attitudes toward biotech foods in China. *Journal of International Food and Agribusiness Marketing*, 18(1&2), 177-203.
- Marchant, M. A., Fang, C., and Song, B. (2003). Issues on Adoption, Import Regulations, and Policies for Biotech Commodities in China with a Focus on Soybeans. *AgBioForum*, 5(4): 167-174, 2003.
- Mwangi, E. K. (2005). Factors affecting choice of milk store brands by consumers in Nairobi. University of Nairobi, Kenya.
- Noa, E., & Waithaka, M. (2005). *Vegetable oil industry in Kenya*. Athi River, Kenya: Export Processing Zones Authority.
- Noussair, C., Robin, S., & Ruffieux, B. (2002). Do Consumers not care about Biotech Foods or Do They Just Not Read the Labels. *Economic Letters*, 75 (1), 47-53.
- Nyang'or, E. A. (1994). Factors influencing consumer's selection of imported over local clothing among working women in Nairobi, Kenya. Kenyatta University, Kenya.
- Owino, V. K. (2000). The influence of attitudinal and normative factors on the choice and satisfaction derived from selected apparel among university students: a case study of Moi University, Kenya. Kenyatta University, Kenya.
- Springer, F., & Kevin, J. (2002). Strategic brand concept-image management. *Journal of Marketing*, 50 (1), 135-14.
- Sulzer, S. (2005a). Do Consumers not care about Biotech Foods or Do They Just Not Read the Labels. *Economic Letters*, 75 (1), 47-53.
- Sulzer, S. (2005b). Effects of Cheap Talk on Consumer Willingness-to-Pay for Golden Rice. *American Journal of Agricultural Economics*, 85 (4), 840-856.
- Wirthgen, B., Kuhnert, H., Altmann, M., Osterloh, J., & Wirthgen, A. (1999). Phytosterols and Health Implications - Efficacy and Nutritional Aspects. *Inform*, 12, 899-903.
- Zhong, F., & Chen, X. (2008a). Genetically Modified Food, Consumers' Purchasing Behavior and Market Share. *China Economic Quarterly*, Vol.7, No.3.
- Zhong, F., & Chen, X., (2008b). How does Biotech Food Labeling Affect Consumers' Purchasing Preference and Market Share in Supermarket? A Case Study of Vegetable Oil in Urban China. Paper for presentation at IAMO Forum 2008, "Agri-Food Business: Global Challenges – Innovative Solutions", June 25 – 27, 2008 Halle (Saale).
- Zhong, F., & Ding, Y. (2004). Consumer Awareness and Response to GM Foods in Nanjing. *China Rural Survey*, 1, 22-27.
- Zhong, F., Chen, X., & Ye, X. (2006). GM Food Labeling Policy and Consumer Preference - A Case Study of Actual Edible Oil Sales in Nanjing supermarkets. *China Economic Quarterly*, Vol.5, No.4, July, 2006, pp1311-1318.
- Zhong, F., Marchant, M.A., Ding, Y., & Lu, K. (2002). GM foods: A Nanjing case study of Chinese consumers' awareness and potential attitudes. *AgBioForum*, 5(4), 136-144.

The Role of Social Networks in the Internationalization of Tanzanian SMEs

Nancy Lazaro and Dev Jani

Abstract

The Internet particularly the social networks have become an essential factor in the process of internationalization of entrepreneurial firms. Despite the potential benefits offered by the Internet social networks, its use by Small-Medium sized Enterprises (SMEs) for business purposes is questionable given many businesses at least in Tanzania still being local rather than global. The available literature on the use of Internet social networks has ignored the emerging market and thus giving a biased account of the utility of the Internet. In filling the knowledge gap, this study aimed at analyzing the role of social networks in the internationalization of Tanzanian SMEs; specifically this study focused on answering the following questions: What is the role of Internet social networks in the internationalization of Tanzanian SMEs? How has Internet social networks helped in the internationalization process of the SMEs in Tanzania? How does the Internet social network influence the internationalization process of the SMEs in Tanzania? Using exploratory-qualitative approach, five Tanzanian SMEs were studied closely on their ways of using Internet social networks in the whole process of internationalization. Personal interviews with the managers/owners of the SME were opted for data in the collection process. Findings indicate Internet social networks to create product position of the SMEs' products, increase SME customer base, provide customer service, cheaper market penetration tool, as well as providing route to market intelligence. Several challenges were noted with respect to the use of Internet social network including the selection of few networks among others, language barriers, unreliable Internet access, meeting world standards, cultural differences, computer illiteracy, trust, and stiff competition. The common social networks that were in use by the studied SMEs were Skype, Facebook, Twitter, Blogs, Websites and LinkedIn. In order to overcome the challenges, it is recommended that the SMEs should set clear objectives, strategies, stay focused on business and a clear distinction between personal and business matters. It is necessary for business skills and common business sense to be part of the qualification of the SMEs. Through social networks people network, but the conversation has to be taken out of the social networks for the business circle to complete. SMEs are responsible for reaching out to their existing and prospective customers, thus are responsible for their own growth. Policy wise, the government not only should create a conducive infrastructure like enhancing Internet coverage and reliability but also it should re-think on reducing the tax of electronic gadgets that can be used by the SMEs.

Keywords: Internet, SMEs, social network, internationalization.

Introduction

Internationalization and international entrepreneurship among small and medium-sized enterprises (SMEs) has remained a topic of considerable contemporary relevance, principally owing to the observed growth effects of cross-border venturing, and the demonstrated capacity of SMEs to drive economic development at national, regional, and global levels (European Commission, 2007). Different definitions of SMEs have appeared in the literature, the Small Industries Development Organization (SIDO) which is a parastatal organization in Tanzania under the Ministry of Trade, Industry and Marketing defines SMEs as enterprises engaging up to 4 people in most cases family members, employing capital-mounting up to 5.0 million-and having a turnover of not more than Tshs, 12.0 million per annum. The majority of micro

enterprises fall under the informal sector. Small enterprises are mostly formalized undertakings engaging less than 50 employees and with capital investment of between Tshs. 5.1 million and Tshs. 200 million and an annual turnover of Tshs. 150.0 million. Medium enterprises employ between 51 and 100 people using capital investment of between Tshs. 201 million and Tshs. 800.0 million with turnover of Tshs. 300.0 million per annum.”

The world has become one village and globalization has taken its part widely. Many companies in developed nations are penetrating different markets worldwide. In the developing nations like Tanzania, many companies are locally operating and as much as they want to operate in international markets, they face so many challenges including the means to internationalize. Social networks are considered to be one of the most important factors in the process of internationalization (Andersson, 2000; Kiss, Danis, 2008). Millions of people have been using social networks for business and leisure. Taken seriously, social networks can be a very important tool in the organization for a firm to go global successfully and at a very low cost considering many organizations in developing nations work under very limited finances. The social networks that can be used in the process of internationalization of firms in Tanzania include Facebook, YouTube, Twitter, Google Plus, LinkedIn, Picasa, social blogs and other internet forums.

Despite the significant number of research that focus on the social network influence on the internationalization process there is a lack of research on the internationalization of small and medium enterprises from the emerging markets (Galina Shirokova; 2011). In Tanzania, many SMEs have been so reluctant to go international due to different challenges that they come through in going global and the major challenge being limited finance and human resources. Despite the growth in Internet usage in Tanzania, still SMEs have been using social networks for personal advantages while there are other business opportunities globally. SMEs are not aware of the use of social networks in international markets. In filling the knowledge gap, this study aimed at analyzing the role of social networks in the internationalization of Tanzanian SMEs. Specifically, this study embarked on answering the following questions: What is the role of social networks in the internationalization of Tanzanian SMEs? So far, how has social networks helped in the internationalization process of the SMEs in Tanzania? and, How do the social networks influence the internationalization process of the SMEs in Tanzania?

Literature Review

SME Sector in Tanzania

In their paper Stevenson and Onge (2005) mentioned that, “The Tanzanian government defines SMEs according to sector, employment size, and capital investment in machinery. Accordingly, SMEs are defined as micro, small, and medium-size enterprises in non-farm activities, including manufacturing, mining, commerce and services. A micro-enterprise is one with fewer than five employees, a small enterprise with 5-49 employees, a medium enterprise with 50-99 employees and a large enterprise with more than 100 employees (see Table 1). Capital investments range from less than Tshs 5 million to over Tshs 800 million. This definition would exclude a number of informal economy enterprises, peasant farmers, and Tanzanians engaged in lower-level income-generating activities.”

Wangwe (1999) and Massawe (2003) have defined SMEs in the context of Tanzania. Wangwe defines small enterprises as those which engage 6 – 20 persons while Massawe thinks small scale

enterprises are those employing 5-49 persons and Medium Size Enterprises as those with 50-99 persons employed. Therefore, in a general mannerism, one can estimate the definition of small and medium enterprises as those with employees between 6 and 99 people.

Social Networks and SMEs

Social networks connect people with businesses, and businesses get to recruit new clients. Internet usage in Tanzania has been growing rapidly since early 2000 but still, the number of Internet users is still very small compared to the total population. According to the statistics as of December 31, 2011, there were only 4,932,535 internet users (413,540 being Facebook users with 1% penetration rate), who represents 11.5 of the total population which is 41 million. Among those with access to the internet there are only 141,580 Facebook users, with 74% of them aged between 18-34 years. Many people are engaged with twitter, YouTube, LinkedIn, Google plus and blogging. Since the end of 1980s a stream of thought had been developed that can be denoted as a network theory of internationalization (Johanson, Mattsson, 1987; Holmlund, Kock, 1998; Coviello, Munro, 1995; 1997). These authors suggest that firms engaged into networks with mutual knowledge and trust have a competitive advantage and are able to go abroad easier than the firms that are not included in any social or business networks.

Different opinions on the study of networks in relation to SMEs internationalization was brought by several authors (Arenius, 2002; Andersson, Wictor, 2003; Sharma, Blomstermo, 2003; Auto, 2005) believe that social networks creates social capital which is an important resource for SMEs to go global and mostly leading the organization to a certain direction in the process of internationalization. For instance, in their blogsite, www.globalizationpartners.com they argued that social networks has become the core activity of internet marketing. Social networks are now central to any effective business strategy and will affect recruiting, services, customer support, sales, etc. Companies will have to implement more effective social networks strategies into their marketing plans in order to take the advantage of the "social effect" in the internet. These social networks strategies includes social shopping, e-mail marketing, social identify-social ID, social networks and search engines.

Previous studies have identified several barriers to SME internationalization including; shortage of working capital to finance exports, identifying foreign business opportunities, limited information to locate/analyse markets, Inability to contact potential overseas customers, Obtaining reliable foreign representation, Lack of managerial time to deal with internationalization, inadequate quantity of and/or untrained personnel for internationalization, difficulty in matching competitors' prices, lack of home government assistance/incentives, and excessive transportation costs (OECD-APEC, 2007). The use of the Internet social networks is the likely candidate that can assist in overcoming these challenges. This study appraises the applicability of these barriers into the Tanzanian context.

Methodology

Type of Research

This study was an exploratory research that utilized a case study method for collecting data that answered the posed research questions. Five companies which have been operating globally through the use of social networks were chosen for the study. These companies were studied closely on their ways of using social networks in the whole process of internationalization. These

firms are established and fully own by Tanzanian entrepreneurs and have been operating at the international level for at least one year. The companies are based under different industries under the category of small and medium enterprises.

Data Collection and analyses

The study was exploratory and required qualitative data, thus, data for the case of this paper was collected through personal interviews with the top managers (top management) of the company. The unit of analysis was the social network of the company top-manager. The top-managers were the primary source of information about the company because of their involvement in growth and development of the firm. Secondary data about the company including the documents provided by the companies, the web-sites and advertising materials were collected and examined. A non probability sampling design was used. The companies for the case study were chosen deliberately by the researcher. After the interviews, data collected from all the SMEs was analyzed by the researcher to come up with the findings for the whole research. The researcher identified the emerging concepts and themes that were recorded in a data matrix of which were subjected to descriptive analysis.

Results

According to the interviews held and the observation of the researcher, the most commonly used social networks in Tanzania by SMEs are Facebook, Twitter, Skype, LinkedIn, You Tube, Blog sites and websites.

Benefits Of Using Social Networks To Internationalize

1. Customers

The social networks are a significant bridge between the prospective customers in the international market and the company. The social networks provides a direct link between the two thus making it easy for a company to recruit its targeted customers from different countries without having to travel all the way in search of expansion of business and increasing the market share of the company in the world. Social networks help in the provision of customer service to the wide international market. Good customer service builds trust, confidence and loyalty of the customer to the products that a company offers.

2. Linking with future partners or investors

The social networks bring together the businesses, customers and investors. It is a platform for businesses to sell themselves to the foreign world without physically being there. There is a high chance of a business to get investors from the foreign countries if they position themselves well in the social networks which allows the investors to see potential in them. Once the investor sees a demand of your business in his country and sees the potential in your business then that becomes an opportunity for the businesses to grow globally.

3. Products

Once an organization have decided to use the social networks to connect with the outside the borders business people and customers, they have to be ready to offer international standard products which are prone to excellent quality. The businesses with products which have reached the international standard have a lot more chances of winning customers and investors plus being competitive in the world market.

4. Information

With the technology advancement and constant changes on the business environment, any business has to be sure of staying up to date. In order to progress, all businesses have to open their eyes wide enough to see through the industry and realize the economic, social, cultural, political or technological change for all these affects the operations of a business in the world market.

5. Networking

Small businesses as well as big business are being provided with the same platform to network, create relationships and win clients. Over one billion people use social networks for business or personal use. Any business has to create contacts with the right people for easy business operations. Networking creates contacts and contacts create business.

6. Market

Social networks provide a platform for SMEs to reach out to specific target. For instance, in Facebook, when a company wants to make an advertisement, there is a question of where does he want the advert to be seen and which age group should mostly see the advert. In LinkedIn a business can join the circle of people, association or other businesses and be part of the specific group that will benefit the company.

Social networks make it easier for any business to penetrate the foreign market through its online presence. Penetration of local products to the international market through social networks is inexpensive and offers quick response, whether positive or negative. Direct interaction with prospective customers makes it easier for businesses to diffuse in the new environment.

Social networks are a platform for business and customers to interact. For a business to recruit more customers in the long run, it has to invest so much in positioning itself in the mind of the prospective customer and create the right image of the business and products offered.

The Challenges to Using Social Networks to Internationalize

1. Language Barrier

Swahili is dominant language in Tanzania. More than 80 percent of the indigenous people speak Swahili fluently. Swahili being the mother tongue making it the first language puts the business people who do not know any other language in a difficult position to communicate with the foreigners as they search for business.

2. World standards

The Tanzanian market is still struggling to reach out to the world standard of products. The world demands very good quality products, the standards are very high for a normal Tanzanian to reach. For instance, for a company that sculptures, they have to export them in a good manner i.e. they have to be uniform with one another. Stiff competition is present since everyone wants to win business thus one must have a competitive advantage and the products needs to be of added value in order to beat the competition.

3. Culture differences

The cultural difference between one country and another may hinder the business to be realized. For instance, in India, one cannot sell the sculptures of cows since it is related to their religion while in some parts of Tanzania cows are a sign of wealth.

4. Internet ignorance

A lot of Tanzanians especially the business minded people do not know what internet can do for them. A lot of people own email addresses that they use once in a while, they own Twitter and Facebook accounts for very personal issues while they struggle to advertise their business through traditional means. SMEs have been exposed to less training that is geared to alerting them about the social networks and its powerful use in the internationalization of business. In Tanzania we are yet to have excessive internet access for the majority despite the rapid growth of internet usage. This remains a barrier for businesses to internationalize through social networks since the majority of business owners do not have internet access.

5. Trust

It is very hard for people who have just encountered with SMEs through social networks to trust them completely due to the presence of hackers and sites that cannot be trusted. This is a vice versa as well to the SMEs since the prospective customers and investors may turn out not to be trustworthy.

Conclusion

Globalization has made the world to be like a village and with the introduction of the internet the whole world has been connected as one. Through the internet, social networks has become essential for the growth of any business in this era, those who want to remain local as well as to those who want to internationalize and operate across borders. Social networks have played a very big part in the internationalization of firms in an inexpensive manner. Social networks provides a platform for SMEs to position their products efficiently to their desired market, increasing its customer base, provide customer service and be informed of the things that go on in the online industry.

There are several challenges that hinder the penetration of the local SMEs to the world market like language barrier, internet ignorance, lack of products that are of quality standard, stiff competition and trust that many Tanzanian SMEs face in the whole process of going global through social networks means. If SMEs wants to expand beyond borders through social networks, then the choice of social networks to use have to be strategic and of benefit to the organization. There are a lot of social networks over the internet and customers are all over the place thus it is necessary to choose few networks to focus on instead of wasting time in a lot of sites.

Social networks influence the internationalization process of SMEs directly thus they should use social networks effectively to go global. They should set clear objectives, strategies and stay focused on business. There should be a clear distinction between personal and business matters. It is necessary for business skills and common business sense to be part of the qualification of the SMEs. Through social networks people network, but the conversation has to be taken out of the social networks for the business circle to complete. SMEs are responsible for reaching out to their

existing and prospective customers, thus are responsible for their own growth. There are hundreds of social networks over the internet but one thing to keep in mind is that customers are also scattered everywhere thus it is important to choose few and focus on them. The most commonly used social networks by Tanzanian SMEs are Facebook, Twitter, Skype, Blogs, Websites and LinkedIn.

Recommendation

Social networks play an important role in the internationalization of SMEs in Tanzania. According to the research and its findings, the following are the recommendations:

1. Distinguish personal and business matters in the social networks

Since social networks are used for personal as well as for business then a business person should distinguish the two and there should be a clear identification of the two without confusion. Business cannot be mixed with personal stuffs. Stay focused in business and leave the personal issues aside for they will not bring success to your business.

2. Social networks

To succeed through the social networks, SMEs must learn to develop social networks plan for their businesses online. The social networks plan will include strategies to be used online compared to traditional ways of advertising, recruiting customers and looking for investors. Also, thoroughly research on social networks has to be done to find out which of the social network is beneficial for an SME to internationalize.

3. Common business sense

Business skills are essential in bringing in the success of a business within the social networks and outside the social networks. SMEs should have knowledge of the industry they have ventured into. The understanding of the business in general will help an SME in planning and dealing with customers or investors. SMEs should stay focused in all business dealings, reach out to their prospective customers and build a good reputation for the firm. SMEs should be informed all the time due to advancement in science and technology. In order for a successful business to happen as a result of social networks, the conversation started has to go outside the social networks.

4. Languages

SMEs internationalization involves crossing borders and doing business in foreign countries. It is necessary for SMEs who want to go international, to learn different international languages like English, French or Spanish, to easier communication.

The study findings will help the SMEs to benefit from social networks by creating contacts and partnership globally. SMEs in Tanzania will be able to understand other deep rooted use of the social networks thus helping them to place themselves in the world market. Internationalization through social networks can be very affordable for firms in Tanzania thus the best way to reach out to the world market. Due to financial constraints, the study was limited to a small sample in Dar es Salaam only leaving behind SMEs in other regions of Tanzania. In general, Tanzania has 26 regions and the study was based on only one region. SMEs in each region may have a different view on social networks and its role in the internationalization process. Also, very few empirical research have been done in the same area of study thus intensive review on of past studies on the social networks an internationalization was limited. In order to compliment this

study, future research can consider the use of mobile phones for expansion of businesses, the role of social networks in the tourism sector, E-commerce and the laws, policies and regulation of the country, the challenges of online businesses in Tanzania, and social networks and international marketing.

Reference

- “Support for Growth-oriented Women Entrepreneurs in Tanzania” by Lois Stevenson and Annette St-Onge, 2005
- Andersson S. (2000) The internationalization of the firm from an entrepreneurial perspective // *International Studies of Management and Organization* 30(1): 63-92.
- Andersson S., Wictor I. (2003) Innovation internationalization in new firms: Born globals – the Swedish case // *Journal of International Entrepreneurship* 1(3): 249-276.
- Arenius P.M. (2002) Creation of Firm-Level Social Capital, Its Exploitation and the Process of Early Internationalization. Helsinki University of Technology: Helsinki.
- Arenius, P. (2005) The Psychic Distance Postulate Revised: From Market Selection to Speed of Market Penetration. *Journal of International Entrepreneurship*, Jun2005, Vol. 3 Issue 2, p115-131.
- Auto A. (2005) Creative tension: the significance of Ben Oviatt’s and Patricia McDougall’s article “Toward a Theory of International New Ventures” // *Journal of International Business Studies* 36(1): 9-19. 23
- Axelsson, B., Johanson, J. (1992) Foreign market entry – the textbook versus the network view, in Axelsson, B., Easton, G. (Eds), *Industrial Networks: A New View of Reality*, Routledge, London, pp. 218-34.
- Barnes, B.R., Chakrabarti, R., and Paliawadana, D. (2006), “Investigating the export marketing activity of SMEs operating in international healthcare markets”, *Journal of Medical Marketing*, 6 (3), 209-221.
- Batjargal B. (2003) Social capital and entrepreneurial performance in Russia: A longitudinal study // *Organization Studies* 24(4): 535-567.
- Boter, H., Holmquist, C. (1996) Industry characteristics and internationalization processes in small firms // *Journal of Business Venturing* 11: 471–487. Coviello N. E. (2006) The network dynamics of international new venture // *Journal of International Business Studies* 37: 713-731.
- Crick, D. (2007), "SMEs' Barriers Towards Internationalisation and Assistance Requirements in the UK", *Journal of Small Business & Entrepreneurship*, 20 (3), 233-244.
- Easterby-Smith, M., Thorpe, R., and Lowe, A. (1991), *Management Research: An Introduction*, London, Sage Publications.
- Ellis P. D. (2000) Social ties and foreign market entry // *Journal of International Business Studies* 31(3): 443-69.
- Ellis P. D. (2011) Social ties and international entrepreneurship: Opportunities and constraints affecting firm internationalization. *Journal of International Business Studies*, Jan2011, Vol. 42, Issue 1, p 99-127.
- Ellis P.D. (2007) Paths to foreign markets: Does distance to market affect firm internationalization? // *International Business Review*, 16(5): 573-593.
- European Commission (2007), *Supporting the internationalisation of SMEs: Final Report of the Expert Group*, Brussels: European Commission Enterprise and Industry Directorate-General.

<http://www.energise2-0.com/>

Johanson, J. & Mattsson, L. G. 1988. Internationalization in industrial systems: A network approach. In Hood, N. & Vahlne, J.-E. (Eds.), *Strategies in Global Competition*: London: Croom Helm.

Johanson, J. and Vahlne, J. (2009) The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership, *Journal of International Business Studies*, vol. 40, no. 9, pp. 1411-1431. 26

Kiss A.N., Danis W.M. (2008) Country institutional context, social networks, and new venture internationalization speed // *European Management Journal* 26: 388-399.

Kneller, Richard and Pisu, Mauro (2007), "Export Barriers: What are They and Who Do They Matter To?" *University of Nottingham Working Paper No. 2007/12* Available at SSRN: <http://ssrn.com/abstract=968428>

Musteen M., Francis J., Datta D.K. (2010) The influence of international network on internationalization speed and performance: A study of Czech SMEs // *Journal of World Business* 45: 197-205.

OECD (2009), "Top Barriers and Drivers to SME Internationalisation", Report by the OECD Working Party on SMEs and Entrepreneurship, OECD.

OECD-APEC (2007), *Removing Barriers to SME Access to International Markets* Paris, Organisation for Economic Cooperation and Development (OECD) Publishing.

Ozgen E., Baron, R. A. (1990) Social sources of information in opportunity recognition: Effects of mentors, industry networks, and professional forums. *Journal of Business Venturing*, March, Vol. 22 Issue 2, p174-192.

Sasi V., Arenius P. (2008) International new ventures and social networks: Advantage or liability? // *European management Journal* 26: 400-411.

Scott R. (1995) *Institutions and organizations*. Sage Publications, Thousand Oaks, CA.

Sharma, D.D., Blomstermo, A. (2003) The internationalization process of born globals: a network view// *International Business Review*12(6): 739-753

Singh, R. P. (2000) *Entrepreneurial opportunity recognition through social networks*, Garland Publishing, Inc: London.

Styles C., Ambler T. (2000) The Impact of Relational Variables on Export Performance: An Empirical Investigation in Australia and the UK. *Australian Journal of Management*, Dec2000.

Welch L.S. (2004) International entrepreneurship and internationalization: Common threads. In *Handbook of research on international entrepreneurship*. Ed. L.-P. Dana. Edward Elgar, Cheltenham.

www.globalizationpartners.com

www.lizyking.biz

www.sido.go.tz

Strategic Responses by Commercial Bank Of Africa to Changes in the Regional Business Operating Environment

Nicholas Mwenda Limungi and Phyllis Kinanu Marete

Abstract

This study is on Commercial Bank of Africa (CBA), which is the largest privately owned bank in Kenya and Tanzania and currently expanding to other E.A countries. The bank's target Market since its incorporation has been Corporate and institutional Market segment. CBA has been dominating these markets for a very long time until late 2000s when it started experiencing challenges as a result of changing business-operating environment due to integrating East African Community and Regional business dynamics. As a result of changes in the regional business-operating environment, CBA has been forced to respond to changes resulting from the changing environment in a number of ways.

This study examines strategic responses adapted by CBA to changes in the business operating environment within the East African region and to understand the opportunities presented by the regional market integration. The objectives of the study were first to establish the strategic responses adapted by CBA to changes in the regional business-operating environment and secondly to establish the challenges and opportunities that CBA has encountered as a result of changing regional business-operating environment in the last five years. After data analysis, it was observed that CBA responded to the changes in the regional business operating-environment in a number of ways. Some of the strategic responses used by CBA are: Regional Market Expansion, Corporate restructuring, Market Research and Development of new product and Service, Improvement in Information and Technology, Financial strategy, Improvement in Human Resource Management style among other strategies.

Introduction

Organizations and especially business organizations are environment dependent and must keep abreast with changes in the environment for them to operate profitably. Ansoff & McDonnell (1990) say that business organizations are environment dependent and they do not operate in a vacuum. Porter (1998) says organizations obtain their inputs from, and discharge their output to the environment through a process he called a value chain. According to Pearce & Robinson (1997) organization's environment consist of all conditions and forces that affect its strategic options and define its competitive position. Ansoff & McDonnell (1990) observes that when an organization is faced with unfamiliar changes in its operating environment, it should turn to strategic management and revise its strategies to match the turbulence levels in the environment. They further say that the firm's strategic aggressiveness should match the levels of environment turbulence and must be supported by firm's internal capability.

Strategic Responses To Changes in Regional Business Operating Environment

Changing business operating environment is the most challenging aspect to any business venture and for a business to operate profitably and remain competitive in the industry it must respond to various challenges the changing environment presents. Grant (2000) observed that for a firm to compete in any industry, its strategy should be consistent with the goals and values, resources and capabilities, and more importantly it should be flexible enough to accommodate changes in the business environment.

It was observed by White and Shipper (1998) that a business's operating environment is very critical to business performance in both how it is run in the short run and also as a going concern. They further observe that even though the operating environment has multiple factors, a firm should respond first to the major factors that affect the firm's business competitiveness. Due to challenge presented by the ever changing business environment, businesses should always modify their strategies to match the challenges from environment. Pearce & Robinson (2007) say that external environment management is fundamental component of strategic management processes. They say that external environment factors influences a firm's choices of direction, action and ultimately its organization's structure and processes.

It was observed by Sababu (2007), that the challenges presented by the changes in the business environment necessitates a business venture to design strategies that appropriately respond to the challenges and ensures the business has got a competitive edge in the competitive operating environment. Pearce & Robinson (1999) defines strategic responses as a set of decisions and actions that result in the formulation and implementation of plans designed to achieve a firm's objective. Strategy is creating a fit between the external characteristics and internal conditions of an organization to solve a strategic problem, Aosa (1998). Strategic problem is a mismatch between the internal characteristics of a firm and changes in the external environment, thus there is always a need to formulate a set of actions and decisions that match these changes. According to Ross et al (1996), for an organization to remain truly competitive as the environment changes, they have to learn to adopt and re –orient as per the changing environment. This process has to be deliberate and coordinated leading to a gradual or radical systematic realignment between firm's environment and firm's strategic orientation.

Commercial Bank of Africa (C.B.A)

Commercial Bank of Africa popularly known as CBA is the largest privately owned commercial bank in Kenya and Tanzania. Until recently, the bank's target market has been pre-dominantly Corporate, Institutional and Individuals with high monthly income. CBA has been performing very well in this market in terms of profitability and also growth of its market share. In the last Ten years the bank has experienced increased competition from other banks and changing regional business operating environment especially in the expanded East African Community, the bank has been forced to come up with various strategic changes that can help it remain competitive by countering the challenges presented by the expanded Market and also exploit and capitalise on the opportunities that the integrated market presents.

Regionally the bank has branches only in Kenya and Tanzania in selected towns in it Five year strategic plan (2008-2013) the bank plans to open some more branches at least one branch in Kigali Rwanda, Kampala Uganda and Juba South Sudan to take advantage of the opportunities presented by expanded EAC market. In this banks strategic plan, the bank will be implementing a new strategy that will allow selected retail banking in within the EAC. The plan will also see the bank include in its target market middle income individuals alongside its corporate and institution market. This is due to increasing numbers of middle class group as a result of growing economic activities within the EAC. It will be important to understand how the bank is strategising to remain competitive in the changing regional business operating environment.

Statement Of The Problem

According to Ansoff and McDonnell (1990), business organizations are environment dependent and they do not operate in a vacuum. This means business operations are affected by general external environment changes in one way or another in either short term or in the long term. As a business is faced with unfamiliar changes in the operating environment, it should turn to strategic management and change its strategies in order to respond to the changes in the operating environment. In East Africa there has been a lot changes in the business operating environment in the last ten years and businesses have been forced to adopt different responses to these changes.

Regional banking industry has been one of the mainly affected sectors by the changes in the regional operating environment and regional banks have adopted some strategies to respond to the changes. A strategic response adopted by one bank may vary from the one adopted by another even if all of them are in the same business industry. A strategic response therefore can be defined as a well formulated and organized action plan by firm's management with an aim of countering a threat or seizing an opportunity presented by a certain change in the environment and the same time ensuring it outsmarts the competitors.

It was observed by Miller and Friesen (1983), that even though much is known about the relationship between strategy, structure and environment, too little is known about the third link: - The relationship between strategy making and the environment. They further noted that as a result of the ever changing business operating environment, strategy making should be a process and not a one time event. Firms should always be on look out for changes taking place in their environment and come up with appropriate strategic responses to address the changes. Chege (2008) argues that in determining competitive advantage and creating coping strategies a firm needs to understand the changing environment it is operating in because the strategies created will help in responding to the changing environment.

Over the last decades, operating business environment has become very dynamic and these dynamics have made firms not only to be keen but also to remain very alert to environment changes so that they respond to them in good time. Recently, in 2008 and 2009 there has been a very big challenge as a result of global economic crunch that started in U.S.A and spread to other continents. Though this crunch started by hitting hard on financial institutions it later spread to other sectors of the economy and firms were forced to adjust their strategies to respond to challenge. Locally, there are a number of environment factors that have affected the banking sector. Notable cases are Technological advancement which made banks come up with branchless banks, internet banking, and mobile banking among other external factors have put managers under pressure to improve productivity and financial performance through various responses.

There are a number of local studies that have been done to find out how various organizations have responded to environment challenges. Chege (2008) did a study on competitive strategic adopted by Equity Bank Kenya Ltd in response to changing environment. He found out that some of the response Equity Bank adopted included investment in modern Information Technology, review of human resource policies to offer staff incentive and also corporate re-structuring. He notes that while formulating these responses, some of the challenges came from the employees

who were resistance to change and huge financial expenditures that sometimes went beyond the estimated levels.

In a study by Gitonga (2008) on response strategies of equity bank to competition in the banking industry, it was observed that Equity bank restructured its corporate operations with an aim of separating its retail and corporate businesses. He also noted that there were Marketing and Promotion activities that were used as a response to counter competition and also investment in modern ICT to boost the Banks operations. He observed that the management and a challenge of explaining to both the shareholders and small scale customers that the bank was not incorporating corporate business at the expense of retail customers who were the core market segment. In her study on response strategies adapted by Barclays bank, to challenges from external environment, Mugweru (2008) noted that Barclays bank improved on its ICT especially in the aspect of system inter-connectivity aimed at offering branchless banking experience to customers. She also noted improvement in human resource management activities with an aim of attracting and retaining talented staff alongside product development and innovation to adapt to customers changing preferences. Some of the challenges encountered when formulating response strategies included delayed response time as result of bureaucratic communication channels and decision making, resistance to change from various stakeholders and huge financial expenditure.

Mutugi (2006) did a study on strategic responses of Barclays Bank to changes in retail banking environment and observed that Barclays Bank used Market strategy as response. This involved product segmentation, price discrimination and also extended geographical coverage. He also found that the bank improved on its HRM operations; investment in ICT and Change management that involved managing culture change in the working environment.

It can be observed that all these studies have been done on banks within Kenyan business operating environment and not in regard to East African regional business operating environment. It can also be observed that all these studies are banks whose core market segment is retail and personal banking and none has been done on banks specializing in Corporate and Institutional market. It is also not scientifically proved that banks operating in similar environment respond to changes in the environment in the same way. This study will help in answering the following question: What responses have CBA-as corporate and institutional banker, adopted to address changes in the regional business operating environment and what business opportunities has CBA encountered as a result of integrating economies of East Africa Community.

Objectives Of The Study

This study has two objectives which are as follows:

- i. To establish what strategic responses CBA has adopted to address changes in the regional business operating environment;
- ii. To identify the opportunities that has come up as a result of integrating and expanding EAC Market.

Importance Of The Study

The study will be of importance to various stakeholders within EAC. By understanding the responses this bank has used to counter challenges resulting from changes in the regional

business operating environment, the information will be useful to other existing regional banks and other financial institutions with the same target market in formulating their strategic plans.

The results of this study will also help other local and regional market players in knowing the opportunities that are arising as a result of expanded EAC market and thus formulate strategies that will help them capitalise on the opportunities. The study may also expose some other areas of future academic and business research aimed at improving business management styles in very changing environment.

Literature Review

Views On Strategy as a Concept.

Thompson (1993) Views strategy a set of predetermined actions with an aim of increasing firm's competitiveness in a very competitive environment. Johnson & Scholes (2001) see strategy as the direction and scope of an organization over a long term which achieves the advantages for the organization through the configuration of resources within a changing environment to meet the needs of the market and fulfil stakeholders' expectations. They argue that strategy should be seen as the matching of the activities of an organization to the environment in which it operates. They further argue that even though strategy can be seen as "building" or "stretching" of organization's resources and competencies to create opportunities or to capitalize on opportunities, it does not just mean trying to ensure resource are available or can be made available but rather it means identifying existing resources and competencies which might be a basis for creating new opportunities in the market place.

Chandler (1962) sees strategy as an establishment of long term goals and objectives of an organization, including taking actions and allocation of resources for achieving these goals. Pearce & Robinson (1997) see strategy as the building of defences against competitive forces or finding a position in the industry where competitive forces are weakest. Strategy is a plan that sets out together an organization major goal, policies and action sequences, (Quinn, 1950). Thompson & Strickland (1998: pg 2) argues that a company's strategy is the "game plan" management hold for positioning the company in its chosen market arena, competing successfully, pleasing customers, and achieving good business performance.

In order for an organization to formulate a good strategy that will enable it to achieve its both long term and short term goals, it first needs to clearly understand its business. It should be in a position to answer the following questions: Where are we as a business? Where do we want to go? And how do we go there? By answering these questions it will be in position to come up with a "strategic vision" of the firms future business make up of where the business is headed. Porter (1980) says that strategy is basically about competition and means which an organization fights to gain a competitive advantage. Johnson & Scholes (1999) says there are three levels of strategy: corporate level strategy which is concerned with the future direction of the company, Business level strategy is concerned with sustainability of different portfolios and operational level strategy that is concerned with shop floor delivering systems and procedures.

It can be concluded that strategy can be clearly formulated after careful and objective analysis of the resources and firm's capability. This ensures that a firm does not come create a strategy that it

can not implement or that will lead to too much strain on its overall capabilities and thus reducing its competitive advantage

Definition Of a Strategic Response

A strategic response is a well planned set of actions or decisions aimed at countering a change which has already taken place, is currently taking place or is anticipated to take place. A response is a reaction to a threat posed to an organization's operations and achievement of both long term and short term objectives. According to Ansoff and McDonnell (1990), strategic response involves changes in the firm's strategic behaviour to assure success in the changing future environment. The usefulness or relevance of a response adopted by a firm is measured by how well it has countered the challenge emanating from environment.

Thompson (1997) defines strategy adoptions as changes that take place overtime to the strategies and objectives of an organization. Such change can be gradual, evolutionary, dramatic or even revolutionary. Pearce & Robinson (2007) define strategic responses as the set of decisions and actions that result in the formalization and implementation of plans designed to achieve firm's objective.

According to Ansoff and McDonnell (1990), the management system adopted by an organization is a determining component of the firm's responsiveness to the changes. The management system adapted determines the way an organization perceives the environment, diagnosis its impact on the firm and consequently implements the decisions. Strategic responses are basically meant to cushion the firm against any threats as a result of change in the environment. There are no standard or sequential forms of responses that a firm may adopt to respond to the environment because every response adopted is dependent on the environment change and a firm may adopt more than one kind of response to one environmental challenge. A well developed and targeted response is formidable weapon for a firm in acquiring and sustaining competitive edge in challenging external environment. These responses include: marketing response, financial response, research and development response, Human resource management response and IT response (Wheelen & Hunger, 2008).

Relationships between External Environment, Strategy and Internal Capability

Organizations are environment dependent for they do not operate in a vacuum. Ansoff and McDonnell (1990). Porter (1998) noted that organizations obtain their input and discharge their output into the environment through value chain process. Firms operations are affected by environmental changes and for them to effectively compete and remain profitable they must adapt to changes in the operating environment.

It was observed by Pearce & Robinson (2007) that business operating environment factors influence a firm's choice of direction, action and ultimately its organization structure and procedures. They further divide factors in the external environment into three interrelated categories: factors in the remote environment, factors in the industry environment and factors in the operating environment. Remote environment comprises of factors that originates beyond and usually irrespective of any firms operating situation. Industry environment consists of aspects like the extent of rivalry between existing firms; threat posed by suppliers, buyers and substitute products and also the level of industry entry barriers. Operating environment is also called

competitive environment and is typically more subject to the firm's influence, or control. This environment has factors like the firm's customer composition, firm's reputation, firm's resources and internal capabilities, management style and firm's ability to attract and retain capable and talented employees among other factors.

Firm's strategy should not only be tied to the internal capability (resources) of the firm but should also be flexible to respond to changes in the operating environment. Thompson (1997) argued that the managers must not only be aware of environmental change but they must also manage the organization's resources to take advantage of the opportunities and counter threats. Shipper and White (1988) observed the operating environment as having multiple facets and three of the major ones being the degree of market competitiveness, the rate of technical innovation and variability of economic fluctuations that affect the industry.

Ansoff and McDonnell (1990) noted that change in organizational behaviour is very necessary when there is a change in environment if competitiveness of a firm is to be achieved. They further noted that changes that touch on the organization strategy and capability needs to be systematically identified through the strategic diagnosis approach. The approach is derived from the strategic success hypothesis which stated that "a firm's potential is optimum when the aggressiveness of the firm's strategic behaviour matches the turbulence of its environment and the responsiveness of the firm's capability is supportive of one another". When one of these three aspects is missing then the firm's performance potential will be less than optimum.

According to Grant (2000), a successful strategy is consistent with the organization's goals and values, external environment, resources and capabilities and organization's systems. This indicates the fact that the organization depends on the environment for its survival and the responses to the environmental situation will determine its performance. Thus when there are changes in the environment, the organization's capability and strategy would have to be changed in order to ensure continued strategic fit.

Research Methodology

Research Design

The study adopted a case study method. Yin (1984) says that a case study research is the best because it helps in understanding of a complex issue or object and can extend experience or add strength to what is already known through previous research. Kothari (1990) noted that case study is a good method of doing research because it involves careful and complete observation of a social unit be it a person, institution, family, cultural group or an entire community. Case study emphasizes depth rather than breadth of the study.

In this research, case study helped in getting in depth information on response strategies used by C.B.A. it helped in understanding behaviour patterns of this particular bank studied. Case study has been used successfully by past researchers such as Chege (2008), Mugweru (2008) and Njau (2000) among others.

Data Collection

Data collection was done through primary and secondary data collection method. Primary data was collected from C.B.A.'s senior management team and person targeted were: The

Managing Director, Executive Director, Head of cooperative business, General Manager of Operations & I.T, Treasury and Assistant General Managers of Corporate strategy and Human resources. Senior departmental managers were also interviewed as they are members of the bank's Strategy formulation team. Primary data collection was done through personal interviews guided by structured questionnaire. This method helped in extracting some in depth information through directed question where questionnaire by itself could not be helpful.

Secondary data supplemented primary data. Existing reports such Audited financial report, updated bank's policy hand book, Existing and previous strategy plans , the bank's weekly market bulletin and the C.B.Ks annual report on commercial bank performances was of great use in extracting secondary data.

Data Analysis

After collection of both primary and secondary data had been properly completed, it was analyzed through content analysis. Content analysis helped in gaining detailed and in-depth information from the qualitative data received. All the information collected on strategic responses was analyzed qualitatively on the basis of the strategic variables observed.

Data Analysis and Interpretation of Results

Challenges from External Environment

CBA faced a number of challenges as a result of changes in the regional business-operating environment. All the respondents agreed that CBA faced a number of challenges as a result of changing environment and some of the main challenges they highlighted included the following:

Increased competitive environment was one of the major challenges CBA faced. Competition was not only coming from other Regional commercial banks but also from micro finance institutions, co-operative societies and foreign exchange bureaus which become the outstanding competitor in foreign exchange dealing. Even though CBA has created a strong niche of its own kind of market that is mainly composed of corporate and institutional market, it has been experiencing a lot of competition from other commercial banks for the same market. Other commercial banks are now targeting the corporate and institutional market across the region thus forcing CBA to aggressively compete to retain its market share and also attract more customers across the whole of EAC.

Advancement in modern Information and Communication Technology (ICT) has been another challenge facing CBA and other players in the banking industry regionally. CBA has been faced by this challenge of advancement in information technology which has been extremely unpredictable and very dynamic. Over the last 10 years there has been a revolution in banking technology and information and CBA has had to re-evaluate its ICT system every now and then to accommodate the new developments. Internet banking, Mobile phone banking, Automated Teller Machines (ATM) which can accept both cash and checks deposit from customer has been some of the ICT development that has made CBA review its strategies. These technological changes have had impact on CBA's operating environment and the bank had to respond to these changes in order to remain competitive in the very dynamic environment.

Changing customer preferences and increased levels of awareness has been another challenge from external environment. The bank has been faced by a challenge of meeting its customer's changing expectations and at the same time maintaining or meeting its targeted financial objectives. Products and services offered by almost every commercial bank are similar and every bank competes on customer service cost of these products and services. This has made both existing and potential customers very particular when choosing a preferred bank. CBA have been faced with a huge task of pleasing, retaining and attracting customers with varied preferences and taste to keep up with competition and the same time meet its shareholders expectation of profitability.

Strategic Responses Adopted By CBA

As a result of the changes in the operating environment, CBA has adopted some strategic responses that include; Regional Expansion, Market expansion and penetration, Corporate restructuring, Information and Communication Technology, Research and Development, Financial Management and Human Resource responses.

Regional Expansion

In CBA's current five year Strategic plan, the bank plans to expand its operations presence to at least Five East Africa countries from the current Two. The bank has a plan to venture into Rwanda, Uganda and South Sudan Markets and establish not less than one branch in all these countries. The need for expansion is necessitated by increased competition as other commercial banks with EAC are expanding their branch networks into these countries and threat by banks incorporated outside the region coming into the EAC market which currently has more than 90 Million bankable populations.

As a result of customs ammonization and removal of trade barriers within the EAC, increased trading activities within the region has been realised and this has led to increased economic development and growth. This economic growth and development has led to increased need for banking and other financial services for EAC residents. Mobility within EAC has been improved whereby citizens from any of the community member countries can easily move across the member countries borders without much immigration rules hindrances. This mobility especially for economic and business reasons has forced banks to come up with ways of meeting their custom demands across the borders and this has meant banks have to "follow" their customers across the borders to meet their financial demands at the same time searching for new markets.

Market Expansion and Penetration

The bank is strategically expanding its market share across the EAC. This is because of the ongoing changes within the community with most the member countries government putting in places structures that attract foreign investments and encourages growth of regional trade within the community. CBA is currently adopting a strategy attracts also middle income individuals unlike before when its target market for personal bankers was only high income individuals. Due to the growing Middle income class across the region as a result of improved economic activities with EAC, the bank plans to tap into this class of customers across all EAC member countries and at the same time increasing it branch networks across major towns in the countries it is currently operating in.

Corporate Restructuring

CBA has done a lot of corporate restructuring especially in the years 2011 and 2012 with an aim of creating a competitive edge not only in Kenya but also within EAC. As CBA incorporates both middle income and high income personal bankers into its market segment, the bank has expanded its personal banking business unit into a large strategic business unit. The personal banking unit has been further divided into two target market areas; High net worth clients market segment named as Platinum Banking and ordinary personal banking market. Each segment is headed by a senior manager who reports to Assistant General Manager in charge of personal banking. This restructuring was meant to enhance customer service efficiency has a result of increased number of personal banking clients and also to ease management of individual customer expectations due to differences in their financial and social status.

Senior management model has been also changed at CBA. The new senior management model that has been adopted by the bank with effect from 1st August 2012 envisions the banks regional expansion. New position of Chief Executive Officer- CBA Group has been created. The position holder will oversee regional operations of the bank as a group comprised of various country operations within EAC. Each country operations will be headed by a Country Managing Director who will be reporting to the group's Chief Executive Officer. This restructuring is meant to ease regional expansion because through this method there will be increased responsibility in every country operations. This will reduce bureaucracy while improving ownership and decision making process in every country where CBA will open office within EAC and thus regional expansion and market penetration will be easier.

Information and Communication Technology

CBA has adopted modern information and technology system to increase its efficiency and effectiveness in its operations. Through good I.C.T CBA has been able to achieve “branchless” banking through interconnectivity and decentralization of its core banking system. This has made the banks customers receive excellent and best service at any branch of CBA regardless of where they are within the EAC. In the year 2008 the bank spent a huge sum of money in the acquisition of new and modern banking system T24 which is internet based and is more efficient compared to the older system of micro- banker the bank had used for almost a decade. Acquisition and implementing a strong ICT platform is one of the pillars the bank is banking on towards effective and efficient expansion into the regional market of EAC.

Research and Development

Research and development primary aim is to come up with new and innovative products and services that meet customer expectations and attract new customer's to the bank. In the last three years, CBA has created a R&D team composed of various personnel from different departments. This is team falls under a newly created department known as Project Management whose key role is coordination of various new projects to be implemented by the bank including regional expansion.

In order to come up with new and innovative products and services, CBA has come up with an innovative way of seeking ideas and suggestions from the existing staff. The bank's management decided that in order to come up with excellent and very best ideas to improve on overall efficiency and effectiveness, there was a great need to encourage best brains of its staff to

contributes some credible ideas gained from their experience both at work and from the social set ups. It was agreed to have an e-mail address where staff can e-mail their innovative ideas for evaluation by R&D team. The ideas once received are evaluated objectively by R&D team and the credible ones are taken up for implementation. People who contribute credible and applicable or potentially usable ideas are rewarded with a cash prizes, of up to KSH 100,000 or letter recognition from the Managing Director.

To encourage staff to always come up with innovative ideas and ensure that there are always sustainable innovative ideas for products or services within the bank, management has included innovation as part of every individual's staff performance target. During performance appraisal every year an individual is rated against the innovative idea presented among other aspects of overall performance management system.

Human Resources Management

CBA has been hiring very qualified and highly skilled persons to ensure that its investment in human resource remains one of its biggest strengths. CBA one of the best choice of employer for those who want to build a career in banking and CBA has remained the employer of choice in banking industry because of not only creating a very conducive working environment and opportunities for training and development but also by offering a very competitive remuneration and other employment benefits.

Human Resource Management department has always been of high influence in strategic decisions because CBA human resource plays the primary role in achieving companies' goals and objectives and at the same time creating a very strong competitive edge in the industry. Proper training of staff especially in areas where one has some weakness and high motivation in terms of incentives and very competitive salary packages has made CBA staff very loyal to the bank and work extra hard in very smart and intelligent manner to propel the company into higher heights.

Performance of every individual staff is evaluated through a well formulated and structured performance management appraisal system and the persons who have met their annual targets are awarded bonus among other incentives like promotion and salary increments. This has been one strong pillar in achievement of the CBAs overall performance in the industry.

Financial Strategy

CBA has used financial strategy to increase its competitiveness in the industry and across the whole of EAC. CBA management meets frequently to analyse various financial strategic options it may take to increase its market share and performance. Financial strategy has worked very well for CBA in the areas of lending, investment and management of cost. CBA has undertaken very calculated lending procedures to avoid instances of non-performing and bad debts. This has been achieved through very careful and very objective risks analysis of the loan applicants. The bank has adopted a policy of investment of only secure and less risky investment options and mainly it has opted to lending government through Treasury Bonds and Bills. The bank uses this as its major investment option because it is less risky in nature.

CBA has also undertaken cost cutting measures which are aimed at reducing its amounts of expenditure. Basically this involves cutting cost associated to Staff maintenances and other cost related to efficient use of physical utilities. Cost cutting is emphasised in the aspects like reduction in Taxi expenses, Overtimes, Meals and inconveniences allowances given to staff, effective use of other utilities to avoid unnecessary wastages. The bank management has always put a policy in place to ensure that costs should only be incurred when they cannot be avoided and proper authorization is in place to avoid covering cases that are not economical.

Summary, Conclusion and Recommendations

Summary

From the analysis of data, it was observed that CBA has adapted at least six strategic responses to changes in the external environment. The responses included improvement in human resource management, establishment of research and development department to create and review product and services in order to achieve customer expectation and also attract new customers. The bank also adopted an marketing system to reach it clients alongside the use of modern information and technology system and taking very calculated and less risky ventures for financial investments. As a result of increased competition the banking industry, CBA is also reaching to middle income individuals and Small and Medium Enterprises (SME) to increase its volume of business and ultimate profitability.

In process of implementing these strategic responses, CBA encountered a number of challenges. Some of the challenges encountered included a lot of financial expenditures like in the case of acquisition of new and modern Information system. There was a challenge of bureaucracy where the management could not implement some strategies that required swift responses because all stakeholders were to be involved and consensus was to be reached. Resistance from some staff was encountered especially when the decision to reach middle income groups was reached. There were some staffs that were of the opinion that the bank was losing its sense of direction especially in regard to its target market. Also some customers who wanted to maintain their esteem as members of 'high net worth' class were reluctant to accept the banks new strategy to go for Middle income market. They felt that their status and services offered to them would reduce as a result of embracing 'mass market'.

Conclusion

From the study it can be concluded that Commercial Bank of Africa is strategically responding to changes in the regional business operating environment in a number of ways. These responses were necessitated by increased competition from regional banks and other institutions like Micro-Finance Institutions that are offering banking related products and services.

The on-going integration of East Africa Community is also presenting a good opportunity to expand businesses across the region. CBA is positioning itself to exploit this market because most of EAC member countries are putting on structures meant to improve business environment and attract foreign investors into their country. Some key reasons for business expansion within the region are: increased market as a result of increased population within the EAC compared to individual member countries population, Integration of Custom formalities across all the member countries, Removal of trade barriers and tariffs that were making trade across the countries difficult, The prospects of currency uniformity among EAC member countries and finally

reduced immigration formality requirements for the citizens and residents of the member countries that has increased movement of people and their goods favourable across the region.

Limitations of the Study

During the study a number of limitations were encountered. This include having very little to with the respondents to inquire very deeply into a number of issues because most of the respondents had allocated a few minutes of time due to their very tight time budgets. I was also not able to get responses from the MD and executive Director due to the commitments in other business operations. The biggest limitation was in terms or little time allocation by respondents and in availability of the respondents.

Recommendations for Further Studies

This study was a case study on only one regional commercial bank, CBA. I recommend a survey on a number of other regional commercial banks in order to have a competitive study. If a study is done on a number of other banks in the region, a conclusion can be drawn on whether there are general responses adopted by the banks in the region or it will help in knowing whether responses adopted by a particular bank are responses specific to that bank only. If a study is done on a number of other banks in the region, the study will help in finding out whether other banks are finding any business opportunities or there are no business opportunities across the EAC region as a result of integration.

References

- Ansoff H. I. & McDonnell, E. J. (1990), *Implanting strategic management*. Prentice Hall, London.
- Ansoff, H. I. (1965), *The new corporate strategy*. Wisely: New York.
- Aosa, E. (1998) The leadership challenges facing the Kenyan organizations, THE ACCOUNTANT, Jan-March Pgs 24-26.
- Banerjee, B.P (1999), *Corporation strategies*. Oxford University Press, New York.
- Central Bank of Kenya Annual Report (2009), <http://www.centralbank.go.ke>
- Chandler, A.D (1962), *strategies and structure*. MIT Press.
- Chege, B. R. (2008), Competitive strategies adopted by equity bank Kenya Ltd., unpublished MBA Project, University of Nairobi.
- Commercial Bank of Africa: <http://www.cba.co.ke>.
- David, F.R, (2001), *Strategic management concepts*, Prentice Hall, New Jersey.
- Government of Kenya (2009);Economic Survey. Ministry of Planning and national development: Government Printers.
- Hax, A.C. & Majiluf, N.S. (1996), *The strategy concept and process: A pragmatic approach*. Prentice Hall, New Jersey.
- Johnson, G. & Scholes, K. (1997), *Exploring cooperate strategy*. Prentice Hall: New Delhi.
- Kandie, p. (2001), A study of strategic responses by telkom Kenya ltd in a competitive environment. Unpublished MBA Project, University of Nairobi.
- Kothari, C.R. (1990), *Research Methodology: Methods and Techniques*, Whira Prakashan, Second Edition.
- Miller & Friesen (1983), *Philosophy of Business Behavior*, New Jersey, NJ.
- Mugweru, C. (2008), *strategic responses of Barclays bank to changes in the external environment*, unpublished MBA Project, University of Nairobi.

- Mutugi, R.M, (2008), *strategic responses by Barclays Bank Kenya to changes in retail banking Kenya*. Unpublished MBA Project, University of Nairobi.
- Njau. G.M. (2000), *strategic responses by firms facing changed competitive environment: A case of EABL*. Unpublished MBA project, University of Nairobi.
- Ohmae, K. (1983), *The mind of a strategist*. Harmordsworth: Penguin books.
- Pearce, A. J. & Robinson, B. R. (2007), *Strategic management: formulation, implementation and control*, Richard Irwin Publishers, USA.
- Porter, M. E (1980) *competitive strategy: techniques for analyzing industries and competitors*, The prer press, New York
- Porter, M. E (1986) *competitive strategy*: Harvard Business school press.
- Porter, M. F (1985), *Competitive advantage: creating and sustaining superior performance*, the free press, New York.
- Quinn, J.B.(1980), *Strategies for change: logical increamentism*. Irwin, Homewood.
- Rayport, J.F. & Sviokla, J.J. (1995), *Explaining the virtual value chain*, Harvard Business Review, November- December.
- Sababu, B.M. (2007), *Strategic management: the analytic approach*. Jomo Kenyatta Foundation, Nairobi.
- Senior, B. (1997), *Organizational change*, *Financial Times*. Prentice Hall, Harlow.
- Shipper, F & White S. C (1988), *Linking organizational effectiveness and environmental changes*.
- Thompson A. A. & Strickland, A. J. (1998), *Creating and implementing strategy* Irwin. McGraw – Hill New York
- Thompson, J. L. (1994), *Strategic management, awareness and change*. Chapman & Hall. London
- Wheelhen T. L & Hunger, J. D. (2008), *Strategic management and Business policy*, Prentice Hall. London.

Transport Investment, Trade and Rural Household Welfare in Busia District

Olyanga Anthony Moni, Nakamya Miria & Nkote Isaac Nabeta

Abstract

Uganda has pursued policies aimed at improving household welfare by emphasizing income generation activities particularly in rural areas. The basic concern therefore is how a border district like Busia with a lot of potential can enhance its welfare by engaging in transport investment and trade. Transport investment is considered a vital attribute to trade activities especially with a major role of providing mobility, reducing travel time, costs, and logistical hurdles. This contributes to trade and productivity among the stakeholders, and subsequently increased rural household welfare. This study examines analytically and empirically transports investment and trade in enhancing household welfare in Busia District. We collected primary data from a sample of 160 responded in February and March 2012 using a self administered and close ended questionnaire to generate a data set; as well as secondary data from the Uganda Bureau of Statistics that captures data at household level. We analyze the data set using STATA Statistical software and run correlations and logistic regressions to find out whether a household who participates in transport investment and trade registers welfare improvements compared to the non participants. Our study will contribute to the policy framework of addressing the welfare of the communities in Uganda. The findings indicate that the households who invested in transport and involved in trade had their welfare increased.

Key words: *Transport, investment, household welfare, Busia, Uganda.*

Introduction

The role of transport service and trade in the development process has gained dominance over years. Indeed at the international scene, there has been the inclusion of services within the frame work of the Uruguay multilateral negotiations (WTO 2011). Literature emphasize that the investment in transport contributes to a number of benefits such as ... (2009).. and therefore an efficient rural transport systems requires complementary infrastructure network. Intermediate means of transport are essential for domestic use, agricultural production, local trade and consolidating larger loads. Rural areas are characterized by vicious circles of scarce transport, insufficient users and inadequate support services, and these hinder economic development (Starkey & Rasamoela, 2001). Improvements in transport systems give rise to changes in the economic activity of firms by reducing travel time and costs thereby inducing positive benefits (Graham, 2007). Transport is a key facilitator of both local and international trade and can lead to increased productivity and hence increased rural household welfare.

Scholar argue that transport facilitates trade, the growth of agricultural, industrial and commercial sector and promotes tourism industry as well as determining the settlement pattern of the population (Glen & Arlee, 2009). Trade affects poverty directly through its impact on the cost of living, jobs, wages and government revenue for public goods such as health, education, and for social economic security systems. But the development link between trade and poverty occur indirectly through the development of productive capacity such as structural transformation that help people specialize in different economic tasks rather than meeting their basic subsistence. It occurs where a proportion of the labour force employed in primary economic activities such as agriculture, mining, forestry, fishing decreases while the proportion employed in other sectors of the economy such as industrialization and transport which are not subject to diminishing returns

increase. While the direct effects of trade are important in the shorter term, indirect benefits are crucial for sustained poverty reduction in most developing countries (UNCTAD 2004, Mbekeani 2007, UNCTAD 2012)

The benefits associated with transport investment led Uganda with assistance of development partners, to invest heavily in developing and rehabilitating road infrastructures at national and district network level. The immediate outcome has been an improvement from 6% to 75% for national and from 15% to 67% for districts in the 1990s and 2000s (PEAP, 2006). However, most community access roads to rural areas are poorly served with only 10% of the community access roads. Network serving the poor communities certainly brings the poverty reducing effects expected of the investment in infrastructure. Though endowed to be located strategically in the country's main route to outside world, it hasn't gained from this comparative advantage in trade. The resultant effect is that the households transforming this advantage into reality. This inability to seize the opportunity and increase household income in the district negates the widely held position that good infrastructure increases economic activity.

Although the government has increased investment in transport infrastructure and facilities with the aim of improving household welfare, the most disturbing question though, is by what percentage has poverty in the rural areas of Busia district fallen as a result of improved transport services and trade. For the district that is crossed by a national major highway, it would be of interest to know how much goods are exported and imported in the district through this route. This forms the basis and purpose of this study which was to examine trade and transport investment in improving rural household welfare in Busia district. The key objectives for this study were to examine the extent to which investment in transport has influenced trade and its consequent impact on the rural household welfare in Busia district, to establish the role of transport in enhancing trade in Busia District and to establish the level of household welfare due to improved trade in Busia district.

Rural agricultural production faces failure if goods cannot be conveyed to markets because of lack of transport infrastructure and services (Mbekeani, 2007). Road transport is the most dominant mode in the country for almost 92% of the volume of traffic is carried by road transport (Ministry of Transport Policy Statement 2004/2005). Most operators are private who own the vehicles, motorcycles and bicycles and ensure the movement of traffic both locally and internationally. Investment in the commuter services became popular in the 1980's when there was shortage of bus services. The boda- boda business has gained prominence in the rural and urban centers across the country as a poverty fighting venture especially among the youth.

Literature review

Transport investment

Transport is a key sector for international trade. It provides physical access to market places, without which trade cannot take place. Public transportation services are important in many ways particularly the mobility, can shape land use and development patterns, generate jobs and enable economic growth, and support public policies regarding energy use, air quality and carbon emissions (Glen & Arlee, 2009)

Transport investment provides some trade and service sector establishments the ability to access broader customer base, allowing them to more efficiently arrange locations and resources to serve customers well (Glen & Arlee, 2009). Transport investment stimulates efficient spatial patterns of households and business, which in turn spurs economic development through improved accessibility and urbanization (Banister & Berechman, 2000). Indeed FAO report (1997) in reference land locked SADC countries; the crucial element for trade facilitation is the improvement of the goods delivery infrastructure system. There are operational problems, for instance, road and rail transportation is confronted by differences in the minimum loads requirements, lack of rolling stock, low turnaround of wagons and unharmonised conditions of carriage. Therefore, increased investment in transport can counter such problems with a view of increasing trade and hence household welfare.

The prosperity, wealth and free movement that Americans enjoy today could not exist without the public investments in highways, roads, and bus and rail systems. The markets that make up economy could not operate efficiently without the extensive networks of surface systems that link businesses to their suppliers and customers, and give access to a wide range goods, and jobs (Shapiro and Hassett, 2006).

The standard approach to the linkage between transport investment and economic development suggests that transport investments generate two major effects: “indirect effects”, mainly economic multiplier and environmental impacts, and “direct effects” defined in terms of accessibility improvement impacts. The multiplier effect results from the public-work nature of the investment as it generates employment and income in the local area, and these benefits last throughout the project’s implementation period. It also translates into longer-term employment combined with further impacts on indirect investment related activities and the wider economy (Banister and Berechman, 2000).

The second category contains the transport benefits whose magnitude and spatial distribution depend on the specific transport facility, the network and various regional features. These benefits, in turn, are assumed to generate long-term development effects as they improve the economic performance of individuals, firms and generate more efficient location patterns, (Banister and Berechman, 2000). They argued that where there is already a well-connected transport infrastructure network, further investment will not on its own result in economic growth.

Transport infrastructure investment acts as a complement to other more important underlying conditions, which must be met if further economic development is to take place. Additional transport investment is not a necessary condition, but acts in a supporting role when other factors are at work. These factors are the necessary conditions that need to be met if economic development is to take place. According to Graham (2007), transportation costs are crucial in determining the mass of economic activity that firms can access. New investment in transport can render a large scale of activity more accessible by reducing travel times or costs of travel, giving rise to positive agglomeration benefits. Conversely, where transport systems work inefficiently or where there are constraints on accessibility, these may inhibit the generation and distribution of agglomeration externalities.

In recent years there has been a growing interest in the mechanisms linking a barrier free geography and economic efficiency and equity. A common claim put forward by many urban transportation and regional scholars is that transportation improvements extend the borders of labor markets, thus contributing to enhanced welfare by widening the scope of opportunities for consumers and producers alike. Transportation investments have been identified as one of the main contributors to regional development and to the enhancement of economic growth (Eran, Shlomo, Gat, 2008). There are several reasons why automobile ownership would be a desirable way to improve linkages between residences and jobs. Because it enhances search for employment in far locations. In addition, commuting to work in an automobile is faster flexible and it substantially increases the personal safety (Wachs and Taylor, 1998).

With a transport link between two regions, specialization can take place. Each region develops its respective potential; assuming that they respectively have a comparative advantage for these two products. The key of this specialization becomes the difference between transport costs and production costs of a product. If the unit costs savings resulting from specialization exceed the unit transports costs, then specialization can take place. Regional specialization is greatly expanded with international trade. By having access to a larger market through a gateway specialization even can be more in the production they have respective comparative advantages in. They can even cease production in a specific array of products, which are now imported. Under such circumstances, the reliance on transportation increases, even if its relative costs may be declining (Rodrigue, 2009).

Transport provides intermediate services to facilitate interactions between productive activities. The micro-economic mechanisms through which the benefits of transport investment are translated into income growth are quite well recognized. Transport investment reduces the cost of assembling intermediate inputs for production from different locations, directly reducing the cost of production. Reduced cost and improved quality in transport services also reduces the delivered price of products and hence promotes regional and international trade, making it possible for agriculture to commercialize, for industry to specialize, and for production and employment to expand by exploiting scale economies (Gannon and Zhi, 1997).

Transport investment contributes to economic diversification as well, which enables exploitation of economies of scope and increases the economy's ability to handle risks. In a multitude of ways through these mechanisms, transport contributes to economic growth (Gannon and Zhi, 1997). An efficient transport system is very critical for the export competitiveness. High shipping costs, associated with inadequate infrastructure, imbalance of trade flows, inefficient transport system pose serious constraints to trade and economic development (Rudaheerawa, 2004)

Trade

According to UNCTAD (2004), trade can; enable more efficient use of resources by facilitating import and export of goods and services, enable increased capacity utilization and the realization of vent for surplus if the external demand allows the employment of the previously idle resources. UNCTAD (2004) further argues that exports are important because the LDCs are import sensitive economies and face tight foreign exchange constraints. Import bottlenecks hamper the full utilization and efficient development of domestic productive capacity. Trade policies can have positive effects on welfare without affecting the rate of economic growth.

Conversely, even if policies that restrict international trade were to reduce economic growth, it does not follow that they would necessarily reduce the level of welfare. Negative coefficients on policy variables in growth regressions are commonly interpreted as indicating that the policies in question are normatively undesirable (Rodriguez and Rodrik, 2000). Trade affects poverty by contributing to increased or decreased incomes or opportunities, or by altering the prices the poor face for main commodities they consume or produce (Morrissey, Rudaheranwa & Moller, 2003). Trade is beneficial for welfare and it is widely believed that in a proper policy environment, trade can promote growth and thereby improve welfare (Mbekeani, 2007) .

According to the Economy Watch (2009), international trade has flourished over the years due to the many benefits it has offered to different countries across the globe. It is argued that with the help of modern production techniques, highly advanced transportation systems, outsourcing of manufacturing and services, the international trade system is growing and spreading very fast. It is not only the producers that benefit but also the consumers. They can purchase goods from other countries in their local market. They have more variety to choose from. Because of competition each consumer will benefit from low priced better quality products. Reductions of tariffs in the 1990s were significant but do not appear to have been associated with significant losses in tax revenue (increases in sales taxes compensated for reductions in tariff revenue) nor with a surge in imports (the ratio of imports to GDP has remained quite stable). Further tariff reductions will pose a challenge for import competing sectors, and in some sectors wages and/or employment may decline. Although the overall effect of trade liberalization on Uganda has been positive and probably pro poor (as major gains are in agriculture), the benefits are not shared evenly, (Morrissey, Rudaheranwa and Moller, 2003).

Household welfare

Transport projects are a major recipient of government and donor funds in many developing countries. They are recognized as a key factor leading to economic growth and reduced poverty. The analysis of the linkages between transport, trade and development is important in the formulation of transport policies and the efficient allocation of investment. The emphasis of transport investment has shifted now to marketing practices and the provision of motorized vehicles. Although road investment reduces transportation costs, it is perceived to be insufficient to lower prices and induce a rise in agricultural production. The proportion that transport makes of final market prices varies with a range of factors such as commodity type, transport efficiency, marketing practices, and travel distance, (Dunkerley and Hine, 2001). For many years there has been an implicit assumption that there is a link between transport and development, and in many cases this link has been seen as a positive and causal one. Those countries, regions or cities which attract a high proportion of transport investment will have a competitive advantage over those locations which have been successful in obtaining investment (Banister, Ampe, etal 1995).

Further, underlying much of the argument over increased development resulting from transport investment is change in accessibility or ease with which people can travel to and from a particular location. Traditionally, improvements in accessibility have been viewed as a benefit to the local area as it becomes more attractive as a location to live and work in and as property and land values rise.

According to Banister and Berechman (1999), the most effect of transportation investment is to improve travel conditions, which, in turn, alter individuals' behaviour such as mode choice, route choice, time of travel choice and destination choice. The aggregate result of these changes in behaviour is manifested, at the network level, in traffic volume and patterns, in travel times and costs by facility type and in the relative accessibility of locations. These impacts further affect location decisions of households and firms, thus land rent and urban form. They also affect consumers' behaviour and firms' production and business decisions. Banister and Berechman (1999), further state that investment in infrastructure induces other non-direct effects of which the main ones are investment multiplier and the various forms of externalities.

According to Rodrigue (2009), the transport sector is an important component of the economy impacting on development and the welfare of populations. When transport systems are efficient, they provide economic and social opportunities and benefits that result in positive multipliers effects such as better accessibility to markets and additional investments. When transport systems are deficient in terms of capacity or reliability, they can have an economic cost such as reduced or missed opportunities. Transport also carries an important social and environmental load, which cannot be neglected. Rodrigue (2009), further argues that, there are a wide range of economic benefits conveyed by transportation systems, some direct (income related) and some indirect (accessibility related), impacting transport supply and demand and at the microeconomic (sector-wise) and macroeconomic (whole economy) levels. In many mainstream discussions on trade and development, the emphasis has been on the benefits to farmers of taking part in international trade and in their having access to international markets.

While farmers in a few developing countries could take advantage of this, the reality is that poor farmers in most developing countries find it hard to market their surplus in their own local markets, due to lack of infrastructure, storage, transport and marketing facilities. Increasingly these farmers also find that their local markets are being limited or taken away by imports that increase because of tariff reduction, or imported products that replace alternative local products because of changing consumer taste and demand. This problem has to be resolved as a matter of priority, before there can be hopes of exporting to the world market, (Third world network, 2006)

Methodology

Introduction

The aim of this chapter is to present the methodology used to collect and analyze data from the field. The following sections looked at; research design, sampling procedure, and data collection tools and data analysis.

Research design

The researchers used primary and secondary data. For primary data the study used both qualitative and quantitative methods of research. Qualitative method attempts to understand the participants' thoughts, feelings and behaviors, and these are examined along a developmental or temporal continuum. The study used cross-sectional design since the effects of investment and trade cut across all sections of society.

Study population

The study population target for this research included households living in Busia district. These included farmers, traders and business people as well as stakeholders like government officials as well as nongovernmental organizations. The study involved 250 respondents from all the sub counties in the district. The researchers used simple random technique when dealing with respondents. This technique helps to avoid bias and provide equal chance to every member in the population. The researchers used purposive sampling technique when dealing with stakeholders. This technique helps the researchers to increase on the utility of findings.

Data collection

The researchers used questionnaires to interview respondents. Some of the respondents who may not able to write were helped by the field interviewer who translated the contents in the questionnaire and help the respondent(s) to fill it. This helped the researchers to save time and obtain information from all types of respondents.

Method of data analysis

This method was developed by Sender and Smith (1990) for a study carried out to measure the well being of households in Usambara in Tanzania. It was used by Okurut (1992); Kaija (1995); Tibaingana (1997) and Nalwoga (1998) as a proxy for measuring household material well being. The possession score index is computed by identifying assets that households strive to achieve when their wealth improves. Asset ownership is taken as a measure of household's welfare (Sender and Smith 1990). To test the hypothesis that trade has led to improvement in welfare, it is better to look at households' direct incomes. But due to the shortcomings of measuring direct income, a possession index was used as an indicator of welfare. The justification of the use of this method is that the data requirements are minimal and fairly accurate data can be collected on household possession of assets using a simple structured questionnaire. We constructed the possession score index for data analysis.

We tested the difference of means for the possession score. The people engaged in agriculture and who often have surplus to sell plus those engaged in business or trade were termed as type 1 and the sample size as n_1 . Those who are not engaged in trade of any kind were termed type 2 and the sample size n_2 .

The sample mean p-score for type 1 (x_1) and type 2 (x_2) was computed and the difference between means was tested using one way analysis of variance (ANOVA) procedure based on the F statistic and Duncan grouping.

The one way ANOVA is designed to test the Null hypothesis that,

$H_0: X_1 = X_2$

Against the alternative

$H_a: X_1 \neq X_2$

The test of the difference of means is based on two types of variability;

1. The within groups variability
2. The between groups variability

The within group variability shows the difference between the scores of the household and their respective group mean and this is mainly to show if there are extremes within a group. On the

other hand the between the group variability shows the difference between the group means and the combined group mean and this mainly is to show if there are extremes between groups. Within the group variability is given by

$$SSA = \sum_{j=1}^{n1} (X_{ij} - X)^2 \dots\dots\dots 1$$

Where

a= 1, 2 and i=1, 2

The summation of the sum of squared deviations within groups (SSW) is given by

$$SSW = SS1 + SS2$$

This can also be written as;

$$\sum_{i=1}^a \sum_{j=1}^{n1} (X_{ij} - X_i)^2 \dots\dots\dots 2$$

The between groups variability is obtained by finding the total of groups sum of squares (SSG) given as

$$SSG = \sum_{i=1}^2 n1(X_i - X)^2$$

Where

$$X = \frac{\sum_{i=1}^2 n1(ni - X_i)}{n}$$

Where n is total sample size for both the study and control groups it is obtained by

$$n = \sum_{i=1}^2 ni$$

The within group mean square (MSW) is given by;

$$MSW = \frac{SSW}{n-k}$$

Where (n-k) are the degrees of freedom, SSW is the sum of squares and k is number of independent variables

The between groups mean square (MSG) is computed by

$$MSG = \frac{SSG}{k-1} \dots\dots\dots 3$$

Where k-1 are the degrees of freedom for the group sum of squares

The test of the null hypothesis is based on the ratio of group mean square which gives the estimated F statistic as indicated below:

$$F = \frac{MSG}{MSW} \dots\dots\dots 4$$

When the estimated F statistic ($F_{k-1, n-k}$) is compared with the critical F statistic ($F_{k-1, n-k, \alpha}$) from tables and if $F_{k-1, n-k}$ is greater than $F_{k-1, n-k, \alpha}$ then the general conclusion is that , the null hypothesis trade has improved on peoples welfare is rejected otherwise it is accepted.

There was need to show which of the means score is higher; this is not indicated by the F statistic. Therefore the Duncan grouping test of significance difference between means is computed.

When the null hypothesis is rejected, and the mean P-score for the study group is significantly greater than the one for the control group according to the Duncan test this would imply that people's welfare within the study group has improved. Otherwise when the null hypothesis is accepted and that the mean p-score is not significantly different from one from the control group according to the test, it implies that people's welfare has not improved.

To examine the effect of transport investment and trade on rural household welfare in Uganda, a logistic regression technique was applied. The response variable was treated to consider whether a household has a durable asset or not. Therefore, in the data structure, a respondent was assigned a numerical value of 1 if he/she has a durable asset and zero otherwise. The logistic regression confines the probability of a given event occurring between zero and one.

The odds are given by

$$\text{Odds} = \frac{pi}{1-pi} \dots\dots\dots 5$$

The study thus modeled the natural logarithms of odds ratios, given as

$$\text{Logit}(pi) = \log\left(\frac{pi}{1-pi}\right) = x\beta' + \varepsilon \dots\dots\dots 6$$

Where pi is the chance/ probability that a given individual/ household has a durable asset and $1 - pi$ otherwise.

x Is a vector of explanatory variables i.e. age, education level, marital status and β is a column vector of parameters to be estimated.

The logit model assumes that the underlying stimulus index (logit pi) is a random variable which predicts the probability of having a durable asset.

$$\text{Probability of have a durable asset} = \frac{e^{\text{Logit}(pi)}}{1 + e^{\text{Logit}(pi)}} \dots\dots\dots 7$$

Since the independent variables contained are not continuous but latent categorical cases; to determine the relative effect of each explanatory variable, we could not take derivatives of the probability with respect to the predictors but rather created dummy variables. By exponentiating the coefficients, the regression reported the odd ratios which shows how the chances of owning a durable asset varies according to the categories.

Result discussion

The age of the majority of the respondents ranged between 21 years and 50 years old, with 5 respondents being between 0 and 20 years old and 9 respondents above 50 years old. Most of the respondents are between the ages of 21 and 40 years old who are involved in trade and who have invested in transport. This gives a total of about 79% of the respondents. This could be that the projects involved in require a lot of energy and time to supervise them, therefore the elderly could probably not manage them, and the youth below 20 years old could possibly be at school most of the time. The majority the respondents were of formal education at the level of primary and secondary totaling to about 72%. Only about 7% were with informal education, about 14% with diploma and about 6% were graduates. This could imply the majority of the respondents had formal education. The majority of the respondents were married about 76%, about 15% single, 3.7% separated, 2.5% divorced and 3.1% widowed.

The majority of the respondent are traders with about 46% followed by boda- boda riders about 16%, farmers and civil servants about 13.8% and others about 4%. This could imply that trade is the major activity in the district.

Respondents about 121 representing about 76% own transport means about 39 of the respondents representing about 24% do not have means of transport. This would imply that the majority of households in the district own transport means, which could mean that the

Table 4.6 indicates that the majority of respondents about 131 representing about 82% are involved in trade and only about 29 respondents representing about 18% are not involved in trade. This would imply that source of income in the area is through trade.

The common means of transport in the district are bicycles with 90 respondents representing about 57%, followed by motorcycles 68 respondents, representing about 43% and about 0.6% other means of transport. This would imply that majority of households in the district use bicycles and motorcycles. This could mean that either they cheap to acquire or they easily access the markets involved. The majority of respondents who own means of transport about 105 representing about 87% of those who own transport are involved in trade and 16 respondents about 17% who own transport means are not involved in trade. Also those who do not have means of transport about 67% of those who do not own transport are involved in trade and about 33% of those who do not own means of transport are not involved in trade. This could imply that the owned transport means is important in facilitating trade.

Table 4.1 – asset ownership

Logistic regression			Number of obs =	154	
			LR chi2(12) =	19.36	
			Prob > chi2 =	0.0802	
Log likelihood = -95.761596			Pseudo R2 =	0.0918	
Item1 Odds Ratio	Odds Ratio	Std. Err.	Z	P>z [95% Conf.	Interval]
<i>Non Agricultural Item</i>	1				
Agricultural Item	0.7852501	0.2898728	-0.65	0.513 .3808811	1.618925
0-20	1				
21-30	3.560807	4.261613	1.06	0.289 .3410526	37.17711
31-40	3.841268	4.769255	1.08	0.278 .3370052	43.78371
41-50	1.411168	1.860374	0.26	0.794 .1065175	18.69548
50 and above	7.008999	11.02844	1.24	0.216 .3208607	153.1071

<i>Married</i>	1				
Single	0.8407426	0.4586396	-0.32	0.750 .2886143	2.44911
Separated	1.086716	1.058153	0.09	0.932 .161171	7.327317
Divorced	0.3181095	0.39886	-0.91	0.361 .0272459	3.714081
<i>No Formal Education</i>	1				
Primary	2.095642	1.682511	0.92	0.357 .4344302	10.10914
Secondary	2.285183	1.823941	1.04	0.300 .4781082	10.92234
Diploma	11.89935	11.66964	2.53	0.012 1.74082	81.33782
Graduate	3.949229	4.088051	1.33	0.185 .5192656	30.03552

Source: Primary data

Acquisition of durable assets varied according to the respondents characteristics. Individuals who dealt in nonagricultural items had 0.22 increased odds of obtaining durable assets compared to those trading in agricultural items. The chance of owning durable assets also increased consistently with age with the exception of those aged 41 to 50 years. Comparing younger (0-20 years) individuals to adults (21 and above), the odds of acquiring permanent asset increased by 2.56 in those aged 21 to 30, 2.84 in those aged 31 to 40 and by 6.008 among respondents aged 50 and above.

Marital status however showed mild variation in ownership of assets; single individuals had a 0.16 reduced odds compared to married respondents. Durable asset ownership was slightly higher among those who had separated from marriage (increased odds ratio of 0.086).

Education level had varying influence on the level of education. Compared to those with no formal education, diploma holders were found to have the highest possibility of owning durable assets, with an increased odd of 10.899. Among those who had attended school, primary school leavers presented the lowest possibility of owning durable assets.

Possession Score table

Items Possessed	Total Number	Proportion of total possessions	Cumulative proportions	Rank of preference
Motorcycle	41	25.6	25.6	6
House	33	20.6	46.2	5
Bought Land	24	15.0	61.2	4
Vehicle	22	13.8	75.0	3
Bicycle	21	13.1	88.1	2
Household items	19	11.9	100.0	1

The table presents the items acquired by households in the process of trade. Drawing from all respondents who were involved in trade, the most acquired items was the motorcycle with the total number of 41, representing the item / proportion of 25.6. The second preferred items were the houses; 33 houses were constructed, which accounted for 20.6% of total allocation of resources gained from trade. Some gains from trade were also directed towards the purchase of household items, although this component took the least allocation of returns from trade.

Conclusions and policy implication

This chapter makes a summary of the key findings from the study. It summarizes the relationships between transport investment and trade and their impact on the economic welfare of the households in Busia District. It attempts to make recommendations for good policy and practices on the part of the traders in the district. One of the aims of this chapter as a whole is to examine and suggest how transport investment might be able to sustain a mode of practice appropriate to the promotion of household welfare and society as whole, so as to assist the traders and policy makers. The chapter also makes suggestions of areas of further research in the transport investment and trade. Often it is claimed in literature that transport investment facilitates trade which in turn generates increased income that on a whole improves the household welfare. Other local people consulted during the study indicated that although there were more significant improvements, such levels of improvements varied from household to household depending on the type of the means one has and the type of trade involved.

The objective that transport enhances trade was accepted due to the fact that transport facilitates faster movement of the traders and offers easy access to different markets which reduces the cost and time involved. The transport means owned were mostly motorcycles and bicycles partly because the majority of trade is simple and also that they are easier to acquire since they may be cheap. They can also penetrate the rural markets. This therefore led to the acceptance that trade impacts positively on the economic welfare of the households who participate in it. Education level of those who participated in trade was mainly formal with the majority above primary level of education. According to those consulted, the knowledge acquired in education was helpful in planning for their businesses and calculating loss and gain. It was also found out that majority of those who have diploma and above could be employed in public service with very few of them combining trade and employment. This implied that majority of those employed did not have the time to involve themselves in trade.

The study also revealed that majority of those who participated in trade were married. From those consulted, it was indicated that their spouses offered them support both materially and morally. They offered labour, mobilized for funds and advice on the business projects they selected, which is an important element of business selection. The study also revealed that the majority of the households were aged between 21 and 40 years of age. From those consulted, this age bracket is highly productive who are flexible energetic and therefore are to take any business risk.

References

- Audley, J.J & Hans. A (2004), reconciling trade & poverty reduction: A German Marshall Fund of the United States
- Banister D. and Berchman (1999), Transport Investment and Economic Development

- Banister. D and Berechman. Y (2009), Benefits of international Trade; Economy, Investment and Finance Reports. University College London and Tel Aviv University)
- Banister.D, Ampe.F etal (1995) Transport and Urban Development, 1st Ed; E&FN SPON
- Colin. G, Zhi Liu (2006) globalization, liberalization, protectionism: impacts on poor rural producers in developing countries, International Fund for Agricultural Development
- Poverty and Transport
- Dunkerley. C and J Hine (2001), Transport, Trade, and the Benefits of Road Investment; DFID Transport Resource Centre Scheme
- Economy Watch UNESCAP (2006), Institutional Capacity Building for Facilitation of International Trade and Transport in the Landlocked and Transit Countries
- Eran Leck Shlomo Bekhor Daniel Gat (2008) European Transport \ Transport Europe n. 40 (2008): 88-105
- Glen .W & Arlee. R (2009), Economic impact of public transportation investment: paper presented for American Public Transportation Association
- Graham D.J (2007) Agglomeration Economies and Transport Investment; a discussion paper No. 2007-11, International Transport Forum
- Martin W. and. Taylor B. D.(1998) Can transportation strategies help meet the welfare challenge? University of California Transportation Center Journal of American Planning Association forum on welfare reform
- Mbekeani. K (2007), the role of infrastructure in determining export competitiveness: Framework paper
- Morrissey O, Rudaheranwa N. and Moller L. (2003) Trade Policies, Performance and Poverty in Uganda ODI, EPRC and University of Nottingham
- Morrissey. O, Rudaheranwa. N & Moller. L (2003), Trade policy, economic performance & poverty in Uganda
- Rudaheranwa. N (2004), Tariff and overland Transport barriers to Uganda`s trade: Uganda progress report on the EC-PREP Study
- Shapiro R. J.and Hassett K. A. (2006) the economic impact of public investment in surface transportation: American public transportation association.
- Trade and Poverty guide (2009) Trade and the Millennium Development Goals Uganda Trade and Poverty Project (Utp)
- TRANS-TALK (2000) Economic Development Effects of Transport Investments Paper for presentation at the Workshop, Brussels
- UNCTAD (2012), Trade and Poverty reduction: the missing link
- Welfare economic impacts of transportation improvements in a peripheral region
- WTO (2000), Free trade helps reduce poverty

Logistics Outsourcing Drivers, Practice and Challenges Among Tea Processing Firms in Kenya (Perspectives from Kericho County)

Peterson Obara Magutu, Felix M. Maghanga and S.O. Nyamwange

Abstract

Logistics outsourcing is today viewed as a globally accepted best business practice. Through outsourced logistics organizations can improve; customer services, cut down costs, minimize risk, increase competitive advantage and improve shareholder returns. The study sought to determine logistics outsourcing drivers, practice and challenges among tea processing firms in Kenya. The study surveyed the tea processing firms in Kericho County (Kenya) by collecting primary data through self administered questionnaire. Data was analyzed using descriptive statistics. The study found out that there is a strong drive towards the use of outsourcing as a strategy to reduce costs, to pursue core business activities, reduce risks, and gain competitive advantage. According to the study findings, logistics outsourcing among the tea firms was most prevalent in operations such as warehousing, fleet management, fleet operations, transport and distribution. The survey also established that some of the challenges faced by the firms as they moved to outsource their business activities included loss of control of the activities, loss of employee loyalty, industrial unrests, switching costs, loss of information to competitors and resistance to change by the stakeholders.

Key words: logistics outsourcing, drivers, practice, challenges, tea processing firms and Kenya.

Introduction

Emerging trends indicates that Logistics management has shifted from the traditional back end operation to a strategic boardroom activity (Stock and Lambert, 2009). These trends have come to the fore as a result of various reasons such as; Globalization which is making national economies more and more integrated into the Global economy, International trade which is expanding at an exponential rate, technological advancement has become an integrating force, informed customers who are demanding value for their money, marketers are experiencing competitive pressure and businesses struggling not only for growth but also for survival (Sople, 2011).

Logistics operations can be managed in various ways such as, in-house logistics management, ownership of logistics subsidiaries through acquisitions or takeovers of a logistics firm(s) and outsourcing of the logistics operations. Outsourced logistics takes the form of Third Party (3PL) services providers. Once a contract is entered with the 3PL, the 3PL takes charge of the outsourced function and becomes responsible for the outcomes (Sople, 2011).

Outsourcing allows a company to concentrate on its core competencies, save money, increase flexibility and manage effective growth. Once the non-core activities are given to the experts to manage, the company is left with the task of managing its core activities. This will help the company to benefit from external expertise and technologies. If successfully managed, outsourcing will also help reduce the cost of doing business and benefit from the use of knowledge and technical resources of another organization. However, companies need to carefully consider whether the benefits of outsourcing a function outweigh the costs. The process of outsourcing will therefore need to be properly managed and monitored. Outsourcing is increasingly receiving great attention globally in a manner in which organizations, such as those

in the agricultural and manufacturing industry can improve on customer service, reduce costs, minimize risk, increase competitive advantage and improve shareholder returns (Stock and Lambert, 2009).

Tea is one of the main cash crops and an export commodity that earns Kenya billions of shillings annually and hence a major contributor to the country's Gross Domestic Product (GDP). The product is an economic booster to the livelihood of the people living in the county. The product has among other economic values contributed to wealth creation, employment opportunities, improvement of infrastructure such as schools, sports grounds, picnic sites and market centre's among others (www.softkenya.com).

Kericho County is one of the forty seven counties within the Republic of Kenya. The county has an approximate population of 758,339 people and houses five constituencies all of which fall within the tea production belt. These constituencies include: Ainamoi constituency, Bureti constituency, Konoin constituency, Belgut constituency and Kipkelion constituency (Wikipedia). All these constituencies happen to fall in the tea belt on the South Rift region of Kenya (www.softkenya.com). Tea processing factories within the county are managed by the following four firms; Unilever Tea Kenya (UTK) Ltd, Finlay's, Williamson Tea Kenya (WTK) Ltd and the Kenya Tea Development Agency (KTDA) Ltd (www.teaboard.or.ke).

To date there are 101 licensed tea factories in Kenya. Kenya Tea Development Agency Ltd (KTDA) manages 62 of the factories and the remaining 39 tea factories are managed by other companies, 22 of the factories are located in the Kericho County (www.teaboard.or.ke). The study background has highlighted broadly the general challenges faced by organizations in seeking to remain afloat and at the same time meet stakeholder demands. The study focus is on the practices, the drivers and the challenges of outsourced logistics among tea processing firms in the County of Kericho.

Problem of Research

Organizations have chosen various ways of achieving the objectives of cost reduction and eventually improving on the productivity and overall performance. The common strategies used to achieve this include; outsourcing, restructuring, staff retrenchment, asset reduction, mergers and acquisitions among others (Stock and Lambert, 2001). Outsourcing of the logistics function is today viewed as; a means of cost saving, a tool to competitive advantage, a risk medium, a strategic competitive tool as well as a means to creation of synergistic partnerships and strategic alliances among firms (Stock and Lambert, 2001). In the past firms focused on "Win –lose" or arm length relationships, today however, firms are concerned about the wellbeing of partner firms. Rather the firms are practicing symbiotic relationships where all are beneficiaries ("WIN – WIN" situation).

An increasing number of companies are outsourcing their functions, particularly in the non-core business areas. The tea industry is characterized by a large demand for logistics services given the perishable nature of tea and the demand for very high standards in handling and storage before and after processing. According to the Kenya Tea Board, tea manufactures and processors have to adhere to set standards failure of which their operating licenses will be revoked (<http://www.teaboard.or.ke>).

Tea processors in Kericho County are faced with similar challenges in the management of logistics for example in transportation of employees, raw tea as well as processed tea, storage, warehousing and shipment to international markets. Generally it is important to note the fact that tea plucking and processing is a delicate process. During tea plucking peak seasons, there is a big logistics problem both for the raw tea leaves, as well as the processed products. Outsourcing is therefore the strategic management tool to use as a means to cost reduction, improved service delivery, enhanced efficiency and effectiveness (<http://www.softkenya.com>).

Research Focus

A number of studies have been done on outsourcing; Kirui, (2001), conducted a study on competitive advantage through outsourcing of non –core Logistics Activities within the supply Chain of British American Tobacco Kenya, the study covered such areas as transportation, distribution, storage and warehousing. The findings of the study indicated that most of the activities are handled internally by the firm. Chanzu, (2002), undertook a study on “A survey of Business Outsourcing Practices Amongst Private Manufacturing Company’s in Nairobi”, the study focused on human resources, production, and distribution storage and warehousing. The study findings indicated that most firms practiced outsourcing though in a small scale. Serem, (2002), A Survey of the Outsourcing of Human Resources Services by Banks in Nairobi, the focus of the study was specifically on human resource outsourcing and it was found out that the practice of outsourcing of the function was evident in a small proportion amongst the firms. Komen, (2005), A Survey of the Extent of Outsourcing of Human Resource Functions by the Public Service in Kenya, again the focus of the study in the public sector was on human resource outsourcing and the findings indicated that little or no outsourcing was practiced in the sector.

Agure, (2006), conducted a study on ‘Outsourcing of Human Resource Management Services among Large Flower Firms in Kenya’. The firm’s engagement and management of human resources was the focus of the studies and the findings indicated that the owners of the flower firms managed human resources internally. Hussein, (2006), ‘A survey of Outsourcing of Training Services by Commercial Banks in Kenya’. The focus of the study was on the methods used by banks in training their staff. The finds showed that banks used both outsourced training services as well as internal trainers. However, no study has been done on this important sector of managing distribution, warehousing, storage and transportation of employees, goods and services. This therefore, makes it necessary for study to be conducted on this important operational linking tool.

This study therefore sought to establish logistics outsourcing practices among tea processing firms in Kericho County. The study also sought to address the challenges the tea firms face in the adoption of outsourced logistics operations and provides answers to the following questions; How is logistics outsourcing undertaken within the tea processing firms?, What practices lead to successfully outsourced logistics? and, what are the challenges to logistics outsourcing in the tea industry? The three research objectives were: to establish the drivers of logistics outsourcing among tea processing firms in Kericho County, Kenya; to establish the practice of logistics outsourcing among tea processing firms in Kericho County, Kenya; and to assess the challenges facing tea firms that are outsourcing their logistics operations.

Methodology of Research

The study was conducted in Kericho County Kenya. Tea processing factories within the county are managed by the four major tea processing firms in Kenya; these include: Unilever Tea Kenya (UTK) Ltd, Finlay's, Williamson Tea Kenya (WTK) Ltd and the Kenya Tea Development Agency (KTDA) Ltd. The county provides a good representation of tea processing in Kenya given its strategic position within the tea producing counties in Kenya. The study adopted a descriptive survey method in determining the outsourced logistics practices among tea processing firms in Kericho County. Gay (1983) describes a survey as an attempt to collect data from members of a population in order to determine the status of that population with respect to one or more variables. The population of the study consisted of 4 tea processing firms with a population of 22 Tea factories within the County. These factories are concentrated in the entire county. The firms are a representation of two main sectors; namely locally owned and multinationals. The list of the firms and the factories was obtained from the Tea Board of Kenya website (<http://www.teaboard.ke.org>).

Method of data collection

Primary data was collected through a self-explanatory structured questionnaire, which had both open and close ended questions. Target respondents were Heads of the major operational departments namely; General Managers, Logistics managers, distribution and warehouse Managers, factory Managers and their supervisors. Questionnaires were dropped and picked later from the respective firms and factories. Telephone follow ups were made in order to expedite the response process. Secondary data was collected from reports and the Tea Board of Kenya website. The questionnaires were divided into four sections; section A sought to collect information about the profiles of respondents and the organizations they represented while, section B, C and D sought to address aspects related to logistics outsourcing drivers, practices and challenges. A letter of introduction was issued to each respondent prior to the research.

Data Analysis

After the data was collected, it was edited for completeness and consistency, descriptive data analysis was used to analyze the data. The method helped in explaining the logistics practices adopted by the tea processing firms, the drivers influencing the practice of logistics outsourcing and the challenges faced by the firms. Frequencies, percentages and proportions were used to establish the number of firms and factories practicing outsourcing.

Results of Research

The 22 factories represented the entire population of the tea processing firms in the County, they all responded and this provided a 100% response rate which was sufficient for further analysis.

Drivers of Logistics Outsourcing

In a likert scale of 1-5, respondents were asked to rate the extent to which the listed logistics outsourcing factors contributed to the firms decision to outsource their logistics functions. Table 2 presents the views of the respondents in relation to what is driving the firms towards outsourced logistics operations.

Table 1: Logistics Outsourcing drivers

	Mean	Ranking
Outsourcing reduces overhead costs	3.6	1
Availability of third party logistics providers	3.4	2
Global best practices	3.3	3
Lack time to perform such activities	3.2	4
To avail more time for other activities	3.2	4
Globalization of business	3.2	4
Availability of a supportive infrastructure	3	7
Logistic activities are non-core to the firm	3	8
Government policy	3	8
Lack of internal expertise to perform logistic functions	2.8	10
Company policy at National/international level	2.7	11
So as to make use of technology and innovation	2.7	11
There availability of a partner to provide a better service	2.5	13
So as to Improve productivity	2.4	14

Source: Authors (2011)

From the analysis it can be deduced that the most popular driver of logistics outsourcing is that outsourced logistics operations helps firms reduce the cost of doing business, secondly the availability of third party service providers motivates firms to outsource their logistics operations, thirdly most firms viewd outsourcing as a global best business practice; fourthly the urge to concentrate on core business activities, Globalization of business and availability of a supportive logistics infrastructure, fifthly logistics functions are non-core to the tea processing firms and the fact that government policies do not inhibit the firms from adopting outsourced logistics.

Some tea processors also indicated that they do not have the expertise to handle their logistics activity and hence preferred to outsource the functions. Others indicated that the drive to outsource was part of their international policy, the need to take advantage of technology and innovation was also indicated as a drive by some firms to outsource their logistics operations. The drive to improve productivity was the least preferred driver to logistics outsourcing.

Table 2: Modes of Logistics operations

	% Mean	Ranking
Warehousing	67.5	1
Fleet Management	67.5	1
Fleet Operations	67.5	1
Transport	62.5	4
Distribution	57.5	5
Fleet Maintenance	40	6
Logistics Operations	0	7

Source: Authors (2011)

Based on the foregoing results from the respondents approximately 67.5% of the respondents indicated that their firms have outsourced their warehousing, fleet management and fleet operations. 62.5% of the respondents indicated that they have outsourced their Transport operations, while 57.5 % preferred outsourcing their distribution function. Fleet maintenance, warehousing and transport management are the least preferred outsourced functions with a 40% and 0% preference rate. This provided an overall logistics outsourcing preference rate of approximately 52%.

Table 3: Logistics Outsourcing Practices

	Mean	Ranking
Have both an in-house logistics department	3.375	1
Hires logistics services during peak seasons?	3.375	1
Rely on logistics services used by competitors	3.375	1
Contracted a third part to manage its logistics services	3.125	4
Mergers and acquisitions	2.875	5
Owens a logistics subsidiary	2.875	5
Practice E-outsourcing	2	7
Strategic alliances with logistic service providers	0	8

Source: Authors (2011)

In a likert scale of 1 to 5 respondents were requested to indicate their level of agreement with the above factors stating with the least accepted to the most accepted practice. The results of the survey indicated that most tea firms preferred to practice both in-house and outsourcing logistics

practice, hiring of logistics services during peak seasons and the use of logistics service providers used by competitors was a prevalent practice. Other practices that the tea firms utilized included contracting third party service providers as well as owning a logistics subsidiary to handle the same, mergers and acquisitions. E- outsourcing was reported as a rare preference for most tea firms while, strategic alliances with logistics service providers is not practised at all.

The Challenges of Logistics Outsourcing

Respondents were required to rate in a likert scale the challenges faced by the tea processing firms in their endeavour to outsource logistics operations. As a result of this the respondents views are presented in the table 4 below:

Table 4: Logistics Outsourcing Challenges

	mean	Ranking
Loss of control on logistics functions	3.8	1
Industrial unrest	3.8	1
Disintegration of internal conflict	3.3	2
Loss of employee loyalty	3.2	3
Low quality of work	2.9	4
Switching cost	2.8	5
Information leakage occurs from service providers	2.6	6
Over reliance on external parties	2.6	6
Over reliance on service providers	2.4	7
There is loss of command on service delivery	1.8	8

Source: Authors (2011)

Loss of control on logistics operations and industrial unrests were the most prevalent of the challenges the tea firms were facing. These were followed by disintegration of internal conflict and loss of employee loyalty. Respondents reported that the quality of work also deteriorated, the effects of switching costs and information leakage as well as overreliance on third party service providers. Loss of command on service delivery was the least prevalent among the challenges reported by the respondents.

Discussion

The study sought to establish the drivers of logistics outsourcing among tea processing firms in Kericho County Kenya. After surveying and evaluating several tea processing firms and factories, it was found out that most firms have been driven into logistics outsourcing by the urge to reduce the cost of doing business, secondly the availability of third party service providers also motivated firms to outsource their logistics operations, thirdly outsourcing is viewed as a global best business practice; fourthly the urge to concentrate on core business activities. Globalization of business and availability of a supportive logistics infrastructure, fifthly logistics functions are

non-core to the tea processing firms and the fact that government policies do not inhibit the firms from adopting outsourced logistics.

Some tea processors also indicated that they do not have the expertise to handle their logistics activity and hence preferred to outsource the functions. Others indicated that the drive to outsource was part of their international policy, the need to take advantage of technology and innovation was also indicated as a drive by some firms to outsource their logistics operations. The drive to improve productivity was the least preferred driver to logistics outsourcing. Much as some traits of logistics outsourcing drivers have been evidenced in most of the tea processing firms and factories, most of the firms are very to appreciate the adoption of these drivers for the success of their businesses. For example most of the firms reported that their main reason to outsource was the urge to reduce cost while, others were motivated by the availability of outsourcing or 3 party logistic service providers, an impressing factor was that some of the firms were driven by the desire to adopt it as gesture to adopt internally accepted best practices. Clearly this is a sign that firms in the tea sector are concerned about the values of Globalization of businesses which is one of the major tenets of strategic business operations.

The results of the analysis clearly indicate the level of adoption of a logistics outsourcing practice among the tea processing in Kericho County Kenya. The results of the survey provided an insight on the extent to which the tea firms practice both in-house and outsourcing logistics practice. Hired logistics services during peak seasons and the use of logistics service providers used by competitors was a prevalent practice adopted by the tea processors, hence giving an indication of the level of logistics outsourcing practices being adopted by the tea processors. Other practices that the tea firms have been utilizing included contracting third party service providers (3PL), as well as owning a logistics subsidiaries to handle some specific tasks, mergers and acquisitions have also been viewed as potential strategic practices. E- outsourcing was reported as a rare preference for most tea firms probably due to lack of supportive infrastructure within the markets. Strategic alliances with logistics service providers is not practiced at all this may be the practice of the future given that currently the tea firms are even not scared of sharing service providers. This may be an acceptable practice in the short term but once competition strikes the firms will begin to venture into strategic business alliances so as to curb the effects of business competition.

The management of the firms needs to invest more by acquiring knowledge and skill on the management of the logistics function. They may in addition seek to invest more on research and develop stronger and long-term ties with the logistics service providers. This is mainly because the survey does not give any clue about long-term synergistic relationship. When firms or individuals partner in any mutual understanding, they double their efforts with other accompanying benefits.

In the middle of every success there will always be challenges, but the challenges must be viewed as positive indicators for continuous improvement. During the survey respondents concurred that indeed logistics outsourcing is not without challenges. The challenges that were highlighted included; Loss of control on logistics operations and industrial unrests were the most prevalent of the challenges that were being faced by the tea processing firms. These were followed by disintegration of internal conflict and loss of employee loyalty. Respondents reported that the

quality of work was found to be deteriorating, the effects of switching costs and information leakage as well as overreliance on third party service providers. Loss of command on service delivery was the least prevalent among the challenges reported by the respondents.

As an objective measure towards logistics outsourcing and as a means towards continuous improvement, firms need to appreciate the challenges that come together with the package of successful adoption of new ways of doing business. The unfolding events can be referred to as indicators to the successful implementation of a outsourced logistics practice. If progressively monitored and used as corrective benchmarks through the implementation these challenges will enable the tea processing firms to fully adopt outsourced logistics practices thereby achieve their key objective of cost reduction. Renowned theories of management have been able to address the issues of change management as the key to the successful implementation of any change.

Conclusions

The study found out that there is a strong drive towards the use of outsourcing as a strategy to reduce costs, to pursue core business activities, reduce risks, and gain competitive advantage. According to the study findings, logistics outsourcing among the tea firms was most prevalent in operations such as warehousing, fleet management, fleet operations, transport and distribution. The survey also established that some of the challenges faced by the firms as they moved to outsource their business activities included loss of control of the activities, loss of employee loyalty, industrial unrests, switching costs, loss of information to competitors and Resistance to change by the stakeholders.

The study has opened up a number of gaps that can be addressed in further research, firstly the study covered tea processing in Kericho County, yet there are other tea belts such as Kisii and Nyeri, Kiambu, Murang'a Embu and Meru which may require a study of their own. Secondly there will be need for further research on the management of logistics outsourcing on the larger agricultural sector.

References

- Africk, J.M. and Markeset, E. (1996), "Making contract logistics work", *Transportation & Distribution*, January, pp. 58-60.
- Agure, (2006), "Outsourcing of Human Resource Management Services among Large Flowe Firms in Kenya" Unpublished MBA Project.
- Armstrong & Associates, Inc. (2001), <http://www.3plogistics.com>
- Bardi, E.J. and Tracey, M. (1991), "Transportation outsourcing: a survey of US practices", *International Journal of Physical Distribution & Logistics Management*, Vol. 21 No. 3, pp. 15.
- Bhatnagar, A.S. Sohal and R. Millen, "Third party logistics services: a Singapore perspective," *International Journal of Physical Distribution & Logistics Management*, vol. 29 No. 9, pp. 569–587, 1999.
- Bingham, D. (1994), "Take a fresh look at your logistics strategies", *Transportation & Distribution*, March, pp. 58-60.
- Bowman, R.J.(1994), "Three's a crowd?" *Distribution & Logistics Management*, August, pp. 78-81.
- Bradley, P. (1994c), "Contract logistics: it's all about costs", *Purchasing*, 20 October, pp. 3-14.

- Bradley, P. (1995b), "Buying third-party services? Beware the bells and whistles", *Traffic Management*, December, p. 24.
- Byrne, P.M. (1993), "A new road map for contract logistics", *Transportation & Distribution*, April, pp. 58-62
- Candler, J. (1994), "You make it, they distribute it", *Nation's Business*, March, pp. 46-8
- Chanzu, (2002), "A survey of Business Outsourcing Practices Amongst Private Manufacturing Company's in Nairobi", Unpublished MBA Project.
- Cooper, J.C. (1993), "Logistics strategies for global businesses", *International Journal of Physical Distribution & Logistics Management*, Vol. 23 No. 4, pp. 12-23
- Daugherty, P.J. and Pittman, P.H. (1995), "Utilization of time-based strategies: creating Distribution flexibility/responsiveness", *International Journal of Operations & Production Management*, Vol. 15 No. 2, pp. 54-60.
- Daugherty, P.J., Stank, T.P. and Rogers, D.S. (1996) "Third-party logistics service providers: Purchasers' perceptions", *International Journal of & Logistics Management* Spring, pp. 23-9.
- Dillon, T.F. (1989), "Third-party services – new route to transportation savings", *Purchasing World*, June, pp. 32-3.
- Elmuti&Kathwala, (2000), "The effects of global outsourcing on participant's effectiveness"
- Fawcett, S.E., Birou, L. and Taylor, B.C. (1993), "Supporting global operations through logistics and purchasing", *International Journal of Physical Distribution & Logistics Management*, Vol. 23 No. 4, pp. 3-11.
- Foster, T.A. and Muller, E.J. (1990), "Third parties: your passport to profits", *Distribution*, October, pp. 30-32.
- Gentry, J.J. (1993), "Strategic alliances in purchasing: transportation is the vital link", *International Journal of Purchasing and Materials Management*, summer, pp. 11-17
- Goldberg, D. (1990), "JIT's next step: moves cargo and data", *Transportation & Distribution*, December, pp. 26-9.
- Gooley, T.B. (1994a), "Partnerships can make the customer-service difference", *Traffic Management*, May, pp. 42-5.
- Gupta, U. & Ashok, G, (1992) "Outsourcing IS Function, Information System Management summer presentation fall 24-7
- H.L. Sink, C.J. Langley Jr. and B.J. Gibson, "Buyer observations of the US third-party logistics market," *International Journal of Physical Distribution & Logistics Management*, vol. 26 No. 3, pp. 38–46, 1996
- Harps, (1998), "Partnering for performance" *Purchasing & Logistics Management* (Konezny&Beskow, 1999), "Improving global supply chains
- Hill, S. (1994), "Logistics takes new road", *Manufacturing Systems*, November, pp. 28-32.
- Horne, R. (1989), "Charting a course for integrated logistics", *Transportation & Distribution*, October, pp. 45-51.
- Hussein, (2006), "A survey of Outsourcing of Training Services by Commercial Banks in Kenya" Unpublished MBA Project
- Kirui, (2001), "Competitive advantage through outsourcing of non –core Logistics Activities within the supply Chain of British American Tobacco, Kenya", Unpublished MBA Project.
- Komen, (2005), "A Survey of the Extent of Outsourcing of Human Resource Functions by the Public Service in Kenya, Unpublished MBA Project.

- Lacity, M.C., Wilcocks, L.P. and Feeny, D.F. (1995), "IT outsourcing: maximize flexibility and Control", *Harvard Business Review*, May-June, pp. 86-7.
- Lambert, stock & Ellram, (2009), "Fundamentals of Logistics Management" First Edition
- Lieb, R.C. (1992), "The use of third-party logistics services by large American manufacturers", *Journal of Business Logistics*, Vol. 13 No. 2, pp. 29-42.
- Lieb, R.C. and Randall, H.L. (1996), "A comparison of the use of third-party logistics service By large American manufacturers, 1991, 1994, and 1995", *Journal of Business Logistics*,
- Lieb, R.C., Millen, R.A. and Van Wassenhove, L.N. (1993), "Third party logistics services: a Comparison of experienced American and European manufacturers", *International Journal*
- Lonsdale & Cox,(2000), "The historical Development of outsourcing"
- Luck, J & Rubin, S (2006), *Marketing Research, Seventh Edition*
- Lynch, M.E., Imada, S.J. and Bookbinder, J.H. (1994), "The future of logistics in Canada: a Delphidased forecast", *Logistics and Transportation Review*, Vol. 30 No. 1, pp. 95-112.
- Maltz, A.B. (1994), "Outsourcing the warehousing function: economic and strategic Considerations", *Logistics and Transportation Review*, Vol. 30 No. 3, pp. 245-65.
- Maltz, A.B. and Ellram, L.M. (1997), "Total cost of relationship: an analytical framework for the Logistics outsourcing decisions", *Journal of Business Logistics*, Vol. 18 No. 1, pp. 45-66
- Muller, E.J. (1991), "How to profit using third parties", *Distribution*, May, pp. 31-8.
- Muller, E.J. (1992), "Third party catches on", *Distribution*, July, pp. 60-67.
- Muller, E.J. (1993a), "The top guns of third-party logistics", *Distribution*, March, pp. 30-38
- Nai-Jing, "Value engineering Studies, Economic science press", 2006
- of Physical Distribution & Logistics Management, Vol. 23 No. 6, pp. 35-44.
- Quinn, J.B. (1993), "Leveraging intellect", *Executive Excellence*, October, pp. 7-8.
- Rao, K., Young, R.R. and Novick, J.A., (1993), "Third party services in the logistics of global Firms", *Logistics and Transportation Review*, Vol. 29 No. 4, pp. 363-70.
- Ravi (2001); "e-Logistics; key trends in logistics outsourcing at the market place"
- Richardson, H.L. (1990), "Explore outsourcing", *Transportation & Distribution*, July, pp. 17-20.
- Richardson, H.L. (1992), "Outsourcing: the power work source", *Transportation & Distribution*, July, pp. 22-4.
- Richardson, H.L. (1993a), "Why use third parties?" *Transportation & Distribution*, January, pp.29-31.
- Richardson, H.L. (1995), "Logistics help for the challenged", *Transportation & Distribution*, January, pp. 60-64
- Saw, P. (1995), "Freight forwarding: In a constant state of flux", *Shipping Times, Special Supplement*, 30 November, p. 5.
- Schary, P.B. (1992), "A concept of customer service", *Logistics and Transportation Review*, Vol28 No. 4, pp. 341-52
- Serem, (2002), "A Survey of the Outsourcing of Human Resources Services by Banks in Nairobi," Unpublished MBA Project.
- Sheehan, W.G. (1989), "Contract warehousing: the evolution of an industry", *Journal of Business Logistics*, Vol. 10 No. 1, pp. 31-49.
- Sheffi, Y. (1990), "Third party logistics: present and future prospects", *Journal of Business Logistics*, Vol. 11 No. 2, pp. 27-39.

- Sink, H.L. and Langley, C.J. Jr (1997), “A managerial framework for the acquisition of third-party logistics services”, *Journal of Business Logistics*, Vol. 18 No. 2, pp. 163-89.
- Sople, (2011), *Logistics Management 2nd edition*
- Stock and Lambert, 2001, “Strategic Logistics Management 4th edition
- Tea processing Firms in Kericho, County <http://www.teaboard.or.ke>
- TM Staff, (1993), “What makes a quality partnership? ”, *Traffic Management*, May, pp. 44-55.
- Traffic Management, (1992), “How to choose a third-party company”, July, pp. 34-5
- Transportation & Distribution (1988), “Strike up logistics alliances”, November, pp. 38-44.
- Trunick, P.A. (1989), “Outsourcing: a single source for many talents”, *Transportation & Distribution*, July, pp. 20-23.
- Trunick, P.A. (1992), “Carving a niche in global logistics”, *Transportation & Distribution*, February, pp. 57-8.
- Vol. 17 No. 1, pp. 305-20.
- Watson, R. and Pitt, L. (1989), “Remarrying marketing and logistics with Information Systems Technology”, *Industrial Management & Data Systems*, No. 1, pp. 4-12.
- Wood, A.L. (1993), “Develop an agile approach to change”, *Transportation & Distribution*, November, p. 56

The Government Control and Performance of Uganda Prisons Industries

Robinah Akodo and Aidati Nandudu

Abstract

The purpose of the study was to establish the extent to which government control affects performance of prisons industries. There was declining performance of Prison Industries workshops over the years. The study used a cross-sectional and correlation study research design. It targeted 103 respondents. Simple random sampling and purposive sampling were used to select the staff in various workshops in Uganda Prisons Industries. Descriptive statistics using means, standard deviations, frequencies and percentages were computed to determine the average respondents with a particular view on the nature of government control of the Prisons Industries' workshops and the performance of the Prisons Industries' workshops. Pearson Correlations were computed to determine the relationship between government control and performance of the Prisons Industries' workshops. Regression analysis was computed to determine the extent to which government control affects performance of the Prisons Industries' workshops. Findings revealed that government control existed in Prisons industries workshops and was moderate in terms of standards, funding and rewards. The performance was below average in terms of effectiveness, efficiency and sustainability. Government Control positively enhanced performance of industries workshops. Control is pivotal in mitigating effectiveness, efficiency and sustainability. It is recommended that Prisons Industries controls should be improved in order to improve their performance. This can be achieved by injecting in more funds, strictly monitor adherence to set standards and reward Industries that perform well.

Key Words: Control, Performance, Prisons Industries, Uganda.

Introduction

According to the Uganda Prison Services Projects Report (2005), under the present system, prisoners are offered on-the-job training. The objectives of Prison Industrial Training are to offer employment to prisoners; rehabilitate prisoners by teaching them industrial skills, which they can use upon release to secure employment in the private or public sector; and to generate government revenue to offset the cost incurred in use of taxpayers' money to maintain prisoners. To realize the objectives, workshops were set up in the sections of carpentry and woodwork, metalwork, tailoring, printing, handicraft and photography, leather tanning and leather works, soap making, saw milling, and farming to facilitate inmates' training, employment and revenue generation (Uganda Prison Services Projects Report, 2005). Thus, how these workshops are managed determines the realization of the training objectives.

Uganda Prisons being a public institute, the management of its workshops is characterized with centralized control of resources and regulation of personnel and procedures; that is the hierarchical organization of administrations by government or government control. Government control in this study is conceptualized as the extent to which certain actions in the public sector guarantee the performance of their government entities (Ashworth et al., 2002; Przeworski, 2003). The Uganda Prisons' workshops to achieve the set training objectives are controlled through funding, setting standards, and reward and punishment to improve the workshops' performance in terms of efficiency, effectiveness and sustainability.

Despite having these control measures in place, the performance of the Prisons Industries is

below the government expectation as it falls short of the objectives of Prison Industrial Training (Uganda Prison Services Projects Report, 2005). For example, some industries such as soap making, leather tanning and photography have been closed; these industries have not been sustainable. The remaining industries are not run according to their production capacities and as such cannot deliver services on time and their output volume and quality has declined, such industries are ineffective and inefficient. The poor performance is very clear when one scrutinizes the actual expenditure and revenue of Prisons Industries presented in Table 1.1

Table 1: Budgeted expenditure/revenue and Actual expenditure/revenue of Prisons Industries for the years 2001 to 2010

Year	Budgeted Expenditure	Budgeted Revenue	Actual expenditure	Actual revenue	%age gained/lost of revenue
2001	314,002,000	64,000,000	247,581,668	65,486,584	-74
2002	276,732,000	373,527,000	267,361,558	7,641,205	-97
2003	186,966,000	34,552,000	125,834,444	16,063,625	-87
2004	108,441,000	34,553,000	108,361,901	7,400,000	-93
2005	108,441,000	36,933,000	104,361,677	0	-100
2006	79,341,000	90,379,000	77,397,400	25,337,100	-67
2007	77,441,000	125,020,000	75,018,850	1,335,500	-98
2008	98,441,000	125,020,000	97,652,966	0	-100
2009	205,453,460	128,022,432	205,158,546	12,901,700	-94
2010	205,453,000	147,000,000	205,432,640	22,206,600	-89

Source: End of Year Accounts for Uganda Prison Services (2001-2010) and Approved Budget Estimates

This shows that for the period 2001 to 2010, the Prisons Industries made losses from its expenditures as shown by the negative sign and trend in losses increased for period 2001 to 2005 then it decreased 2006 followed by increasing losses from 2007-2008 and then decreasing losses up to 2010. Thus, the poor performance has compromised the Prison Industrial Training to meet its objectives (that is to be efficient) of offering employment to prisoners, rehabilitating prisoners and efforts to generate government revenue to offset the cost incurred in use of taxpayers' money to maintain prisoners. Thus, there is need to investigate the control measures adopted in management of the Uganda Prisons' workshops in relation to the performance of the workshops.

Statement of the Problem

The performance of the Prisons Industries in Uganda is below the government expectation as it falls short of the objectives of Prison Industrial Training. This has compromised the Prison Industrial Training to offer employment to prisoners, rehabilitate prisoners by teaching them industrial skills, which they can use upon release to secure employment in the private or public sector and efforts to generate government revenue to offset the cost incurred in use of taxpayers' money to maintain prisoners (Uganda Prison Services Projects Report, 2005). One of the concerns is that there are increasing and significant political and societal pressures with regard to proving the usefulness of tax money spent. At the same time, concern has been raised about how government control has been exercised in the Prisons Industries. Could the performance of Prison industries be attributed to Government control? This study intends to investigate this linkage.

Purpose of the Study

The purpose of the study was to establish the extent to which government control affects performance of prisons industries.

Objectives of the Study

The following objectives guided the study:

- To examine the nature of government control of the Prisons Industries' workshops
- To examine the performance of the Prisons Industries' workshops
- To establish the extent to which government control affects performance in Prisons Industries' workshops

Research Questions

The study answered the following research questions

- What is the nature of government control in each of the Prisons Industries' workshops?
- What is the level of performance of the Prisons Industries' workshops?

To what extent does government control affect performance of the Prisons Industries' workshops? [Type a quote from the document or the summary of an interesting point. You can position the text box anywhere in the document. Use the Text Box Tools tab to change the formatting of the pull quote text box.]

Conceptual Framework

Independent variable

Government control

- Funding
- Setting Standards
- Reward and Punishment

Dependent variable

Performance

- Effectiveness
- Sustainability
- Efficiency

Source: Literature review and modification of Payne, Mullins, Robbins and Barnwell (2008)

It was conceptualized that the independent variable as government control and dependent variable as performance of the Prisons Industries. From the conceptual framework, it is expected that if government control is poor, then performance of the Prisons Industries' workshops will be poor. On the other hand, if government control is good, then performance of the Prisons Industries' workshops will be good. For example, increase or decrease in funding to Prison Industries directly affects their performance. Relatively if Government sets poor or unclear standards/targets, or does not set at all, performance is likely to be affected negatively. In addition, if Government gives credit/reward where it deserves and does not punish for poor performance, it is likely that efficiency, effectiveness and sustainability in the prisons Industries will be achieved.

Background and Theory.

Government Control

Funding

Funding public entities involves financial control and accountability (Atkinson & Stiglitz, 2000). The objective of financial control and accountability is to ensure that expenditure is properly authorized and adequate attention is given to collection of debts and revenue (Musgrave, 2000). Every public organization should maintain effective accounting information, which must be timely for decision making in the organization.

According to Buchanan and Musgrave (2001), just as managing finances is a critical function of management in any organization, similarly public finance management is an essential part in the management of government entities. Public finance management includes resource mobilization, prioritization of programmes, the budgetary process, efficient management of resources and exercising controls.

Setting standards

Standards are 'clear and explicit statements about key elements of a given service'; they say 'this is how things should be in this service' and 'this is what user have the right to expect' (Whiteley & Younger-Ross, 2005). They can be expressed as statements of how much, how well, how often or how quickly something happens and can be percentages, numbers, frequencies or cost.

According to Benison (2007), standards show the agreed requirements for a service and help build in quality by enabling users to provide a clear direction for services, know whom to do business with, promote a shared vision and common understanding, form a baseline for local service specifications and provide a basis for monitoring, inspection, evaluation and future planning. This study therefore determined what the standards at Uganda Prisons' workshops are for; in other words, whether the standards show the agreed requirements for a service and help build in quality by enabling users to provide the above stated outcomes.

Standards are for all stakeholders in services - purchasers, providers, users, careers, other agencies, members of the council and members of the public who pay for them - but they are written for users and careers (Brewer & List, 2004). This is because by empowering users and careers - who are the most disempowered of the stakeholders but also the people with the most important experience of the service - they are also empowering everyone else. In this line, this study established who standards for at Uganda Prisons' workshops are and whether these standards have empowered these people.

According to McGladrey and Pullen (2002), once written, quality standards are policy, and therefore an appropriate policy officer is identified as the lead officer for each standard. A clear brief is made available on content, process and style. Generally, a workshop is included in the standard development process to allow stakeholders' perspectives to be shared and standards developed. Stakeholders are identified for each standard - users, careers, planners, purchasers and providers. Others are also included as appropriate, for example, regulators where these exist and other agencies. In all cases, draft standards are subject to rigorous internal scrutiny, internal/external consultation and approval. If standards are to be valid, they must be developed in the setting in which they are intended for use, and with at least representatives of local stakeholders, or they will not be of real and lasting value. Furthermore, they require a local process of continuous improvement and review, and a systematic approach to implementation to

make them worthwhile. Based on this literature, this study therefore will examine how the standards at Uganda Prisons' workshops are/were set.

The approach to implementing standards should be towards accreditation/approval/authorization/endorsement and should be a process of working with users/careers of a service/product to ensure that they can and do meet standards before services are provided/purchased (Whiteley & Younger-Ross, 2005). The implementation of this approach requires the development of sets of tools which effectively translated the standards into indicators which could be used to measure attainment against the standards and make sense to users/careers since the standards are addressed primarily to users and careers. This highlights the importance of one critical aspect of the accreditation process - the accrediting/approving/authorizing /endorsing officer must talk to users in addition to staff and managers, separately and alone.

Rewards and punishment

Rewards

Rewards are an incentive to workers (Kazdin, 2005). Employees perform at the level at which the organization rewards them; they continue to do what they have been rewarded for doing.

In order for a reward system to be effective, the rewards must hold some importance for the employees (Arvey & Ivancevich, 2000). The reward system should offer flexibility for maximum effectiveness (Ball & Sims, 2001). Rewards should be given with certain frequency (Trevino, 2002). The most effective reward system is visible (Arvey & Jones, 2005). That is, all the employees understand the possible rewards, which are available. Employees need to know what "rewards" they are striving for and that they are indeed available.

Punishment

Despite conventional wisdom that suggests that punishment should be avoided, punishment remains an important aspect of virtually all managers' jobs. Managers view punishment in many ways, ranging from an unpleasant but necessary part of the managerial role to an opportunity for instrumental outcomes (Butterfield et al, 2006). Organizational punishment has traditionally been studied in terms of correcting or modifying a subordinate's undesirable behavior (Baron, 1988). This "subordinate-centered" view is epitomized by the behaviorist definition of punishment: "punishment is the presentation of an aversive event or the removal of a positive event following a response which decreases the frequency of that response" (Kazdin, 2005; Arvey and Ivancevich, 2000).

However, researchers have begun to expand the focus beyond the manager-subordinate dyad (Atwater et al., 2001). This work is built upon the notion that punishment is a social experience that involves not only managers and subordinates, but observers as well. For instance, Trevino (2002) theorized that observers are interested in punishment events because these events convey important information about standards of behavior, outcomes of misconduct, and workplace justice. Punishment is important for several reasons. For example, research has demonstrated that unfair, arbitrary, or inconsistent punishment may trigger negative subordinate emotions, attitudes, and behaviors such as output restriction, trying to make the punisher look bad, and even sabotage (Arvey & Ivancevich, 2000; Ball & Sims, 2001; Parke, 2002). Managers therefore have a strong incentive to assess whether they have punished fairly, and to take appropriate steps depending on their assessment (e.g., discuss fairness issues with the subordinate and, if necessary, take

corrective action). A second reason pertains to the broader work environment. In addition to direct cues that are sent to a punished subordinate regarding acceptable/unacceptable behavior, punishment provides indirect cues to other members of the work group (Trevino, 2002). These cues help to establish and perpetuate formal and informal expectations, rules, and behavioral boundaries (Arvey & Jones, 2005). Thus, managers have an additional incentive to assess whether they have punished fairly, and to take appropriate steps depending on their assessment (e.g., signal to other members of the work group that the punishment was fair and consistent).

Organization Performance

Performance reflects achievements relative to the resources used by the organization (Black, 2006). This reflects how well the organization manages its resources. To apply traditional assessment terminology, organizational performance must integrate the concepts of “effectiveness” and “efficiency” (Davis, 2009). That is, the organization must be able to meet its goals (effectiveness) and to do so with an acceptable outlay of resources (efficiency). The organization must be able to develop and implement strategies, which will ensure performance over extended periods (Grasha, 2000). In summary, the performance of institutions can be conceived as falling within three broad areas: performance in activities that support the mission (effectiveness), performance in relation to the resources available (efficiency), and performance in relation to long-term viability or sustainability (ongoing relevance).

Performance in Moving Towards Mission (Effectiveness)

An organization’s performance is made visible through the totality of its activities it generates in pursuit of the mission (Kreitner, 2001). These outputs and effects are the most discernible aspects of organizational performance, which are seen as the tangible results of investment of money. Ideas associated with the performance of organizations in fulfillment of their missions vary considerably (Maicibi, 2005). Each interest group or stakeholder may have a very different conception of what counts. For instance, senior administrators might define performance as the quantity of financial resources brought into the organization through grants. Donors might define performance in terms of the beneficial impact of activities. While it is relatively easy to develop an information system to help institutions assess their performance, it is far more difficult to obtain consensus on the merits of particular performance indicators. It is more difficult yet to arrive at value judgments regarding acceptable levels of quantity and quality for each performance indicator. Thus, the issue is, how does the specific institution define “good” performance, and, perhaps most fundamental, does good performance move the organization towards attaining its mission?

Performance in Relation to Efficiency

In today’s economy, institutions must not only be able to provide exceptional goods/services, but they must also be able to provide them within an appropriate cost structure (Nkata, 2005). Tight times have meant that performance is increasingly judged by the efficiency of the organization, for example, ratios of internal and external funding, comparative organizational costs, overhead/program cost ratio, costs versus benefits, the cost per service and the number of outputs per input. Whatever the overall size of the unit, performing organizations are viewed as those which provide good value for the money expended.

Performance in Relation to Ongoing Relevance

Institutions in any society take time to evolve and develop, but overtime they must institutionalize in ways that consolidate their strengths (Okelowange, 2002). While all organizations ultimately face internal and external crises, the survivors are those that succeed in adapting to changing contexts and capacities. Partly because of their relatively short organizational histories, and because of widely differing environmental contexts, organizations vary dramatically in their ability to become institutionalized in society. Moreover, no organization is protected from the vagaries of being out of date, irrelevant, and subject to closure. In this volatile context, organizational performance relates to the ability of the organization to keep its mission, goals, programs, and activities aligned with its key stakeholders and constituents (Payne, Mullins, Robbins & Barnwell, 2008). Issues of organizational survival are broad in scope, ranging from the reputation of the organization in the wider community to the effects of the organization's programs, services, and their management on staff morale (Okumbe, 2008).

Extent to which Government Control Affects Organizational Performance

Control is the process for detecting and correcting unintentional performance error and intentional irregularities such as theft and misuse of resources Mullins (2002). While Payne, Mullins, Robbins and Barnwell (2008), conceptualized control as monitoring the performance of the delegated task, so that expected results are successfully achieved. Therefore, control is the basis for the motivation to achieve desired standards within an organization. The controlling function is an unending process that is cyclical in nature (Mullins, 2002). This is because carrying out the controlling function leads to the identification of new problems to be addressed through establishment of new performance standards, and measuring performance, among others. The controlling function is thus both anticipatory and retrospective in the sense that it anticipates problems, takes preventive action, and repeats itself repeatedly.

Messages et al (2005) contend that it must be however noted that staff members more often than not view the controlling function negatively, no matter how positive the expected changes are and no matter how beneficial to the organization they are. This is because, by its very nature, the controlling function often leads to a situation whereby members of the organization management team continuously expect positive adjustments in staff member's work-related behavior, hence improved performance. Therefore, one wonders whether the above analogy is so atypical with organization control in the Uganda Prisons' Industry. One of the dimensions considered to develop models of organizational effectiveness is the organization's emphasis on flexibility versus control (Rumki, 2004). Flexibility allows faster change, whereas control allows a firmer grasp on current operations. Flexibility allows quick response to changing conditions and values innovation. Control values the opposite. Stability and predictability mean that routine activities are performed well but change is more difficult.

Faced with an increasing degree of complexity and competition, organizations feel a strong drive to improve efficiency, productivity and flexibility, which is being accompanied by measures to increase top-down control (Rumki, 2004). However, at the same time, the increased complexity forces organizations to increase autonomy at every level of the organization, very often combined with measures aimed at layering and removing functional barriers between departments (see for example the introduction of self-managing teams, business process re-engineering etc.;

Paauwe, 2004). Thus, organizations increasingly find themselves faced with the challenge of combining both formal and informal control mechanisms in order to be able to operate effectively in a complex environment.

Methodology

Research Design

This was a cross-sectional and correlation study research design, which uses both qualitative and quantitative methods. A correlation study research design was used to determine relationships between variables. Thus, the reason why it was adopted in this study was because it was used to determine the relationship between government control and performance in each of the Prisons Industries' workshops. Quantitative methods involved collecting numeric data in form of questionnaires with questions which had predetermined form of answering. These were used to collect information from Uganda Prisons Industries staff that happened to be in large numbers thus making interviewing impossible.

Scope of the Study

Regarding the geographical content, the study was restricted to Prisons Industries' workshops in Kampala. It targeted all staff members in the Prisons Industries' workshops. The study focused on government control and the performance of the Prisons Industries' workshops.

Study Population, Sample size and sampling design.

The population of the study consisted of 138 Uganda Prisons Industries staff.

Using Yamane's (1967) Sample Size Table (See appendix 2), at a sampling error of 5% and a population of 138, this research targeted 103 respondents to cover the topic of study. These consisted of Staff at Prisons Head quarters, Officers in Charge Stations, and Production staff. The reasons for choosing these categories were that, they were involved in activities in various workshops in Uganda Prisons Industries.

Simple random sampling was used to select the staff in various workshops in Uganda Prisons Industries. This enabled to select a representative sample composed of staff from the various workshops in Uganda Prisons Industries. Purposive sampling was used to select key respondents like top management in the various workshops in Uganda Prisons Industries.

Sources of Data

Primary and secondary sources were used to obtain primary and secondary data.

Measurement of Variables

Government control was measured in terms of Funding, Setting standards and Reward and punishment. Performance was measured in terms of efficiency, effectiveness and sustainability (Payne, Mullins, Robbins and Barnwell, 2008). It was operationalised on a Likert scale where items were coded as "1 = strongly disagree", "2 = Disagree" "3 = Agree" and "4 = strongly agree".

Research Instruments

The researcher used the following instruments to collect data, questionnaires, and documentary review. The questionnaires comprised of closed questions for all the categories. The reason for employing this instrument was that all the respondents can read and write. The researcher also

used documentaries to supplement the finding from questionnaire and observations.

Validity and Reliability

Validity of instrument was computed using content validity index, where two experts were asked to rate the relevance of the questions to study variables using scale of relevant, quite relevant, somewhat relevant and not relevant. The proportions of relevant and quite relevant scores were computed from each expert as follows. Expert 1, CVI was 0.7548; expert 2, CVI was 0.6785. This implied that the questions were relevant.

Reliability of the instrument was computed using cronbach alpha coefficient. All the coefficients were above 0.60 indicating that the instrument was reliable as shown in table 3.1 below.

Table 2: Reliability Test

Variable	Cronbach Alpha Coefficient
Government control	0.904
Funding	0.795
Setting standards	0.601
Reward and punishment	0.760
Performance	0.786
Efficiency	0.832
Effectiveness	0.643
Sustainability	0.688

Diagnostic tests

Control and performance variables were normally distributed , Shapiro test Sig>0.05. Durbin Watson statistic> Adj R-Square, Levens test Sig>0.05, Fsig<0.05, no autocorrelation, no heteroschedasticity and the two variable are linearly related. Hence parametric tests were therefore convenient.

Data Presentation and Analysis

Quantitative data collected was edited, coded, and analyzed using the SPSS version 19 analysis package. For this data, descriptive statistics using means, standard deviations, frequencies and percentages were computed to determine the average respondents with a particular view on the nature of government control of the Prisons Industries' workshops and the performance of the Prisons Industries' workshops. Pearson Correlations were computed to determine the relationship between government control and performance of the Prisons Industries' workshops. Regression analysis was computed to determine the extent to which government control affects performance of the Prisons Industries' workshops.

Findings

Demographic Characteristics of the sample

Most of the respondents were male 59% and female 41% as shown in table above. Majority of the staff had worked for 4-6 years (54%), followed by 1-3 years (24%), 10 years and above (9%), 7-9 years (7%) and less than a year 6%. This implied that most respondents had good experience of the work place and were conversant with issues being studied.

Most of the respondents were adults of the most productive age groups 91% and only 9% above 50 years.

Table 3: Demographic Characteristics of the sample

Sex of respondent			
	Category	Frequency	Percent
	Female	29	41.4
	Male	41	58.6
	Total	70	100.0
Years worked			
	Category	Frequency	Percent
	Less than 1 year	4	5.7
	1-3 years	17	24.3
	4-6 years	38	54.3
	7-9 years	5	7.1
	10 years and above	6	8.6
	Total	70	100.0
Age of respondent			
	Category	Frequency	Percent
	18-25 years	8	11.4
	26-30 years	6	8.6
	31-35 years	19	27.1
	36-40 years	6	8.6
	41-45 years	14	20.0
	45-50 years	11	15.7
	Above 50 years	6	8.6
	Total	70	100.0

Descriptive Statistics

Descriptive statistics in terms of means, standard deviation, frequencies and percentages were used to examine government control and performance of Prisons industries workshops as shown in sections below.

The nature of government control in each of the Prisons Industries' workshops (Objective1)

Using a questionnaire, thirty-one items about the nature of government control in each of the Prisons Industries' workshops were presented to the respondents and were required to respond to them using the following four-response formant: "1 = Strongly Disagree", "2 = Disagree", "3 = Agree", and "4 = Strongly Agree". Findings about the nature of government control in each of the Prisons Industries' workshops are presented in Table below.

Four factors explaining Government control were extracted using principal component analysis and varimax rotation methods. Only items with loadings greater than ± 0.3 were retained. Government control was explained by 50% of funding, standards, rewards and punishment. This implies that Government control of Prisons Industries Workshops was moderate at 50% in terms of Punishment, Funding, Standards, and Rewards.

This was supported by Funding public entities involve financial control and accountability (Atkinson & Stiglitz, 2000). According to Buchanan and Musgrave (2001), just as managing finances is a critical function of management in any organization, similarly public finance management is an essential part in the management of government entities.

Standards are 'clear and explicit statements about key elements of a given service'; they say 'this is how things should be in this service' and 'this is what user have the right to expect' (Whiteley & Younger-Ross, 2005).

According to Benison (2007), standards show the agreed requirements for a service and help build in quality by enabling users to provide a clear direction for services, know who to do business with, promote a shared vision and common understanding, form a baseline for local service specifications and provide a basis for monitoring, inspection, evaluation and future planning. This study therefore determined that standards and rewards are an incentive to workers (Kazdin, 2005), rewards should be given with certain frequency (Trevino, 2002).

The most effective reward system is visible (Arvey & Jones, 2005). This "subordinate-centered" view is epitomized by the behaviorist definition of punishment: "punishment is the presentation of an aversive event or the removal of a positive event following a response which decreases the frequency of that response" (Kazdin, 2005; Arvey and Ivancevich, 2000).

Table: Descriptive statistics and Rotated component matrix for government control

	Me an	Std. Deviation	Component			
			1	2	3	4
The Prisons Industries' workshops inconsistently use punishment of employee undesirable behavior as a control measure	2.9 000	.76424	.829			
The Prisons Industries' workshops promptly use punishment of employee undesirable behavior as a control measure	3.1 143	.64926	.825			
The Prisons Industries' workshops usually use punishment of employee undesirable behavior as a control measure	2.9 855	.78929	.801			
The Prisons Industries' workshops effectively use punishment of employee undesirable behavior as a control measure	3.0 143	.71207	.782			
The Prisons Industries' workshops unfairly use punishment of employee undesirable behavior as a control measure	3.0 286	.76084	.779			
The Prisons Industries' workshops	2.8	.73496	.347			

accounting information is timely for decision making	429					
The Prisons Industries' workshops' effectively implements its standards	2.5 652	.82494		.656		
The Prisons Industries' workshops' funds/resources are properly prioritized	2.4 928	1.01615		.640		
The Prisons Industries' workshops' efficiently implements its standards	2.4 925	.85759		.612		
The current rewards as an incentive to workers at Uganda Prisons' workshops are adequate	3.0 714	.66641		.605		
The workers at Uganda Prisons' workshops promptly get their rewards	3.2 647	.65092		.597		
Prisons Industries staff are happy with the existing reward scheme.	2.8 571	.74767		.586		
Funds to Prisons Industries are received on time.	3.1 286	.61199		.585		
The current reward scheme is known to every one in Prisons Industries Workshops.	2.7 391	.84531		.549		
The Prisons Industries' workshops' standards are practicable	2.9 265	.74826		.399		
Prisons Industries' workshops always adhere to set regulations for proper allocation of government resources	3.1 571	.71497		.394		
The Prisons Industries' workshops work hard to improve on past performance.	3.0 725	.68776			.685	
The Prisons Industries' workshops' standards are written in plain language	2.3 913	1.05250			.655	
Prisons Industries staff are happy with the existing correctional scheme as a control measure.	2.3 623	1.03519			.627	
At Prisons Industries' workshops adequate attention is given to collection of debts/revenue	2.6 957	.85642			.611	
The Prisons Industries' workshops' standards are clear and precise as possible about key elements of a given service	2.6 232	.83582			.549	
The Prisons Industries' workshops' standards are reasonably sound	2.3 143	.97122			.510	

The Prisons Industries' workshops' standards are acceptable to all stakeholders	2.2 714	.99158			.396	
The Prisons Industries' workshops' rewards you receive hold some importance to you	2.6 000	.98393				.663
Prisons Industries' workshops maintain an effective accounting information	3.0 725	.68776				.617
Prisons Industries' workshops expenditure is properly authorized	2.3 913	1.05250				.601
There is adequate funding for Prisons Industries' workshops.	2.3 623	1.03519				.543
The existing rewards available to Prisons Industries workshops are regular in nature.	2.6 957	.85642				.524
There is proper account of government funds/resources	2.6 232	.83582				.470
The Prisons Industries' workshops' standards have empowered the people they are intended for	2.3 143	.97122				.416
The Prisons Industries' workshops' rewards are tailored to employees	2.2 714	.99158				.416
Eigen value			4.368	4.316	3.393	3.364
% of variance			14.089	13.924	10.946	10.851

Source: Primary data

The performance of the prisons industries' workshops (Objective 2)

Using a questionnaire, thirty-one items about the performance of the prisons industries' workshops were presented to the respondents and were required to respond to them using the following four-response format: "1 = Strongly Disagree", "2 = Disagree", "3 = Agree", and "4 = Strongly Agree". Findings about the nature of government control in each of the Prisons Industries' workshops are presented in Table.

Results in table below shows three factors were extracted using principal component analysis and varimax rotation methods explained 40% of performance. Item loadings of greater than ± 0.3 were retained. This implied that performance of Prisons Industries workshops was only 40%, thus below average in terms of effectiveness, efficiency and sustainability.

Literature supports in that Performance reflects achievements relative to the resources used by the organization (Black, 2006). This reflects how well the organization manages its resources. To apply traditional assessment terminology, organizational performance must integrate the concepts of "effectiveness" and "efficiency" (Davis, 2009). The organization must be able to develop and implement strategies, which will ensure performance over extended periods (Grasha, 2000). An organization's performance is made visible through the totality of its activities it generates in pursuit of the mission (Kreitner, 2001).

In today's economy, institutions must not only be able to provide exceptional goods/services, but they must also be able to provide them within an appropriate cost structure (Nkata, 2005). Institutions in any society take time to evolve and develop, but overtime they must institutionalize in ways that consolidate their strengths (Okelowange, 2002).

Table: Descriptive Statistics and Rotated Component Matrix for Performance

			Component		
	Mean	Std. Deviation	1	2	3
The Prisons Industries' workshops always meet their goals	2.9714	.74155	.710		
The Prisons Industries' workshops use their available time well to meet their goals	3.0000	.61385	.705		
Finances/ resources are effectively used to achieve the Prisons Industries' workshops goals	2.9130	.69656	.667		
The Prisons Industries' workshops are self-reliant	2.8000	.79126	.660		
The Prisons Industries' workshops can sustain themselves without outside help	2.9000	.78297	.612		
Time is effectively used to achieve the Prisons Industries' workshops goals	2.9286	.70857	.603		
The Prisons Industries' workshops' performance in activities that support the mission is satisfactory	3.0714	.66641	.596		
The Prisons Industries' workshops pay a good deal of attention to the future.	3.0294	.76083	.591		
The Prisons Industries' workshops have developed strategies that ensure performance over extended periods	3.1714	.50994	.573		
Raw materials are effectively used to achieve the Prisons Industries' workshops goals	3.1739	.74126	.556		
Human resources are effectively used to achieve the Prisons Industries' workshops goals	3.1014	.59332	.555		
The Prisons Industries' workshops have implemented strategies that ensure performance over extended periods	3.1429	.66563	.549		
The Prisons Industries' workshops receive more money compared to other income generating departments.	2.9857	.67013	.531		
The Prisons Industries' workshops use	3.0714	.54697	.492		

their available funds well to meet their goals					
The existing capacity is adequate for the required revenue.	2.9714	.68040	.413		
The Prisons Industries' workshops' targets are always clear.	3.0435	.49446	.381		
The Prisons Industries' workshops always deliver the desired quantity.	3.0143	.71207		.683	
The Prisons Industries' workshops always deliver the desired quality.	2.7101	.70406		.640	
The Prisons Industries' workshops equipment is fully utilized.	2.4638	1.00115		.560	
The Prisons Industries' workshops use their available personnel well to meet their goals	2.6429	.94847		.541	
The Prisons Industries' workshops always collect the expected revenue.	2.5429	1.01704		.481	
The Prisons Industries' workshops quickly responds to the changing environment ie. New methods of production , new products e.t.c.	2.5362	.94147		.446	
The Prisons Industries' workshops use their available raw materials well to meet their goals	2.8571	.82155		.443	
The Prisons Industries' workshops deliver products timely to their clients.	2.9286	.68781		.422	
The Prisons Industries' workshops always meet their goals with an acceptable outlay of resources	3.0571	.84931		.384	
The Prisons Industries' workshops have a steady source of inputs	2.8060	.70688		.340	
The Prisons Industries' workshops adhere to the existing rule and regulations.	2.6000	.87477			.728
The Prisons Industries' workshops have viable long-term projects	2.8841	.77153			.682
The Prisons Industries' workshops use revenue from sales as the major source of funding.	3.0435	.64684			.457
The revenue collected is commensurate to the expenditure incurred.	3.2429	.87536			.344
Eigen value			6.164	3.317	2.961
% of variance			19.885	10.699	9.550

Source: Primary data

Where, 1 = Effectiveness, 2 = Efficiency, and 3 = Sustainability.

Inferential Statistics on Government control and performance of the Prisons Industries' workshops

The regression analysis using Ordinary Least Squares was used to explain the contribution of Government control on performance as shown in tables below.

Regression analysis (Objective 3)

Regression analysis was used to explain the contribution of Government control on performance of Prisons industries workshops. Using stepwise regression method to pick only the significant control constructs; funding, standards and rewards were found to be linearly related to performance (step 3) , (F=46.420, Sig=.000). Standards, funding and rewards explained 67.8% of performance, with standards explaining more (beta=.348), followed by funding (beta=.322) and rewards (beta=.272). Punishment was eliminated from the regression model as it was not significant.

Table: Regression Results of Control indicators and Performance

	Model 1			Model 2			Model 3		
Variable	B	Beta	SE	B	Beta	SE	B	Beta	SE
Intercept	1.214**		.186	.609**		.217	.795**		.227
Funding	.603**	.747**	.065	.425**	.527**	.071	.260*	.322*	.102
Standards				.366**	.381**	.084	.334**	.348**	.083
Rewards							.153*	.272*	.070
Model F	85.939**			63.657**			46.420**		
R ²	.558			.655			.678		
Adjusted R ²	.552			.645			.664		
ΔR ²				.097**			.023**		
N									

Dependent Variable: Performance

Model 3: $P = 0.795 + 0.260F + 0.334S + 0.153R$

Where: P = Performance, F = Funding, S = Standards and R = Rewards.

Regressing control on performance, results in table indicate a significant linear relationship between control and performance (F=100.617, Sig=.000). Control explained positively 59.1% of the performance of Prisons industries workshops.

Table: Regression model of Control and Performance

	Model		
Variable	B	Beta	SE
Intercept	1.179**		.176
Control	.628**	.772**	.063
Model F	100.617**		
R ²	.597		
Adjusted R ²	.591		
N			

Dependent Variable: Performance

Model: $P = 1.179 + 0.628C$

Where: **P** = Performance and **C** = Government Control

Control enhances on performance as indicated in literature that Control is the process for detecting and correcting unintentional performance error and intentional irregularities such as theft and misuse of resources Mullins (2002). While Payne, Mullins, Robbins and Barnwell (2008), conceptualized control as monitoring the performance of the delegated task, so that expected results are successfully achieved.

The controlling function is an unending process that is cyclical in nature (Mullins, 2002).

Messages et al (2005) contend that it must be however noted that staff members more often than not view the controlling function negatively, no matter how positive the expected changes are and no matter how beneficial to the organization they are.

According to Rumki (2004), flexibility allows faster change, whereas control allows a firmer grasp on current operations. Flexibility allows quick response to changing conditions and values innovation. Control values the opposite. Stability and predictability mean that routine activities are performed well but change is more difficult.

Conclusion and Recommendations

Government control existed in Prisons industries workshops and was moderate in terms of standards, funding and rewards.

The performance was below average in terms of effectiveness, efficiency and sustainability.

Government Control positively enhanced performance of industries workshops. Control is pivotal in mitigating effectiveness, efficiency and sustainability.

There is need for Government to improve controls in terms of funding by injecting in more funds, strictly monitor adherence to set standards and reward Industries that perform well in order to have improved performance in terms of collection of revenue.

Areas of further research

Similar study may be carried out in other countries for comparison purposes.

Other security forces industries in Uganda could also be investigated with similar study.

References

- Arvey, R. D. & Ivancevich, J. M. (2000). Punishment in organizations: A review, propositions, and research suggestions. *Academy of Management Review* 5 (1): 123-132.
- Arvey, R. D. & Jones, A. P. (2005). The use of discipline in organizational settings: a framework for future research. *Research in Organizational Behavior*. Eds. B. Staw and L. L. Cummings. New York, NY: JAI Press, pp. 367-408.
- Ashworth, R., Boyne, G. A. & Walker, R. M. (2002). Regulatory problems in the public sector: theories and cases. *Policy and politics: studies of local government and its services*, 30(2):195-212.
- Atkinson, A. B. & Stiglitz, J. E. (2000). *Lectures in Public Economics*, McGraw-Hill.
- Atwater, L. E., Waldman, D. A. Carey, J. A. & Carder, P. (2001). Recipient and Observer Reactions to Discipline: Are Managers Experiencing Wishful Thinking? *Journal of Organizational Behavior* 22: 249-270.

- Ball, G. A. & Sims, H. P. (2001). A Conceptual Analysis of Cognition and Affect in Organizational Punishment. *Human Resource Management Review* 1: 227-243.
- Barnat, R. (2005). *The Primary Types of Organizational Control*. Retrieved on 1 August 2008 from <http://www.strategic-control.24xls.com/en113>
- Baron, R. A. (1988). Negative Effects of Destructive Criticism: Impact on Conflict, Self-Efficacy, and Task Performance. *Journal of Applied Psychology* 73: 200-207.
- Benison, M., (2007). *Internal Control Guide, Office of the Comptroller, Quality Assurance Bureau*. Retrieved 18 August from http://www.mass.gov/Aosc/docs/business_functions/bf
- Bennett, R (2007). *Management*, Pearson professional limited, London, Great Britain.
- Black, B. (2006). The Uncertain Relationship Between Board Composition and Firm Performance, *Business Lawyer*, 54, 921-963.
- Brewer, D., & List, W., (2004). *Measuring the Effectiveness of an Internal Control System*, Wm.List & Co. Retrieved 18 August from <http://www.gammassl.co.uk/topics/time/time040317.pdf>
- Buchanan, J. M. & Musgrave, R. A. (2001). *Public Finance and Public Choice: Two Contrasting Visions of the State*. MIT Press.
- Butterfield, K. D., Trevino, L. K. & Ball, G. A. (2006). Punishment from the Manager's Perspective: A Grounded Investigation and Inductive Model. *Academy of Management Journal* 39 (6): 1479-1512.
- Davis, K. (2009). *Human Behavior at Work: Organizational Behavior* (Revised) New York, McGraw-Hill, USA.
- Grasha, A. F. (2000). *Practical Applications of Psychology* (3rd Ed). Little Brown & Company Ltd. Boston, U.S.A.
- Jones, G. R. George, J. M. & Hill, C. W. L. (2002). *Contemporary management*, 2nd ed., U.S.A: McGraw-Hill Co.
- Kazdin, A. E. (2005). *Behavior Modification in Applied Settings*. Homewood, IL: Dorsey.
- Koontz, H. & Weihrich, H. (2008). *Essentials of Management*, Fifth edition, Tata McGraw publishing company limited. New York.U.S.A.
- Kreitner, R (2001). *Management*. 8th Edition New York: Houghton Mifflin.
- Maicibi, N. A. (2005). *Pertinent Issues in Management; Human Resource and Educational Management*. Nets Media Publishers Limited. Kampala, Uganda.
- McGladrey, F. & Pullen, C. (2002). *Assessing the Effectiveness of Internal Control over Financial Reporting*. Retrieved 18 August from http://www.mcgladrey.com/Resource_Center/Articles/SarbanesOxleyActInternalControl
- Messages, M. Brown, D. M. & Baregu, M. (2005). Swings and roundabouts: Centralization and devolution in a multi campus university in South Africa. *Higher Education*, 13(8), 19–21.
- Mullins, J. L (2002). *Management and organizational behavior*, Financial times Pitsman publishing Imprint London, Great Britain.
- Musgrave, H. (2000). *The Theory of Public Finance: A Study in Public Economy*. McGraw-Hill.
- Nkata, J. L (2005). *Emerging Issues in Education Management in Developing Countries in the 21st Century*, Maasah Publishers Limited. Kampala, Uganda.
- Okelowange, H. (2002). *Improving Management and Governance to Facilitate Stability and Change in African Universities*. Background paper for the Joint AAU/DAE Colloquium on the University in Africa in the 2000s and Beyond, Lesotho. Accra, Ghana: Association of African Universities.

- Okumbe, J.A (2008). *Educational Management, Theory and Practice*. Nairobi University press, Nairobi, Kenya.
- Ouchi, W. C. (2007). The Relationship Between Organizational Structure and Organizational Control. *Administrative Science Quarterly*, 22(1):95.
- Parke, R. D. (2002). Some Effects of Punishment on Children's Behavior. *The Young Child: Reviews of Research*. Ed. W. W. Hartup. Washington, DC: National Association for the Education of Young Children.
- Payne, A. Mullins, L. J., Robbins SP & Barnwell, N. (2008). *Management*, Prentice Hall, Sydney
- Przeworski, A. (2003). States and Markets. *A Primer in Political Economy*. Cambridge: Cambridge University Press.
- Rumki, B. (2004). *Public Administration Concepts and Theories*. Sterling publishers Private limited New Delhi, India.
- Trevio, L. K. (2002). The Social Effects of Punishment in Organizations: A Justice Perspective. *Academy of Management Review* 17 (4): 647-676.
- Uganda Prison Services Projects Report, (2005). The Uganda Prison Services.
- Weber, M. (1958). *The Theory of Social and Economic Organization*. New York: Henderson and Parsons.
- Whiteley A. & Younger-Ross, S. (2005). *Quality measurement: setting standards*. Devon Social Services Department

Appendix 2: YAMANE'S (1967) SAMPLE SIZE TABLE

Size of Population	Sample Size (n) for Precision (e) of:		
	±5%	±7%	±10%
100	81	67	51
125	96	78	56
150	110	86	61
175	122	94	64
200	134	101	67
225	144	107	70
250	154	112	72
275	163	117	74
300	172	121	76
325	180	125	77
350	187	129	78
375	194	132	80
400	201	135	81
425	207	138	82
450	212	140	82

Exchange Rates, Money Growth and the Inflation Process: Evidence from Uganda's recent inflation experiences

Turyareeba Dickson & Abaliwano Joyce

Abstract

The recent inflationary pressures experienced in Uganda recording a rise from a 5percent year-on-year headline inflation in January 2011 to hitting the peak at 30.5percent in October 2011 have generated a lot of debate from public diaspora with mixed views and speculations on the possible sources of the problem. This study particularly focuses on two possible forces: unfavorable exchanges rate changes against the shilling and growth in monetary aggregates; and investigates the extent to which these forces have been responsible for the inflation process. The study utilizes monthly frequency data for the period spanning June 2009- July 2012. The study employs econometric time series techniques namely unit root tests, causality tests, cointegration analysis, correlation analysis and later regression analysis.

Over the entire sample period in the short run, we find that the depreciating shilling has had a positive and significant causal effect on inflation but after some time lag. The study on the other hand establishes that increases in monetary aggregates over the sample period have had a positive but insignificant impact on rises in domestic prices. Finally the study establishes that both exchange rate movements and changes in money supply account for about one-fifth (20 percent) of the total variations in the inflation process.

Key Words: Exchange rates, money growth, inflation, Uganda.

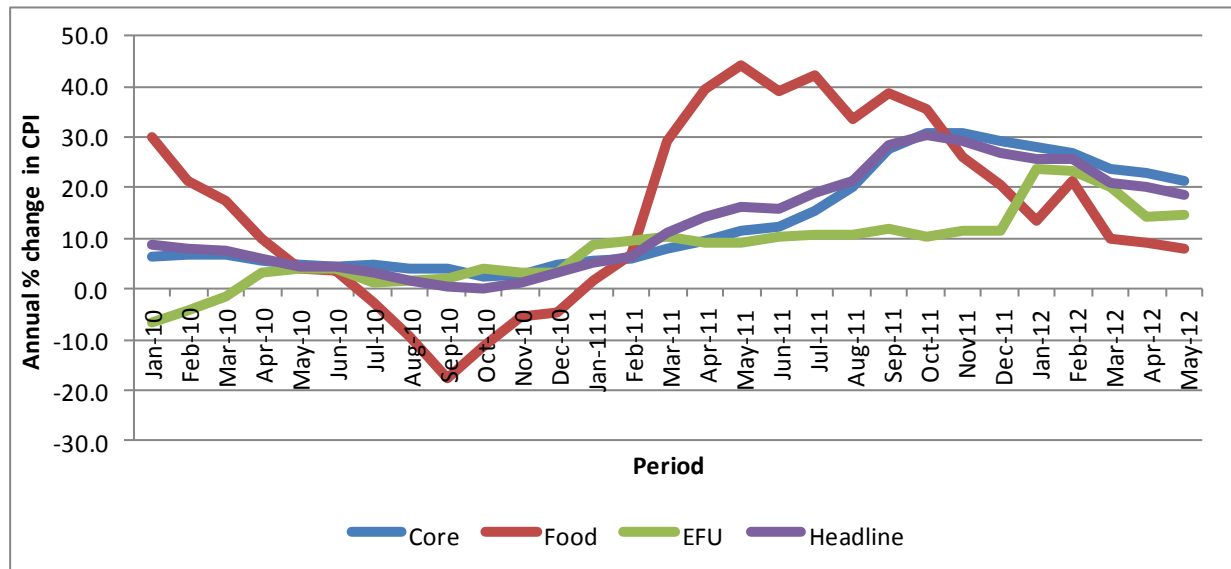
Introduction

Macroeconomic indicators are majorly used to demonstrate the macroeconomic strength of countries. Among the most important is inflation which is used to measure price stability of a nation. Sharp increases in the general price level could reduce economic growth and exacerbate poverty levels. For open-economy countries, inflation comes from domestic factors (internal pressure) and also overseas factors (external pressure). The sources of external factors are the increase in the world commodity prices or exchange rate fluctuations. Since the beginning of the year 2011, Uganda has experienced a sharp rise in inflation which made the common man continue to feel and suffer the consequences. This trend in rising prices has caused macroeconomic instability and henceforth a potential risk to sustainability of the relatively good macroeconomic performance the country had registered since late 1980s. Across the region, Uganda has experienced the highest rising prices, with mixed views and speculations on the possible sources of the surging prices.

According to the figures revealed by Uganda Bureau of Statistics (UBOS), annual head line inflation rate measured 5 percent for the year ending January 2011, 11.1 percent for the year ending March 2011, 16.1 percent for the year ending May2011, 21.4 percent for the year ending August 2011 to hitting the peak at 30.5 percent in for the year ending October 2011. With implementation of a tight monetary policy and other measures to increase food production as anti-inflation policy measures, the year-on- year headline inflation has been subdued to 18.6 percent, 18.0 percent and 14.3 percent for the year ending May, June and July 2012 respectively. Core inflation which excludes food crops, tobacco leaves, fresh milk, electricity, fuel and metered water also slid slightly from 21.2 percent in May 2012 to 19.6 percent in June 2012 and

then to 15.5 percent in July 2012. UBOS indicated that although prices were on a general decline, they were still high in two-digit figures compared to about one and a half years ago when inflation was in single digit. Despite the tight monetary policy and public campaign to increase food production, UBOS maintained that the rate at which prices are coming down was slower than the rate at which they are (were) going up.

Figure1: Annual headline, food, core and EFU Inflation (Jan. 2010-May 2012)



Source: Generated by the Author based on BOU data

Annual percentage changes reveal that headline, core, food and EFU were either in single digit figures or even negative from April 2010 to February 2011. Annual headline inflation raised to two digits in March 2011, the main driver being food crop inflation. Between February and March 2011, headline inflation rose by 4.8 percent. Headline inflation continuously increased in the range of two digits up to when it reached its peak at 30.5 percent in October 2011. During the same period core, food crop and EFU inflation were on the upward trend, with food crop inflation rising highest. According to Bank of Uganda (BOU)¹, the increase in food crop inflation was attributed to decreased supplies to the market. Substantial monthly price increases were recorded for Matooke, sweet potatoes, Irish Potatoes, onions, pineapples, passion fruits, beans, maize four, rice and milk (BOU, 2012). Slight decreases in headline and core inflation began to be recorded from November 2011, and substantial decrease in food crop inflation.

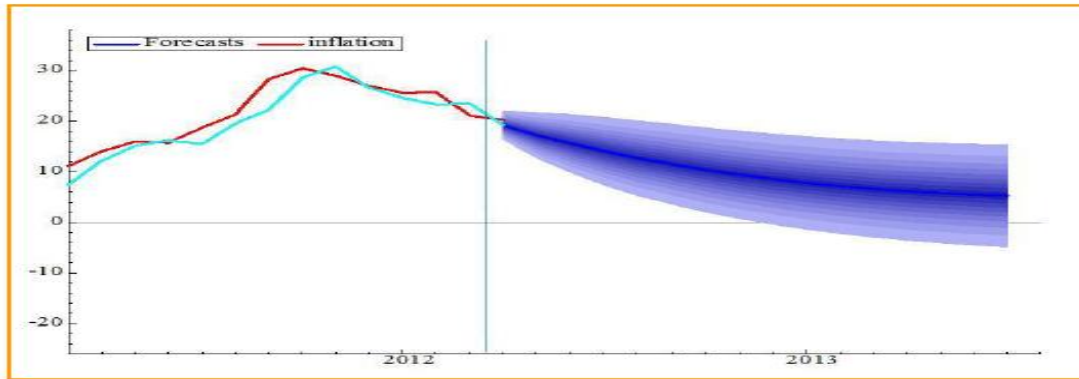
Headline Inflation forecasts

With the implementation of measures to reduce the costs of doing business, addressing supply side constraints and maintaining a tight monetary policy, the BOU during the month of May 2012 was optimistic that headline inflation was expected to follow a downward trend over the following few months, but maintained that the pace might be slower than earlier projected. BOU pointed out that uncertainties in the weather patterns may increase risks of food inflation that may

¹ Bank of Uganda is the Central Bank of the Republic of Uganda. The primary purpose of the Bank is to foster price stability and a sound financial system. Together with other institutions, it also plays a pivotal role as a centre of excellence in upholding macroeconomic stability.

as well have a spillover effect on headline inflation. Consequently the actual forecasts may deviate from the forecast headline inflation.

Figure2: Headline inflation forecasts



Source: BOU monetary policy report, May 2012

The most recent inflation forecast indicates a rate of about 8 percent for March 2013 while June 2013 forecast indicate a rate of about 6 percent. These forecasts were mainly based on the assumption that the exchange rate will remain stable in the range of Shs.2500- 2800 per US \$ (BOU, 2012). According to the information depicted in Figure 2 above, inflation forecast reveals that inflation is expected to rescind as we move through 2013 but with less confidence level.

Hypothesis

The persistent depreciating Ugandan shilling and the increase in monetary aggregates are fundamental forces that have brought escalating domestic prices in Uganda in the recent period.

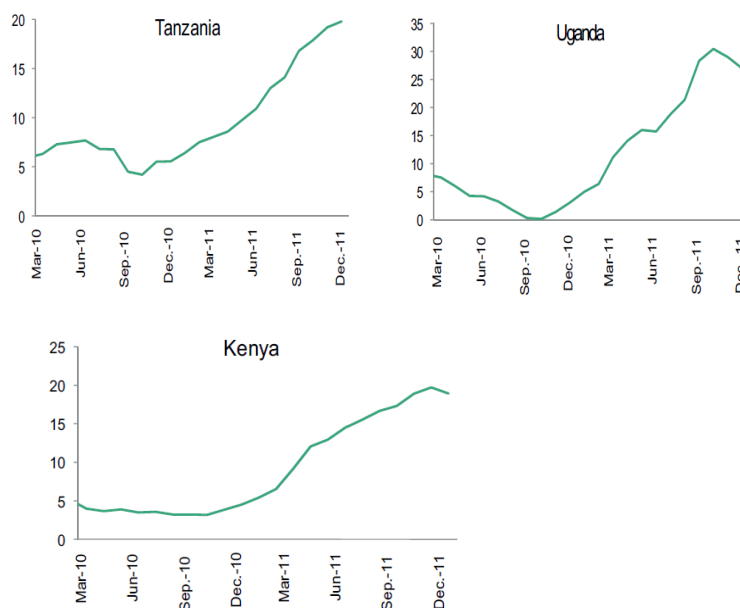
The above hypothesis is based on two major foundations:

- (i) A sample of 20 business people dealing mainly in imported items revealed that the most important drivers of high cost of doing business in Uganda in the recent period is the high cost of a dollar (depreciated Uganda Shilling). The low-value shilling hurts the business community at two levels: first at the spot exchange at which much more shillings are exchanged for dollars; and second when paying taxes. The taxes are paid in dollars which is more stable compared to a shilling. Businessmen being driven by profit maximization end up shifting the high costs embedded in foreign exchange to consumers. Additionally we take seriously the actions of Kampala City Traders Association (KACITA) in 2011 that included calls for government to intervene in the foreign exchange market to bring down the exchange rate.
- (ii) According to UBOS, money supply (M3) increased from 8,293.10 Billion Shillings to 10,437.79 Billion Shillings between June 2010 and June 2011, representing an increment of 25.9 percent. Likewise, money supply (M2) increased by 29.9 percent from 6,411.7 Billion Shillings to 7,945.8 Billion Shillings during the same period. The amount of currency in circulation increases by 31.6 percent from 1,443.2 Billion shillings in June 2010 to 1,899.6 Billion shillings in June 2011 (UBOS, 2012). This trend in the amount of money in circulation is a clear manifestation of increased money aggregates relative to money demand in equilibrium condition, a potential basis of rising domestic prices.

A comparative cursor on inflation trends in selected East African countries

Across the East African region, inflation has spiraled out of control since the year end 2010. Among the three East African countries however, Uganda has registered the highest average price levels in the past one and half years averaging 18.7 percent year-on-year headline inflation between December 2010 and May 2012. According to UBOS, food prices have been identified as the major driver of inflation in Uganda. The AFDB brief 2012 however points at money growth to have been the major force of inflationary pressures experienced in Uganda in the recent past accounting for about one-third (AFDB, 2012). According to Kenya National Bureau of Statistics, Kenya's overall inflation rate stood at 10.05 percent in June 2012. Between May 2011 and June 2012, Kenya's inflation rate averaged 15.96 percent. From Tanzanian historical records since 1999 to 2012, Tanzania inflation rate reached an all-time high of 19.8 Percent in December 2011. In June 2012, inflation in Tanzania was recorded at 17.4 percent. In Kenya and Tanzania, oil prices seem to have driven inflation accounting for 20 percent and 26 percent respectively. In the same countries, money growth is also thought to have contributed significantly to surges in the domestic prices.

Figure3: Annual inflation trends in some selected countries in East Africa (March 2010-December 2011)



Source: AFDB computations based on data from National Statistical Authorities Data

Policy Response: The anti-inflation intervention measures in Uganda

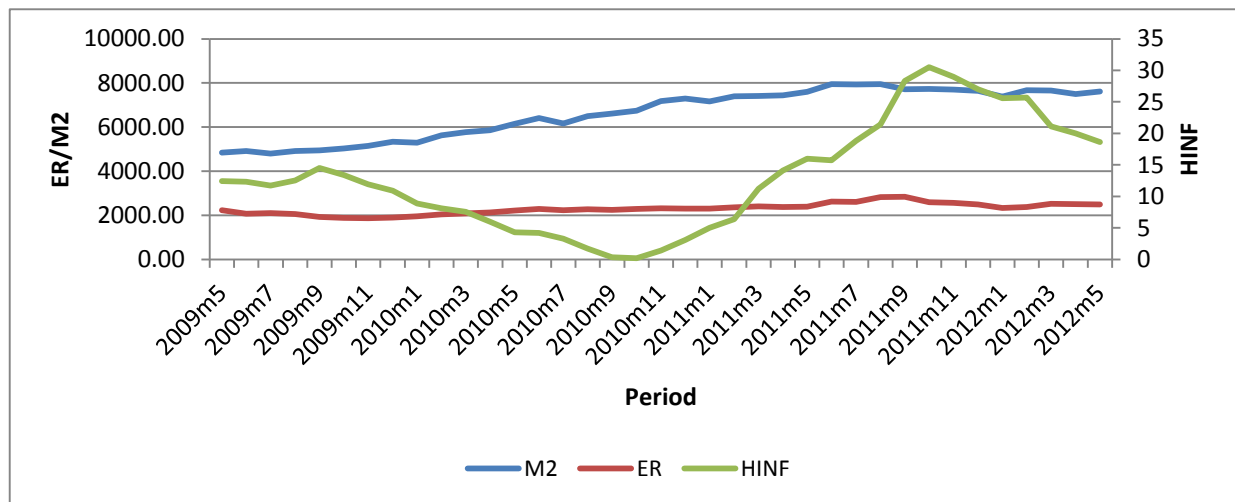
As already noted, since the beginning of the calendar year 2011, unprecedented surges in general price levels were witnessed as year-on-year changes in the CPI rose from a single digit level of 5 percent in January 2011 to a running figure of 30.5 percent in October 2011. At this level, worries of the possible run-away inflation and collapse of the economy came to fill the minds of government technocrats, the central monetary authority and the general public. Within its mandate, the Bank of Uganda responded by putting in place some short term measures to curb the rising inflation and its adverse effects. These short term measures are the ones devised to address the evil caused by domestic factors, excluding supply shocks. The most notable of such

measures was an upward revision of the central bank rate (CBR)². The drive was to increase the cost of borrowing money and curtail aggregate demand, believed to have originated from excess liquidity among the public. The BoU increased the CBR by 1000 basis points, from 13 percent in July to 23 percent in November 2011. This intervention in turn has been the major driver behind the 4- 5 percent point rise in average commercial bank lending rates seen to date. This intervention, together with other ant-inflation measures devised by the government have so been partially successful, bringing inflation levels from 30.5 percent in October 2011 to 18.6 percent in May 2012 and to 14.3 percent in July 2012. This success may however not be credited to the tight monetary policy in isolation, but may be a complementary result of the policy and rising quantities of food produce.

The Central Bank has published advocacy messages to both government and the general public to address supply side constraints. BOU has stressed that structural reforms are needed to strengthen Uganda's capacity to produce and store food and to make food production more resilient to climatic shocks. It was further noted that the need to invest in irrigation and crop storage facilities and the introduction of disease resistant varieties are essential in solving the supply side shocks which explain the record levels of inflation seen in the recent past. BOU has quoted that “The primary cause of the rise in inflation are the developments in the supply and demand for food”. It should be noted that the measures so far implemented to tackle the inflation problem in Uganda have only yielded temporary relief, bringing down the annual headline inflation from 30.5 percent in October 2011 to a staggering rate of around 18 percent by June 2012. The efforts to bring the inflation rate to a single digit remain a formidable challenge for policy makers.

Trends in exchange rates, money growth and Inflation in Uganda

Figure4: Exchange rates³ , money growth and headline inflation in Uganda (May 2009-May2012)



Source: Author based on BOU data

² The CBR is the rate at which the BoU lends to commercial banks. It is often used by the Central Bank to stabilize prices in the event that monetary aggregates in the economy are excessive in relation to demand.

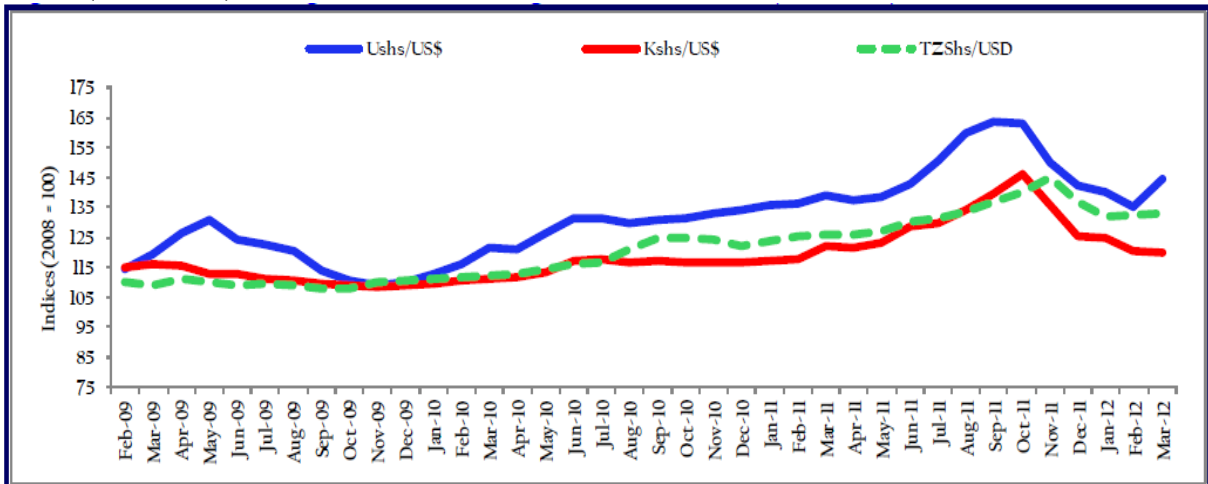
³ These are Official exchange rate quotations expressing domestic currency per unit of the foreign currency (the US dollar)

Most recent Exchange rate developments

In the month of April 2012, the price of a dollar in terms of Ugandan currency was at Ushs 2506.2 recording a depreciation of 0.85 percent rate on month-on-month basis. On annual basis, the Uganda shilling depreciated by 5.85 percent in May 2012 from Ushs 2367.59/US\$ in April 2012.

On regional basis, Kenyan shilling depreciated by 0.3 percent on monthly basis to an average mid-rate of Kshs 83.19/US\$ in April 2012. In Rwanda the Franc also depreciated by 0.1 percent to an average mid-rate of RWF 606.94/US\$ in April 2012. The Tanzania shilling also depreciated by about 5 percent against the dollar between the period April 2011 and April 2012, reaching an historical high of Tshs1813.5/US\$ in October 2011.

Figure5: Exchange rate trends of local currencies of East African countries against the US Dollar (2008=100)



Source: Bank of Uganda, Monetary review report May 2010

Relationship between exchange rates and inflation: Literature and Empirical studies

The influence of exchange rate towards inflation itself depends on the choice of exchange rate regime in the country (Noer et. al, 2010). In the system of floating exchange rates, exchange rate fluctuations can have a strong impact on the level of prices through the aggregate demand (AD) and aggregate supply (AS). A floating exchange rate regime allows domestic and foreign prices to align. Such movements in the exchange rate should therefore allow the pass-through effects of the external developments into the domestic economy as one-off adjustment (ADB, 2010).

It is argued that if a (consumer) country depends on imports from another (supplier) country but the traders in the recipient country do not match their exports with the imports from the supplying country, and if the exchange rate becomes *significantly adverse* against the recipient country and there is no alternative supply, and the consumers in the importing country are willing and able to pay more for the goods being imported, and the demand and supply does not change, then trade will continue, and imports will be dearer. The increased cost will then be passed on to the consumer. In this simplistic situation where the exchange rate is the main influencing variable, then inflation will occur.

Some empirical studies have shown that exchange rates can determine inflation but also inflation may determine exchange rates (see for example Magda and Hanan, 2009; Bogdan, 2003; Angel, 1997). Ndungu' (1997), using the Granger Non-Causality Test based on Kenyan Data during the period of 1970-1993 showed that the level of domestic inflation and exchange rate changes affect each other.

A linkage between Money supply and inflation: Some theoretical perspectives

The relation between money and prices is historically associated with the classical economists in quantity theory of money. The classical economists regard inflation as a “destroying disease born out of lack of monetary control whose results undermine the rules of business, creating havoc in the market and financial ruin of even the prudent”. They therefore argue that inflation is basically a monetary phenomenon. The neo-classical economists maintain that increases in money supply are accompanied by increases in prices. The relation between inflation and money supply in the classical economists view start with the Cambridge's equation of exchange:

$$MV = PQ \dots\dots\dots (A)$$

Where:

V is the velocity of money in circulation;

M is money supply

P is the is the price level associated with transactions for the economy during the period

Q is the aggregate output or total volume of transactions

The equation of exchange can be used to form a relation describing the effect of monetary growth on inflation. Fromm equation (A), we get:

$$P = \frac{M.V}{Q} \dots\dots\dots (B)$$

If V and Q were constant, then:

$$\frac{dP}{P} = k \frac{dM}{M} \dots\dots\dots (C)$$

and thus

$$\frac{dP/P}{dt} = k \frac{dM/M}{dt} \dots\dots\dots (D)$$

Where t is time.

That is to say that, if V and Q were constant, then the inflation rate would be directly proportional to the growth rate in money supply. In short, the inflation rate is a function of the monetary growth rate.

A review on the documented possible causes of inflation in Uganda in the recent past

The sources of surges in prices in Uganda especially from January 2011 have generated many ‘schools of thought’ and a lot of public debate. Different views originating from different categories of people ranging from the politicians, civil society, technocrats, scholars, business people, monetary authority and the general public have been heard and register, some of which with varying degrees of speculations and subjectivity. We point a precursor at some of these views.

Food inflation has so far been documented as the major driver of inflation in the country. Food prices have been driven up by supply side shocks to agriculture, both domestic and external

(Mugume, 2012). Shortages in food supply in the country have been reported⁴ to be brought about by the drought, scarcity in agricultural inputs and structural lag in production. In September 2012, food prices stood at 50.4 percent in September 2011. Data from the Uganda Bureau of Statistics showed the country's food crop inflation registered an annual inflation rate of 44.1% for the year ending May 31 2011, from 39.3% in April and 2.1% in March, mainly due to food shortages. Hisali, E. (2011)⁵ attributes the recent increases in food prices in Uganda to increases in the international food prices which could have had pass through effects on domestic prices.

Exchange rate depreciation: The sharp rise in inflation is the impact of exchange rate depreciation on imported goods prices, including fuel (Mugume, A., 2012). The exchange rate has depreciated by 71 per cent between September 2008 and September 2011. It depreciated by 25 per cent against the US dollar between May 2011 and May 2012. The prices of traded goods, which are mostly imported, have risen much faster than the prices of non-traded goods, which are produced in Uganda (annual inflation was 33 per cent for traded goods and 8 per cent for non-traded goods in May 2012). Joseph van Eindhoven⁶ reports that the dip encroachment of foreign exchange reserves to finance fighter jets fueled the depreciation of the Uganda currency. At the policy level, the reduction in the international reserve position mainly for security related reasons fueled speculative pressure resulting in the sharpest depreciation of the shilling since its liberalization in 1993.

Speculation: speculation has been part and parcel of the current inflation trends. When prices are expected to go high, economic agents tend to integrate these expectations into the pricing of their commodities, negotiation of increased wages and contractual price arrangements. When prices go high, for example on the world markets, speculation starts locally, and this drives prices high, at times higher than the movements on the global markets.

Fiscal indiscipline that resulted in excess liquidity: As Agaba-Agaba⁷ says, ever since the current President of Uganda was sworn in after the February 2011 polls through to the reading of the National Budget in June 2012 just after his state of nation address, we have seen inflation soar. The popular belief in Uganda's elite and middle class circles is that the supplementary budgets hastily approved in December 2010, Ushs 20 million wired to MPs personal accounts under the guise of monitoring government programs and the huge sums of money spent in the Presidential Campaign were some of the underlying causes of the excess liquidity in the economy that ultimately triggered off inflation. The move by central bank to take control of the economy in the wake of government's demand for approval of supplementary budget of over 151.6 billion shillings in April 2011 for the recurrent, statutory and development expenditures contributed significantly in the increase of aggregate money supply. Furthermore, the Chief Commander's decision to break into the foreign exchange reserves to buy Russian fighter jets depleted

⁴ See article by Enock Nyorekwa Twinoburyo on "Inflation: Any Reprieve for Uganda?"

⁵ Dr. Elia Hisali is a senior lecturer of Economics at the College of Business and Management Sciences (CoBAMS)-Makerere University. This particular information was extracted from his contribution in an article on causes of inflation in Uganda. For more information read his article on "insights into the recent inflation episodes in Uganda" in CoBAMS e-newsletter 'CoBAMS Connexion', Issue 2, Vol.1 Dec. 2011.

⁶ He is a reporter of the Daily Monitor Newspaper. See posted article on "causes of Inflation in Uganda and possible solutions" Friday, October 14 2011.

⁷ He wrote an article that appeared in the Monitor newspaper of 13th November 2011 on cause of excess liquidity that triggered inflationary pressure in the Country.

Uganda's foreign exchange reserves and thus impeded the Central Bank's capacity to intervene in the foreign exchange markets thus providing fertile ground for speculators and shrewd foreign currency traders to ripple up the foreign exchange markets. This ultimately affected importers of essential goods like oil and commercial foods, production inputs etc. Considering that Uganda's foreign exchange reserves had fallen to \$2.2bn in June 2011, compared to \$2.5bn and \$2.4 bn in June 2010 and June 2009 respectively, it was clear the Central Bank would be strained in its efforts to intervene in the foreign exchange markets and also keep a minimum of 6 months of import cover.

Imported inflation: The other school of thought has linked the current inflation in Uganda to be imported. Apart from the exchange rate depreciation, inflation in Uganda has been reported to have been brought about by the rising oil/ fuel prices in the oil exporting countries. The increase in prices per barrel of fuel has been mainly due to shortages on the world market arising out of the uprisings in Middle East and North Africa. The price of crude oil per barrel on the international market increased by 13 percent from 104.26 USD in December 2011 to 117.79 USD in March 2012. High fuel prices have direct and indirect effects on the cost of production on manufactured goods, as well as food production since fuel; including natural gas is used at every stage of agricultural production.

The theoretical model

This study adopted the theoretical model consistent with that of Kamin and Clau (2003). In line with this model, we formulate the theoretical inflation equation as:

$$\Delta p_t = -\Omega + \varphi_1 \Delta p_{t-1} + \dots + \varphi_n \Delta p_{t-n} + \beta_1 \Delta rer_t + \dots + \beta_m \Delta rer_{t-m} + \theta \Delta p^*_t + \mu(q_h - \bar{q}_h)_{t-i} + \gamma \delta_t + u_t \dots \dots \dots (1)$$

where:

Δp_t is domestic inflation in the current period

Δp_{t-i} is the lag of domestic inflation

Δp^*_t is foreign inflation

$(q_h - \bar{q}_h)_{t-i}$ is the lag of output gap

rer_t is the current real exchange rate and rer_{t-i} is the lag of the real exchange rate⁸

δ_t is a measure of volatility in the real exchange rate at time t .

u is the disturbance term

The empirical model

In this study we undertake a related version to Kamin and Clau (2003) inflation model but augment it with money supply variable. We specify an empirical distributed lag (DL) inflation model as:

$$HINF_t = -\xi + \xi_0 ER_t + \xi_1 ER_{t-1} + \dots + \xi_i ER_{t-i} + \psi_0 M2_t + \psi_1 M2_{t-1} + \dots + \psi_j M2_{t-j} + \varepsilon_t \dots \dots \dots (2)$$

Where:

$HINF$ is monthly computed year-on-year headline inflation

ER is the monthly measured official exchange rate

$M2$ is money supply

⁸ An increase in the real exchange rate implies a depreciating local currency.

ε is the “noise” component

We later modified equation (2) to establish whether head line inflation was self-creating over the period of study. We therefore included the lags of headline inflation as independent variables in the inflation equation to form the Autoregressive distributed lag inflation (ARDL) model. Our empirical relationship of the inflation equation became:

(3)

$$HINF_t = -\Omega + \omega_1 HINF_{t-1} + \dots + \omega_k HINF_{t-k} + \xi_0 ER_t + \xi_1 ER_{t-1} + \dots + \xi_i ER_{t-i} + \psi_0 M2_t + \psi_1 M2_{t-1} + \dots + \psi_j M2_{t-j} + \mu_t$$

Data treatment

The Unit root Tests

We begin by unit root tests on the variables in the specified empirical model. We do this because these tests are necessary (although not sufficient) for cointegration tests. We use two methods: the Augmented Dickey-Fuller (ADF) and the Zivot and Andrews unit root tests. However, the former unit root test procedure has been criticized by Perron (1989) on the ground that it does not take into account the possibility of structural shocks which may bias unit root test results. According to Perron, most macroeconomic time series are not actually characterized by presence of a unit root but rather that persistence arises only from a large and infrequent shocks, and that the economy returns to its deterministic trend after a small and frequent shocks (Glynn et.al., 2007). Perron’s unit root test allows for a single exogenous structural break. But again, Perron’s known assumption of the break date was criticized notably by Banerjee *et al* (1992), Christiano (1992) and Zivot and Andrews (1992), who argued that selecting the structural break a priori based on an ex post examination or knowledge of the data could lead to an over rejection of the unit root hypothesis. Zivot and Andrews (1992) unit root test procedure endogenizes the structural break points, utilizes the full sample and uses a different dummy variable for each possible break data.

For the matter of comparative analysis, this study employs both the ADF and Zivot and Andrews unit root test procedures but finally choses the Zivot and Andrews test results for empirical analysis.

The Time-Series graphs

As a rather more rough idea on establishing the stationarity of the variables, we begin by examining the time series graphs to study the behavior of the variables of interest overtime, when the series are in levels, first and second difference and so forth.

Figure 6a: Time series graphs for the inflation variable

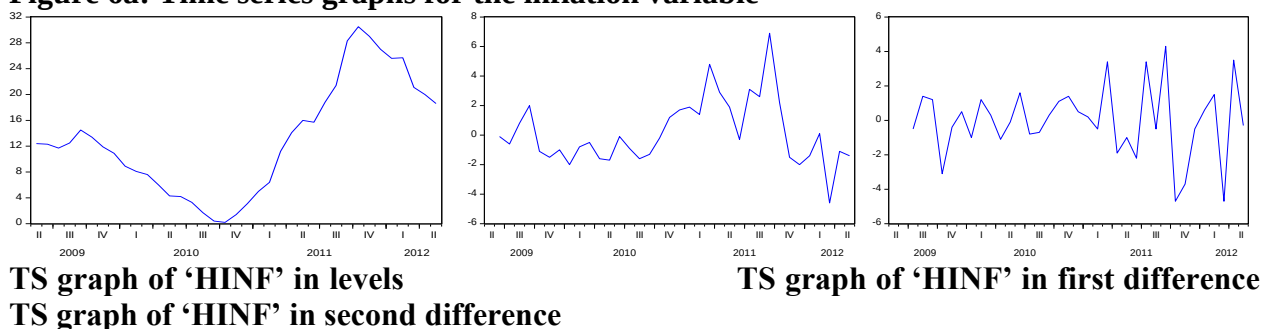
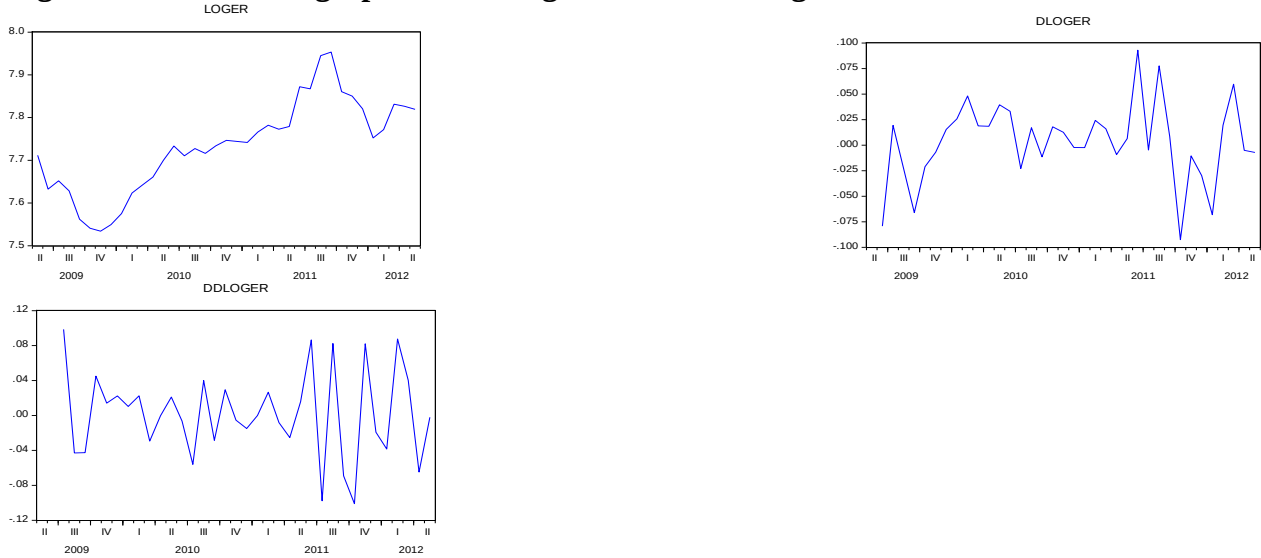


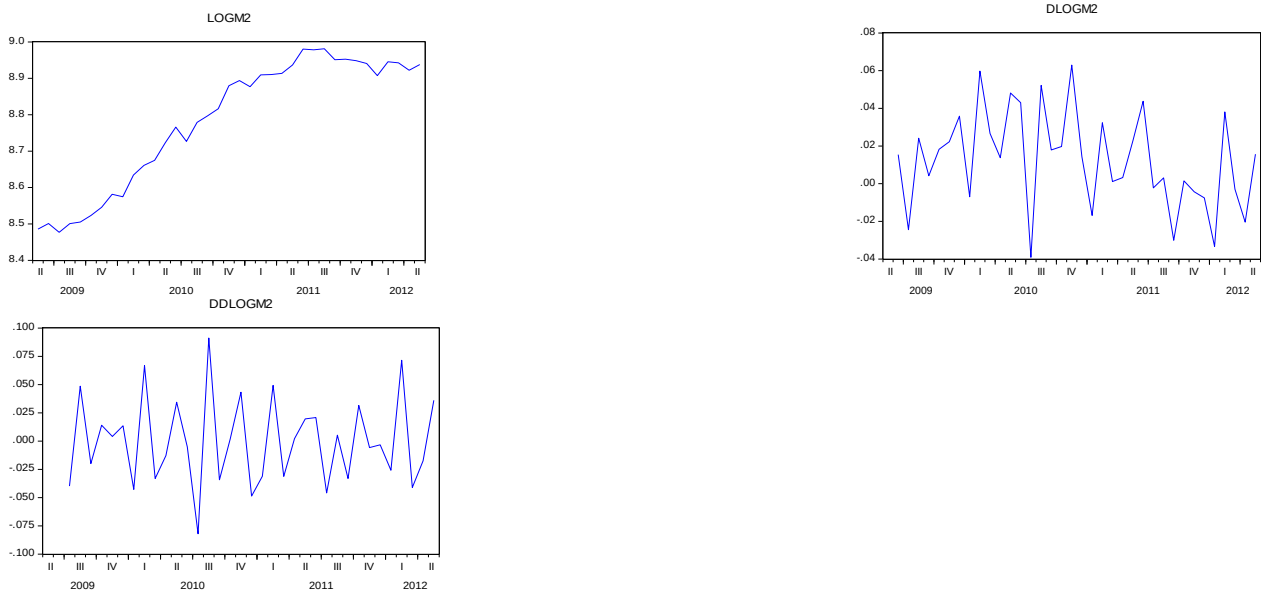
Figure6b: Time series graphs for the logarithm of exchange rate variable



**TS graph of 'LOGER' in levels
of 'LOGER' in second difference**

TS graph of 'LOGER' in first difference

Figure6c: Time series graphs for the logarithm of M2 variable



**TS graph of 'LOGM2' in levels
of 'LOGM2' in second difference**

TS graph of 'LOGM2' in first difference

We recognize that there is quite a lot of ambiguity in determining the order of integration for all the variables using the time series graphs generated. We proceed to a more concrete test for stationarity by use of some formal unit root test procedures such as the ADF and the Zivot and Andrews unit root test procedures. For the ADF tests, we found it more appropriate to allow a trend term to be included in the underlying regressions, while in the Zivot and Andrews tests, we found it more appropriate to allow break in the trend.

Table1: Unit root tests and order of integration of the variables

Variable	ADF statistic (variable in levels: Optimum lag=2 for HINF, =1 for LOGER & LOGM2)	ADF statistic (variable in first difference: Optimum lag=1 for HINF, =0 for LOGER & LOGM2]	ADF statistic (variable in second difference: Optimum lag=0 for all variables	Zandrews minimum t-statistic (variable in levels) [Optimum lag=2 for HINF, =1 for LOGER & LOGM2]	Zandrews statistic (variable in first difference) [Optimum lag=1]	Zandrews statistic (variable in second difference) [Optimum lag=1 for HINF, 0 for LOGER]	Order of integration of the variables (based on Zandrews test)
HINF	-1.531	-2.373	-7.566*	-2.338	-4.286	-5.881**	I(2)
LOGER	-1.235	-5.438 *	---	-3.312	-3.168	-7.904**	I(2)
LOGM2	-1.818	-6.406*	---	-4.380	-3.792	-9.682**	I(2)

ADF- Mackinnon Critical values at 5 percent = -2.975, -2.972, -2.972 for HINF, LOGER & LOGM2 respectively

Zandrews Critical value at 5 percent= -4.42

* Statistically significant at 5 percent (ADF) Mackinnon critical value

** Statistically significant at 5 percent (Zandrews) critical value

We find agreement and yet some dis-agreements in the order of integration of the variables reported by the two unit root test procedures. For instance both the ADF and the zandrews unit root tests are in agreement that the variables Headline inflation (denoted by 'HINF'), is integrated of order two, I(2). However the two unit root test procedures report different orders of integration for the variables, ' LOGER' and ' LOGM2'. We finally take the order of integration of the variables reported by the zandrews unit root test procedure, which also seems to be coherent with the Time Series graphs.

Cointegration Test in the Inflation Equation

After establishing that all the variables specified in the inflation equation are integrated of the same order, we proceed to perform a cointegration test. The cointegration test is to establish whether or not there is any long run equilibrium relationship or a common stochastic trend between changes in CPI, money growth and exchange rates. The idea of a long term equilibrium relationship implies that a positive shock in the current period will be reduced in the future (for example, an inflationary push today should be addressed by a contractive monetary policy tomorrow). We employ a cointegration test due to Johansen (1988, 1991) and Stock and Watson (1988) which is based on the VAR approach. We particularly interpret the estimated trace statistic reported by the test procedure. The trace statistic tests the null hypothesis of r cointegrating vectors against the alternative of r or more cointegrating vectors (Arshad et. al, 2008).

In the cointegration test, we first establish the optimum lag length in the underlying VAR model associated with the empirical model. We base ourselves on Hannan and Quinn Information

Criteria (HQIC) and Swartz's Bayesian Information Criteria (SBIC) to select the appropriate lag order for the test.

Table2: The Johansen Cointegration test (Optimal lag # =2)

Johansen tests for cointegration

Trend: constant

Number of obs = 35

maximum rank	parms	LL	eigenvalue	trace statistic	5% critical value
0	12	84.082031	.	26.4584*	29.68
1	17	91.854482	0.35862	10.9135	15.41
2	20	95.833626	0.20338	2.9552	3.76
3	21	97.311225	0.08097		

In testing for cointegration, we used various options (e.g. including a restricted constant, including a linear trend and quadratic trend in un-differenced data as well as including a restricted trend in the model). We found that none of the various options indicated any presence of cointegration. As reported in the Table2, the trace statistic indicates that the estimated cointegration rank of the VECM is zero. In other words the trace statistic shows that the number of cointegration equations in the vector error correction model for the inflation equation is zero. This result indicates that the Johansen cointegration tests fails to detect any cointegrating relationships in the inflation equation. The results imply that the data generating process over the sample period chosen does not inherently depict any long run equilibrium relationship between inflation and exchange rate. This kind of cointegration results tell us that the inflation specification can be modeled as a short run relationship.

Causality tests

Literature and empirical studies show that exchange rates can determine inflation but also inflation may determine exchange rates (see for example Magda and Hanan, 2009; Bogdan, 2003; Angel, 1997). One of the main objectives of this study is to investigate the actual direction of causality on variable observations for Uganda. We employ the causality test suggested by Angel and Granger (1969) in attempt to find an answer to the question of whether changes in exchange rates granger cause changes in headline inflation or its rather changes in headline inflation that granger cause changes in exchange rates or that both variables granger cause each other or that none of the variables granger causes each other.

Because the granger causality test results are sensitive to the selected number of lags, we first determine the optimum lag order in the inflation equation when the variables are both in levels and differenced respectively. We base ourselves on Hannan and Quinn Information Criteria (HQIC)⁹ in the selection of the optimum lag order. This approach gave us an optimum lag-length of two (2) for the inflation equation with non-stationary variables and lag-length of one (1) with stationary variables.

⁹ For more information on lag order selection, see Hannan, E.J., and B.G. Quinn (1979): "The determination of the Order of an Autoregression," *Journal of the Royal Statistical Society, B*, 41, 190-195.

Table 3a: Granger causality between inflation and exchange rate (Optimum lags=2)¹⁰ with non-stationary variables

Null Hypothesis:	Obs	F-Statistic	Prob.
HINF does not Granger Cause LOGER	35	0.31243	0.7340
LOGER does not Granger Cause HINF		5.42533	0.0097

Table 3b: Granger causality between inflation and exchange rate (Optimum lags=2)¹¹ with stationary variables

Null Hypothesis:	Obs	F-Statistic	Prob.
DDHINF does not Granger Cause DDLOGER	32	0.68161	0.5716
DDLOGER does not Granger Cause DDHINF		3.42955	0.0323

Table 3c: Granger causality between inflation and money supply (Optimum lags=2) with non-stationary variables

Null Hypothesis:	Obs	F-Statistic	Prob.
HINF does not Granger Cause LOGM2	35	3.53497	0.0418
LOGM2 does not Granger Cause HINF		1.44752	0.2511

Table 3d: Granger causality between inflation and money supply (Optimum lags=1) with stationary variables

Null Hypothesis:	Obs	F-Statistic	Prob.
DDHINF does not Granger Cause DDLOGM2	34	0.03570	0.8514
DDLOGM2 does not Granger Cause DDHINF		0.03129	0.8607

At 1 percent and 5 percent level of significance with non-stationary variables as indicated in Table 3a, the Granger causality test does not reject the hypothesis that headline inflation does not granger cause exchange rates but rejects the hypothesis that exchange rate does not granger cause headline inflation. The implication of this test result is that causality runs from exchange rate to inflation and not vice versa. The causality test reports the same results when headline inflation and exchange rate are stationary (Table 3b). The conclusion is that there is evidence of

¹⁰ We chose the optimum lag-length on the basis of Swartz Bayesian Information Criteria(SBIC)

¹¹ We chose the optimum lag-length on the basis of Hannan and Quinn Information Criteria (HQIC) because SBIC gave a lag order of zero which is inconsistent with the Granger causality test procedure.

unidirectional causality from exchange rate to headline inflation when the implied variables are either stationary or non-stationary.

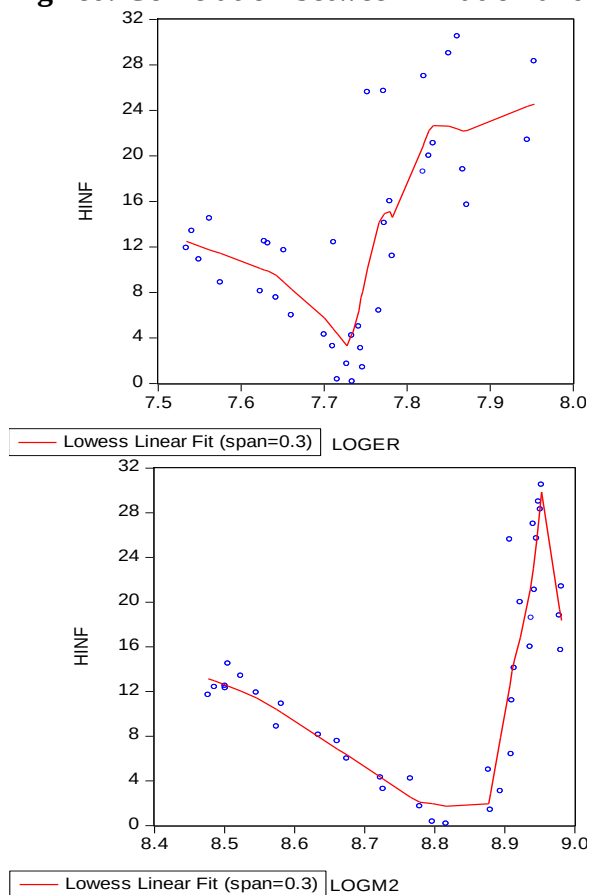
Table3c shows that at 1 percent level of significance with non-stationary variables both headline inflation and money supply do not granger cause each other. However, at 5 percent and 10 percent levels, causality seems to run from headline inflation to money supply. When both headline inflation and money supply are stationary, the granger causality test reports that none of the variables granger causes each other.

In the short run therefore, the causality test reveals no evidence of double causation between the hypothesized dependent variable and each of the independent variables in the inflation equation. This test results prompts the use of single equation estimation procedures to estimate the specified inflation equation.

The short run estimates of the inflation equation

Econometric theory tells us that it is naïve to use regression analysis on model variables in which the regressand is not at all correlated with the regressor(s). Before going ahead for regression estimation, we first check if there is some kind of correlation between headline and the corresponding independent variables.

Figure6: Correlation between inflation and the hypothesized regressors



Panel 6a: Inflation and exchange rate money supply

Panel 6b: Inflation and

Looking at the scatter plots, we found it convenient to use the nearest neighbor fit rather than the direct linear line as the best fit of the plotted points. The nearest neighbor fit includes regressions popularly known as *Loess* (also known as *Lowess*). It displays local polynomial regressions for two series with bandwidth based on nearest neighbors. This study used the default setting that estimate a local linear regression using a bandwidth of 30% (or 0.3) of the sample.

The scatter plot in panel 6a above with the nearest neighbor fit tells us that exchange rate is negatively correlated with headline inflation for a fewer smaller-valued observations but positively correlated a quite large number of bigger-valued observations. Panel 6b tells us a quite different story. For a bigger stretch of lower- valued observations as they increase in size, headline inflation is negatively related to money supply. As money supply grows bigger and bigger, there seems to be a sharp positive correction with inflation.

Taking a picture of linear correlation across all sample values, there seems to be evidence of positive linear association between exchange rates and headline inflation. However there seems to be no definite direction of linear correlation between money supply and headline inflation across all observations in the sample considered in this study. We go on to explore the causal-impact relationship of the hypothesized independent variables on headline inflation using regression analysis.

The empirical estimates of inflation equation: short run analysis

For the purpose of this study, we first estimate the distributed lag (DL) model by regressing the differenced inflation variable on the current values of the differenced values of exchange rate and money supply and then finding out if adding the lags of the exchange rate and money supply are statistically significant in the estimated inflation model. We discuss the results in connection with the major objective of this study. We then try to establish if the explanatory power of the model can further be enhanced by running it as an autoregressive distributed lag (ARDL)¹² model.

In the estimation of the short run inflation equation, we remind ourselves of the order of integration of the variables as revealed by the Zivot and Andrews (1992) unit root test results as shown in Table2. We also take into account the appropriate estimation procedure following the results from the causality tests. The absence of endogeneity in inflation equation enabled us to estimate the model by use of single-equation estimation procedure. The study particularly used the Ordinary Least Squares estimation Procedure. The following results gave our first line short run regression estimates of the inflation equation.

Table 4: The short run distributed lag model estimates of the inflation equation

Dependent Variable: DDHINF

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.091641	0.347001	-0.264096	0.7936
DDLOGGER	-7.055702	9.415895	-0.749339	0.4599
DDLOGGER(-1)	21.56782	9.687233	2.226417	0.0342

¹² The ARDL model is where the dependent variable is expresses as a function of its own lagged values together with the current and lagged values of the other independent variables.

DDLOGGER(-2)	11.09601	8.751790	1.267856	0.2153
DDLOGM2	8.663837	10.51456	0.823985	0.4169
R-squared	0.251883	Mean dependent var	-0.066667	
Adjusted R-squared	0.145010	S.D. dependent var	2.144437	
Log likelihood	-66.70395	Hannan-Quinn criter.	4.421986	
F-statistic	2.356831	Durbin-Watson stat	2.730328	
Prob(F-statistic)	0.077861			

In the running of the DL inflation equation, we ignored the first lag of the differenced money supply because its inclusion reduced the value of the adjusted coefficient of determination, increased the AIC and its coefficient was statistically insignificant. We observe that the Durbin Watson statistic is reported in Table4 above is not so close to two (2). We therefore suspect that the estimated standard errors of the coefficients are invalid and that the estimates are inconsistent due to serial correlation. To get out of this suspicion, we generate and observe the Correlogram, the Ljung-Box Q-statistic and perform a Breusch-Godfrey serial correlation test. We first generate a Correlogram up to the first 8lags with the corresponding Q-statistics.

Table 5: The Correlogram and Q-statistics for the residuals

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
*** .	*** .	1	-0.370	-0.370	4.9534 0.026
. .	.* .	2	0.065	-0.083	5.1117 0.078
.* .	.* .	3	-0.137	-0.166	5.8362 0.120
. .	.* .	4	-0.049	-0.189	5.9332 0.204
. **	. **	5	0.312	0.263	9.9479 0.077
. .	. **	6	-0.024	0.226	9.9733 0.126
.* .	.* .	7	-0.167	-0.142	11.211 0.130
. .	.* .	8	-0.040	-0.118	11.285 0.186

We observe that the Correlogram has a dominant spike at the first lag, a low peaked spike at the third and the seventh lag respectively and a less pronounced spike at the fifth lag. The Q-Statistic is significant at the first lag at 5 percent significance level, and is significant at the fifth lag at 10 percent level. The indication of this result is that the residuals from the DL regression predominantly follow the Markov first order autoregressive scheme, AR(1). On the basis of these results, we perform a Breusch-Godfrey serial correlation test under the null hypothesis that the residuals are auto correlated with AR (1) scheme.

Table6: The Breusch-Godfrey¹³ serial correlation test in the residuals of the estimated distributed lag inflation equation (The highest order of serial correlation tested is five)

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.650163	Prob. F(5,23)	0.0493
Obs*R-squared	12.06254	Prob. Chi-Square(5)	0.0339

At 5 percent level of significance, the Breusch-Godfrey serial correlation test rejects the null hypothesis that the residuals are not correlated with AR (1) scheme. This test result reveals that the model estimates in table6 are plagued with serial correlation.

We try to fix the problem by estimating the distributed lag inflation equation using the Generalized Least Squares (GLS) procedure. In the GLS procedure, we first calculate the autocorrelation coefficient ($\hat{\rho}$) using the Durbin Watson Statistic reported in Table6 and find that $\hat{\rho} = -0.36516$. In the GLS method we estimate the Generalized Difference Equation (GDE) of the distributed lag inflation model. We obtain the following results:

Table7: The GLS estimates of the distributed lag model of the inflation equation

Dependent Variable: DDHINF*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.173336	0.329777	-0.525615	0.6034
DDLOGGER*	-6.408287	8.785352	-0.729429	0.4720
DDLOGGER*(-1)	22.56186	8.242869	2.737137	0.0108
TDDLOGGER*(-2)	15.23259	8.231136	1.850606	0.0752
TDDLOGM2*	7.785814	11.54525	0.674374	0.5058
R-squared	0.302707	Mean dependent var	-0.127931	
Adjusted R-squared	0.199405	S.D. dependent var	2.073656	
S.E. of regression	1.855425	Akaike info criterion	4.216705	
Sum squared resid	92.95022	Schwarz criterion	4.445726	
Log likelihood	-62.46728	Hannan-Quinn criter.	4.292619	
F-statistic	2.930296	Durbin-Watson stat	2.099490	
Prob(F-statistic)	0.039132			

* Transformed Variables

Discussion of the GLS model results of the estimated short run inflation equation

The GLS short run model estimates indicated in Table7 above do not suffer from serial correlation and therefore are consistent (DW is approximately equal to two). After model

¹³ Following the results from the Correlogram and the Q-statistics, the study used five (5) as the highest order of serial correlation in the test.

transformation, the adjusted R-squared increases (by approximately 6 percent) and the AIC, SBIC and HQIF decrease- implying better model estimates.

The model estimates show that while the current value of exchange rate does not significantly affect price adjustments, the one last month's lag and two last month's lag of the exchange rate values do positively and significantly affect domestic price changes. This result give us an impression that exchange rate movements do not have immediate effects on domestic price adjustments in the short run, but rather have some positive pass through effects with some time lag (one –two months). It therefore seems that the percentage growth rates in the exchange rate in the immediate previous periods are fundamental in influencing the inflation process today. This analysis gives us an impression the importers of raw materials and other goods for sale in the domestic market are backward looking and form present and future expectations about changes in exchange rates-which do finally enter into their pricing decisions.

The GLS model estimates indicate that money changes insignificantly affect domestic price changes. As measured by the adjusted R-squared, the study reveals that exchange rate movements and changes in money supply account for approximately 20 percent of the total variations in inflation process in the short run.

Modeling the inflation equation as an autoregressive distributed lag relationship

We now turn to finding out whether, in the short run, the lagged values of the dependent variable and the current and lagged values of the independent variables included as regressors can provide a better explanation of the inflation process. We do this by augmenting the distributed lag model of the inflation equation (with untransformed variables) by including two lags of the inflation variable as regressors. We get the following results:

Table8: The short run autoregressive distributed lag model estimates of the inflation equation

Dependent Variable: DDHINF*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.172232	0.336734	-0.511480	0.6133
DDHINF*(-1)	0.009561	0.186860	0.051169	0.9596
DDLOGER*	-6.346315	9.033809	-0.702507	0.4886
DDLOGER*(-1)	22.67889	8.705304	2.605181	0.0150
DDLOGER*(-2)	15.08753	8.853643	1.704105	0.1003
TDDLOGM2*	7.800466	11.76807	0.662850	0.5133
R-squared	0.302777	Mean dependent var	-0.127931	
Adjusted R-squared	0.168696	S.D. dependent var	2.073656	
S.E. of regression	1.890674	Akaike info criterion	4.279105	
Sum squared resid	92.94086	Schwarz criterion	4.553930	
Log likelihood	-62.46567	Hannan-Quinn criter.	4.370201	
F-statistic	2.258164	Durbin-Watson stat	2.113467	
Prob(F-statistic)	0.078407			

In comparison with the GLS distributed lag model reported in Table7, we note that the ARDL model results (reported in Table8 above) are not any better. The inclusion of the lagged dependent variable reduces the value of the adjusted R-squared but also increases AIC, SBIC and HQIC. These study results give an impression that inflation in Uganda has not been self-creating in the short run. In other words the study results show that it is not true that current levels of inflation have been influenced by previous inflation levels. We deduce from the model estimates obtained by running the distributed lag and the autoregressive distributed lag specifications of the inflation equation that the short run inflation equation for Uganda can better be modeled as a distributed lag model of order two, zero; that is to say DL(2,0).

Conclusion

This study was prompted by the emergency of mixed views mingled with speculations and subjectivity about the root causes of the unprecedented rises in prices recorded in Uganda in the recent past. The choice of the hypothesized inflation predictors specified in the inflation equation was driven by lack of empirical literature on the role of the exchange rate depreciation as well growth in money supply in Uganda's recently experienced inflation.

The study finds out that in the short run, the lags of exchange rate and growth in money supply have had a positive causal effect on inflation. More specifically the study results show that while the depreciating shilling in the first and second lag have had a significant positive causal effect on inflation in the short run, increases in monetary aggregates over the sample period have had a positive but insignificant effect. This study result provides a conviction that although the depreciating shilling has had a significant contribution to the inflationary pressures felt in the country in the recent past, growths in money have not. Finally the study establishes that both exchange rate movements and changes in money supply account for about one-fifth (20 percent) of the total variations in the inflation process.

Implications for policy

The extent of the role of the depreciating shilling on domestic prices cannot underestimated (consider the 20% explanatory power)

1. There is need to implement policies that encourage the inflow of the foreign exchange (the dollar). To increase foreign exchange inflows the following strategies may be undertaken:
 - Industrialization strategy -to improve on our competitiveness. Greater emphasis should be paid to establishment of Agro-based processing plants: horticultural fruit drinks, food processing and packaging
 - Revitalize the tourism sector: Improve on the security and political stability image-to attract and instill tourist confidence; environmental preservation, including national parks and game reserves; revitalize cultural sites, improve on infrastructure (roads, tourist vans, hotels, ICT)
 - Export more of other services: Education, Performing Arts, culture
 - Explore and export more minerals, harness opportunities in oil and gas sector
2. The central bank should timely intervene in the foreign exchange market for a fair rate. In particular it is the central bank's responsibility to keep the exchange rate at a lower equilibrium level.
3. Fiscal discipline should be observed especially in regard to accumulation, maintenance and prioritization of foreign exchange reserves for certain purposes. This will put the

central bank in proper readiness position to stabilize the foreign exchange rate whenever there is a shock.

References

- Angel, J. Ubide, (1997) Determinants of Inflation in Mozambique : Issues 97-145. *Working Paper*.
- Arshad, H., Saleem, H., and Shoaib, M. (2008) Long-run relationship between an Emerging Equity Market and Equity Markets of the Developing World. An Empirical Analysis of Karachi Stock Exchange. *International Research Journal of Finance and economics*, issue 16.
- Banerjee, A., R. Lumsdaine and J. Stock, (1992) Recursive and sequential tests of the unit root and trend break hypothesis: theory and international evidence, *Journal of Business and Economic Statistics*, 10, pp. 271-287.
- Bogdan Lissovolik, (2003) Determinants of inflation in a Transition Economy: Issues 2003-2126. *Working Paper*.
- Christiano, L.J. (1992) "Searching for a Break in GNP" *Journal of Business and Economic Statistics*, 10, pp. 237-249.
- Glynn, John, Perera, Nelson, Verma and Reetu (2007) Unit Root Tests and Structural Breaks: A survey with Applications.
- Magda, K. and Hanan, M. (2009) Determinants of Inflation in GCC: Issues 2009-2082. *Working Paper*.
- Mugume Adams (2012). Bank of Uganda's Monetary Policy: What it can do and what it cannot. BOU staff papers, May 2012.
- Ndungu', N.S. 1997. "Price and Exchange Rate Dynamics in Kenya: an Empirical Investigation (1970-1993)". *AERC research Paper*, 58.
- Noer Azam Achsani, Arie Jayanthi F A Fauzi, and Piter Abdullah, 2010. The Relationship between Inflation and Real Exchange Rate: Comparative Study between ASEAN+3, the EU and North America.
- Perron, P. (1989), " The great crash, oil price shock, and the unit root hypothesis", *Econometrica*, 57, pp. 1361-1401.
- Uganda Bureau of Statistics (2012) Statistical Abstracts Report. *June 2012*.
- Zivot, E. and Andrews, K. (1992) "Further Evidence On The Great Crash, The Oil Price Shock, And The Unit Root Hypothesis", *Journal of Business and Economic Statistics*, 10 (10).

Uganda's Food and Livestock Export Potential in the EAC Region

Benard Musekese Wabukala

Abstract

Food and livestock subsectors are crucial for food self-sufficiency and foreign exchange earnings in agrarian economies like Uganda. The overall objective was to establish the determinants of Uganda's export of Foods and Livestock products as well as the existing export potential of these commodities with her trade partners. The justification is that food and livestock products dominate Uganda's agricultural exports and are expected to lead in the contribution to national GDP and total export earnings, an expectation they have failed over the recent years despite liberalization. Findings reveal that trade partners' GDP, Importer's population and regional trade agreements enhance a country's export trade. Historical and cultural similarities of trade partners impact positively on bilateral trade. Uganda has unexhausted export potential in over 85 countries world-wide for food and livestock commodities. In the EAC perspective, there is unexhausted export potential for Uganda's Food and Livestock commodities in Tanzania. From a policy perspective, the results of this study obliquely suggest that government should use the identified export potential markets by increasing the production capacities for overall trade growth. Agricultural support in form of trade facilitating infrastructure, value-addition, investment in export standards and augmented funding to the agricultural sector increase domestic production capacity and therefore enhance Uganda's export of Food and Livestock products.

Key Words: Food and Livestock, Export Potential and Uganda

Introduction

The export-led growth hypothesis states that exports are one of the keys to achieving high economic growth. In Uganda, the export-led strategy is recognized in the Economic Recovery programme adopted in 1987/88 which involved structural transformation through the IMF/World Bank funded Structural Adjustment Programs (SAPs). Like in many other developing countries, the transformations were meant to change the Ugandan Economy from an inefficient import dependent economy to one that is diversified, efficient and export oriented (Ajibefun and Daramola, 2003). The agricultural sector therefore had an important role to play in order to achieve the goals of SAPs, specifically to sustain export earnings from the traditional agricultural commodities like coffee and cotton that were facing a reduction in prices at the international market. Over the past few years however, non-traditional exports have surpassed traditional exports in export revenue earnings owing to growing performance of the food and livestock sub sectors in the export group.

The current government philosophy is centered on modernization of agriculture to boost agricultural productivity and increasing value-addition in exports. Policy support in form of programmes and projects such as the Plan for Modernization of Agriculture (PMA), National Agricultural Advisory Services (NAADs), and Uganda Export Promotion Board (UEPB) have been instituted to support the production and export of agricultural commodities. The growing of food crops activity is estimated to have grown by 2.9% in 2008/09 compared to a 2.4% growth in 2007/08. The exported commodities are categorized into Traditional Exports (TE) and Non-Traditional Exports (NTE). The traditional exports include Coffee, Cotton, Tea and Tobacco while Non-Traditional Exports (NTE) includes commodities other than the four listed above. The

Food exports make up the largest proportion of NTE, whose contribution the total export earnings stabilized in 2007 at 70.1%, declining marginally to 69.3% in 2008 (MAAIF and UBOS, 2009).

In terms of direction of trade, Uganda, Kenya, Tanzania, Rwanda and Burundi now form the East African Community (EAC) common market that has been effective from July 2010 under the EAC Treaty. The common market brings about an immediate market of 130 million people within the EAC in which trade among the five countries will be duty free. European countries and Common Market for East and Southern Africa (COMESA) member states are the major destinations for Uganda's exports. COMESA region registered the highest market share of 42.1% in 2008 as compared to 37.9% in 2007. This is followed by the European Union whose market share increased slightly from 24.3% in 2007 to 26.7% in 2008. Asian market share accounted for 5.7% and the Middle East saw a significant reduction in its market share to 8.1% in 2008 compared to 14.3% in 2007 (Statistical Abstract 2009, Uganda Bureau of Statistics).

Table 1: Uganda's Exports by Region ('000 US \$): 2004 - 2008

Uganda's Export by Region ('000 US \$): 2004 - 2008					
Export Region	2004	2005	2006	2007	2008
EAC	132,000	144,700	296,300	476,900	654,700
COMESA	177,995	249,336	283,747	506,509	725,152
Other Africa	37,823	38,931	37,763	87,745	72,493
European Union	181,756	252,708	263,752	324,395	460,218
Other Europe	113,676	82,466	49,074	91,361	158,982
Middle East	37,060	88,111	198,544	190,847	139,183
Asia	29,025	61,180	75,194	71,937	98,183
North America	19,185	18,340	16,442	23,777	19,835

Source: Statistical Abstract 2009, Uganda Bureau of Statistics

The difficulties facing the agricultural sector as well as export capacity include but are not limited to the subsistence nature of production; risk related to weather; market access and entry constraints; conditions of transportation network; lack/availability of credit and other production inputs, some or all of which may be critical in establishing production as well as export potential. The overall objective of this study is to establish the determinants of Uganda's export of Foods and Livestock products as well as the existing export potential of these commodities with her EAC partners. The justification is that food and livestock products dominate agricultural exports and are expected to lead in the contribution to national GDP and total export earnings, an expectation they have failed over the recent years despite liberalization. First, rising world prices (especially food items) explained by oil prices and the globalization drive have at least affected the domestic prices of agricultural commodities as well as the export performance of these products. Secondly, an increase in the prices of and exchange rate depreciation for agricultural exports are expected to have a significant positive impact on the livelihood of the farmers except in situations where increases in prices of agricultural exports or a depreciation of the real exchange rate fail to stimulate supply. It should be noted that agricultural commodities are price

elastic, other factors constant. Third, the prime economic motive of regional integration is to widen and deepen the market for trade partner's commodities but there is no current empirical evidence for Uganda's food and livestock sub sectors. Fourth, if the policy makers are knowledgeable about the specific determinants of food and livestock exports, they could be guided to build up "successful" policies that emphasize export expansion. Given the role of food and livestock in the Ugandan export sector, it is important to determine its trade potential between Uganda and her trading partners. A gravity model is a useful tool in determining the trade or export potential of a country. The model has its foundations in physical sciences and had proven to be very important in the analysis of bilateral trade flows. The gravity model is used to analyze the relationship between volume and direction of international trade and the formation of regional trade agreements where members are in different stages of development.

Literature Review

Determinants of Export Performance

This study employed the gravity model of trade since it is highly suitable for panel data studies and offers flexibility of augmenting other factors that may influence trade flow between countries besides the traditional supply and demand determinants of export performance. The gravity model as pioneered by Tinbergen (1962) and Poyhonen (1963) is used to analyse the relationship between volume and direction of international trade and the formation of regional trade agreements where members are in different stages of development. The basic gravity model of trade follows from Newton's law of gravity that the volume and direction of international trade is determined by the attraction of two countries' masses, weakened by distance between them and enforced by preferential trade agreements they belong to. The masses of countries are measured by GDP or population and distance between countries measures transport costs. The comparison with gravity derives from GDP being a proxy for economic mass and distance as a proxy for resistance to trade. The basic gravity equation explains the size of exports from country i to country j by three factors. The first indicates the total potential supply of the exporting country (i), and the second one indicates the potential demand of the importing country (j), and the third includes factors which represents the resistance to trade flow between countries. In its basic form, exports from country i to country j are determined by their economic sizes (GDP), population, geographical distances and a set of dummies which incorporate some kind of institutional characteristics common to specific flows (Jordaan and Eita, 2007). The gravity model of trade is more appropriate when using panel data analysis and largely suitable while examining the volume and direction of international trade and the formation of regional trade agreements where member countries are in different stages of development.

Agricultural Export Sector

Empirical studies show that agriculture is a fundamental economic activity and is a key tradable sector for many developing countries. Ngaruko (2003) studies the strategies and the factors of agricultural export performance in Africa compared with other regions, especially Asia. While human and physical capital is generally found to have played a central role in Asian export promotion, this study argues that these factors do not explain Africa's case. A regression-based exercise shows that the impact of these factors on performance is subject to the quality of governance, thus suggesting that institutions are the decisive factor that determines performance. Therefore, addressing institutions prior to, or at least during improvements in the macroeconomic

environment and liberalisation of the economy is a requirement for countries to significantly improve their agricultural export performance.

Still in the agricultural sector, Were et al, (2002) examined the determinants of Kenya's export volumes by disaggregating total exports of goods and services into three categories: tea, coffee and 'other' exports of goods and services. In general, the study established that the real exchange rate has a profound influence on export performance. The supply response to price incentive (real exchange rate depreciation) for exports of goods and services was positive and significant. Investment as a proportion of GDP used as a proxy for supply constraints had a positive and significant impact on the export volumes of coffee but not for exports of other goods and services. Contrarily, income of trading partners was found to be more paramount in explaining export volumes of 'other exports of goods and services' than coffee exports.

To understand the export supply response of selected agricultural commodities in Uganda, Rudaheranwa, et al (2003) employed the dynamic Nerlove's (1958) approach to estimate the supply elasticities of these commodities. The study shows that the exchange rate impact is inelastic for food crops mainly destined for markets in the region, unlike cash crops which show no significant response to the exchange rate. From a policy perspective, the study establishes that exchange rate appreciation may not hurt agriculture much. Non price factors, if adequately addressed could be more significant in terms of raising incentives to farmers. The demand-driven approach of accessing agricultural inputs by farmers seems to have reduced production incentives that should have accrued to farmers after liberalization because some peasants are too poor to demand sufficient levels of agricultural inputs. This study however gives partial analysis whose conclusions cannot be accepted when analysing the effect of exchange rates on agricultural exports. This is because the study analyses a single side (supply side) of the market and does not consider the demand for exports after production.

In contrast though, Atingi-Ego and Sebudde (2004) in their study derived the equilibrium exchange rate path, determined the levels of misalignment of the exchange rate and assessed their impact on the performance of non-traditional agricultural exports. Findings show that the magnitude of misalignment greatly reduced during the period 1991–1999, when the exchange and payments system was liberalised as part of the overall improved macroeconomic management. Further, an over-valuation of the exchange rate in excess of 15% points impedes on non-traditional export performance, suggesting that the exchange rate policy should aim at minimizing over-valuation and, in fact, over-depreciate REER to boost non-traditional export competitiveness. Similar to Atingi-Ego and Sebudde (2004), Cameron, Kihangire and Potts (2005) investigated the effects of exchange rate variability on Uganda's tropical freshwater fish exports. The empirical evidence suggests Uganda's exports of fish were negatively and significantly correlated with exchange rate volatility. This is however a single commodity case analysis which may not be generalised for the entire agricultural sector. While it has been argued by some that the exchange rate is a factor, others point to the favourable economic growth prospects in export destination countries (Mckay et al., 1998)

Export Trade Potential

Given the growing popularity of the gravity model in explaining bilateral volume of trade, scholars are extending its applicability to predicting trade potentials. Over time, two main

strategies have been selected in the computation of trade potentials. The first one derives *an out-of-sample trade potential estimate* which means that the parameters of the estimated gravity equation are applied to project “natural” trade relations between the trade partners. In this case, the difference between the observed and predicted trade flows should represent the unexhausted trade potential. The second strategy derives *in-sample* trade potential estimates, which means all countries are included in the regression analysis and the residuals of the estimated equation should represent the difference between potential and actual trade relations. In spite of the strategy in use authors tend to associate strong conclusions from the sign of the difference between potential and effective trade flows (Vicarelli and Benedictis, 2004).

Ozdeser and Ertac (2010) employed the gravity approach to project trade potentials between Turkey and the “euro zone” countries partly to explain the rise in the trade volume of Turkey since the establishment of the Customs Union between Turkey and the EU in 1995. The empirical results from the estimations suggest that Turkey’s potential trade flows with the EU12 would increase by 40% if Turkey becomes a member of the EU and adopts “euro” as its national currency. In comparison, Pradhan (2006) used the gravity model to estimate the magnitude of India’s export potential to the six-member Gulf Cooperation Council (GCC) countries that are currently negotiating a Free Trade Agreement (FTA). The findings show that the magnitude of India’s export potential is highest with Oman, followed by Qatar, Bahrain, and Kuwait but consistently showed no export potential with UAE, and Saudi Arabia. This implies that currently India is overtraded with UAE and Saudi Arabia, as they are the largest two trading partners of India in the GCC. The possible justification was that India’s export basket is not heavily diversified and is confined to limited number of products.

From a policy perspective, Prabir De (2009) estimated the trade potential for India using the augmented gravity model and then attempted to determine the importance of trade remedies in the pre- and post- global economic and financial crisis period. The estimates of India’s global trade potential reveal that the magnitude of India’s trade potential is at its maximum in the Asia-Pacific region, followed by Africa and Latin America. Potential for expansion of trade in the post-crisis period is highest for countries such as China. However, in a large part of the world, India’s trade remains unrealized, which provides further opportunities to expand despite the slowdown in global demand. Therefore tariff liberalization and trade facilitation are complementary and if simultaneously implemented can help build India’s export momentum in the crisis period.

Unfavorable geopolitical situation and small scale of economy, trade balance deficit and raw-materials export enforce Armenia to look for new geographical and product perspectives in its foreign trade. Hayrapetyan and Hayrapetyan (2011) estimate trade potential for Armenia by product groups in regional and international directions using gravity approach disaggregated into 7 groups. The key findings indicate that the trade relations of Armenia with most of main trade partners have no potential to develop implying Armenia has exceeded its export potential almost with all the CIS countries. In a related study, Achy (2006) notes that North African countries remain poorly open to international trade because their trade is marked by a high geographic concentration and a weak diversification of products. Results suggest that for the regional integration project of North African countries to be effective today, it needs to be redefined and given credibility. As a remedy, accession of these countries to the WTO is a fundamental asset in

their regional integration process because respect of WTO rules provides a common reference framework for all countries by ensuring visibility to partners and is largely insurance that trade obstacles would not be applied discretionarily and arbitrarily.

In an attempt to establish the effect of regional integration on export performance, Rahman et al, (2006) investigate the trade creation and trade diversion effects of a number of RTAs, with special focus on the SAFTA, by using a gravity model. The study finds significant intra-bloc export creation in SAPTA; however, at the same time there is evidence of net export diversion in the SAPTA. Specifically, Bangladesh, India and Pakistan are expected to gain from joining the RTA, while Nepal, Maldives and Sri Lanka are likely to be negatively affected. Although none of the RTAs covered by the study was found to be net export creating, more than one third of the members of these RTAs were found to be positively affected by joining the RTAs.

Ruiz and Vilarrubia (2007) estimate a gravity equation by accounting for omitted exporter and importer's overall trade resistance, through country-yearly dummies for exporter and importer countries. Results show that the omission of time-varying multilateral trade resistance terms in the estimation of a gravity equation introduces important biases in the results, although correcting those biases means computing differences between actual and predicted export shares, instead of levels, as usually done. In their study, an application to the calculation of trade potentials in the Euromed region (Southern and Eastern Mediterranean countries) shows that the omission of time-varying multilateral trade resistance terms greatly influences the computation of export potentials as well as the estimated effect of signing a free trade agreement.

Methodology

The Analytical Model

This study employs empirical work on trade based on the gravity model of trade pioneered by Tinbergen (1962) and Poyhonen (1963). The gravity model is generally specified as (Jordaan and Eita, 2007; Martinez-Zarzoso and Nowak-Lehmann, 2003; Jakab, Kovacs and Oszlay, 2001; Mátyás, 1997):

$$\ln EX_{ij} = \alpha_0 + \alpha_1 \ln Y_i + \alpha_2 \ln Y_j + \alpha_3 \ln POP_i + \alpha_4 \ln POP_j + \alpha_5 \ln DIST_{ij} + \alpha_6 \ln REER_{ij} + \phi C_{ij} + \lambda_{ij} \quad (1)$$

where EX_{ij} is exports of goods (in this case food and livestock) from country i to country j , Y_i and Y_j are the GDP of the exporter and importer, POP_i and POP_j are the populations of the exporter and importer, $DIST_{ij}$ is the distance in kilometres between the two countries, $REER$ is the real exchange rate between countries i and j , C_{ij} represents any factor that influence trade between the countries, and is λ_{ij} the error term.

A high level of GDP indicates a high level of production in the exporting country and can be interpreted as a proxy for the range of product varieties available, which increases the availability of exports. It represents potential supply of exports. The importer's GDP represents potential demand for imports. A high level of GDP or income in the importing country suggests high imports. The coefficients α_1 and α_2 are expected to have positive signs. The population variables can influence export in two ways. A large population indicates a large domestic market and

higher degree of self-sufficiency and less need to trade. Large populations also encourage division of labour and this implies that there will be economies of scale in production, and opportunities to trade with a variety of goods. For the exporting (and importing) country, a large population can increase or decrease trade depending on whether the country exports more (or imports less) when it is large or whether the large country export less (imports more) than the smaller one respectively. Thus, the effects of population for both the exporting and importing countries cannot be assigned *a priori*. That means α_3 and α_4 are expected to have ambiguous signs (Oguledo and MacPhee, 1994). The coefficient of distance, α_5 is expected to be negative because it is a measure of transport costs. An exchange rate appreciation discourages exports because domestic exporters will require a much more per unit of the foreign currency to purchase commodities for export. In this case, α_6 is expected to be negative. The real exchange rate (REER) is measured as the ratio of the export-weighted producer price index of trading partner countries expressed in domestic currency relative to the domestic producer price index. In this study, an increase in the real effective exchange rate will represent depreciation.

The composite dummy variable C_{ij} represents various regional trade agreements, historical and cultural characteristics of trade partners. The introduction of dummy variables adjusts Equation (2) as:

$$\ln EX_{ij} = \beta_{ij} + \alpha_1 \ln Y_{it} + \alpha_2 \ln Y_{jt} + \alpha_3 \ln POP_{it} + \alpha_4 \ln POP_{jt} + \alpha_5 \ln DIST_{ijt} + \alpha_6 \ln REER_{ijt} + \alpha_7 BORDER + \alpha_8 LANG + \alpha_9 COLONY + \alpha_{10} COMCOL + \alpha_{11} WTO + \alpha_{12} EAC + \alpha_{13} COMESA + \alpha_{14} EU + \lambda_{ijt} \quad (2)$$

Where:

EX_{ijt}	Exports by Uganda to country j in '000' US dollars
Y_i	Uganda's GDP in US dollars
Y_j	Importer's GDP in US dollars
POP_i	Uganda's population in millions
POP_j	Importer's population in millions
$DIST_{ijt}$	The geographical distance in kilometers between Uganda's economic centre of gravity (capital city-Kampala) and the trading partner's economic centre of gravity (capital city)
$REER_{ijt}$	Real Effective Exchange Rate Index (2005 = 100)
BORDER	Contiguity dummy (Uganda and Importer share a border coded 1 and otherwise 0)
LANG	English language dummy for trading partners whose official language is English, coded 1 and otherwise 0
COLONY	Historical dummy if trade partners have ever been in colonial relationship after 1945, coded 1 and otherwise 0
COMCOL	Historical dummy if trade partner share a common colonizer after 1945, coded 1 and otherwise 0
WTO	WTO dummy if trade partner is a WTO member, coded 1 and otherwise 0
EAC	EAC member state dummy (EAC countries coded 1 and otherwise 0)
COMESA	COMESA member state dummy (COMESA countries coded 1 and otherwise 0)
EU	EU member state dummy (EU countries coded 1 and otherwise 0)
β_{ij}	individual effects or country specific effects

λ_{ijt} : captures all the factors that influence exports but not included in equation (2) BORDER is a dummy variable for contiguity where trade partners share a common border while LANG is a dummy for country pair with a common language. These factors are believed to reduce trade transaction costs by easing trade facilitating mechanisms. This implies that α_7 , and α_8 , carry expected positive signs. The historical relations between trades partners are depicted by two dummy variables; first, if trade partners have ever been in colonial relationship after 1945 (COLONY) and if trade partner share a common colonizer after 1945 (COMCOL). These relations should promote trade and therefore α_9 and α_{10} are positive coefficients. The agricultural sector is one of the most highly protected sectors in world trade and therefore has implications for trade partners who are WTO members and otherwise. In this case α_{11} is expectedly positive because WTO membership should cause a rise in trade activities for trade partners. EAC is the dummy variable for membership of the East African Community, EU is the dummy variable for membership of the European Union and COMESA is the dummy variable for membership of the Common market for East and Southern Africa, all of which are expected to increase trade between countries. Therefore α_{12} , α_{13} and α_{14} are expected to be positive because these regional trade agreements promote trade creation among other benefits and form the basis for economic as well as regional cooperation.

Estimation Methodology

Panel data entails different models that can be estimated. These are pooled, fixed effects and random effects. Since the specified regressions include individual effects, it is important to decide whether they are random or fixed. When estimating the trade flows between a randomly drawn sample of trading partners from a large population, the random effects model is more appropriate while fixed effects model is more appropriate when estimating the flows of trade between an ex ante predetermined selection of countries. This study selected 168 countries from the total population based on Uganda's food and livestock exports and therefore followed the random effects model. At the same time, using WITHIN approach in estimating country-specific fixed effects and time-invariant regressors simultaneously raises the problem of perfect multicollinearity. Therefore, the effects of time-invariant regressors like distance and language can be estimated using a random effects model (REM) since presumably these effects are randomly distributed across the different countries (Sichei et al, 2008). Though equation (2) is not defined for observations with zero trade, there are various approaches to handle the presence of zeros. These include discarding the zeros from the sample, adding a constant factor to each observation on the dependent variable, estimating the gravity in nonlinear form using the fixed effects Poisson maximum likelihood estimator.

Trade Potential Estimation

There are two main approaches used in the computation of trade potentials as presented in literature, the “*out-of-sample*” and the “*in-sample*”. The former employs the parameters of the estimated gravity equation are applied to project “natural” trade relations between the predetermined trade partners. In this case, the difference between the observed and predicted trade flows should represent the unexhausted trade potential. The latter derives *in-sample* trade potential estimates where all countries are included in the regression analysis and the residuals of the estimated equation should represent the difference between potential and actual trade relations. However, the ‘in-sample’ estimation of the trade potential based on the deviation of residuals from the linear prediction is incorrect because large deviations of residuals in the

gravity equation based on the in-sample approach is not evidence of large deviations of trade from its potential, but rather an indicator of the model misspecification. This study therefore exploited the “out-of-sample technique based on Uganda’s food export flows. The general equation for trade potential estimation index is given as;

$$\sigma_{it} = \frac{e^{X_{ijt}}}{\varepsilon^{X_{ijt}}} \quad (4)$$

Where σ_{it} is the export potential estimate; $e^{X_{ijt}}$ is the actual export trade value in US\$ and $\varepsilon^{X_{ijt}}$ is the predicted export trade value in US\$. A positive index value and greater than 1 shows a greater bilateral trade effect than predicted while and smaller than 1 depicts smaller bilateral trade effect than predicted. A value equal to 1 depicts a bilateral trade effect that is equal to the predicted value and could imply zero trade potential between the trade partners.

Data Type and Source

The study utilized panel data of food exports between Uganda and 168 countries for the period 1994 – 2010, partly as a way of examining the liberalization efforts in the agricultural sector. Data on food and livestock exports was sourced from the World Integrated Trade Solution (WITS) of the World Bank, United Nations Conference on Trade and Development (UNCTAD), International Trade Center (ITC), United Nations Statistical Division (UNSD) and World Trade Organization (WTO). GDP, Population and REER data were collected from World Development Indicators Databank of the World Bank. Bilateral distance and the other variables relating cultural and historical relations of Uganda and her trade partners were sourced from the CEPII Gravity Dataset of the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII) website. GATT/WTO membership of different countries over time was collected from the WTO web site.

Estimation Results

Basic Gravity Model

The study followed the random effects model to establish Uganda’s importers of Uganda’s food and livestock products. The Hausman statistic is used to test the null hypothesis that the predictors and individual effects are not correlated in order to distinguish between fixed effects model and random effects model. Failure to reject the null hypothesis implies that the random effects model will be preferred. If the null hypothesis is rejected, the fixed effects model is appropriate. The Hausman test statistic shows that the null hypothesis is accepted and this indicates that country specific effects are not correlated with predictors. This suggests that the random effects model is appropriate and interpretation of the results will focus on the random effects estimation.

Table 2: Basic Gravity Model Results

	Exports		Food & Livestock Exports	
Variable	Coefficient	Std. Dev	Coefficient	Std. Dev
Constant	7.533*	2.6321	1.0379	2.9959
GDP Uganda	0.8108**	0.3225	0.8746**	0.4015
GDP Importer's	0.6406***	0.1077	0.4771***	0.1232
POP Uganda	-1.6029*	0.8639	-1.1495	1.079
POP Importer's	-0.1516	0.1345	-0.2106	0.1502
DISTANCE	-1.301***	0.2790	-0.5925*	0.3104
Adjusted R ²	0.5152		0.2975	
F- Test	114.13***		53.08***	
Observations	1502		1072	

Notes: i) *, ** and * refer to significance at 1%, 5% and 10% respectively**

The estimated coefficients computed from the basic gravity model are reported in Table 2. The results show that an increase in increase in the importer's GDP and Uganda's GDP causes an increase in Uganda's total as well as food and livestock exports. The coefficients for the two variables are positive, statistically significant and consistent with theoretical expectation. From the demand side, this result can lead to a reserved interpretation that Uganda's food exports are income inelastic, implying for a given increase in income of its trading partners, there is a proportionately lower inducement in agricultural exports. The underlying reason could be the fact that Uganda exports unprocessed food items which face competition from the "convenient" substitutes in the export destination markets. From the supply side however, the positive and significant income elasticities show that both the importer's and Uganda's GDP reveal that the bigger the economic size, the higher will be the flow of bilateral trade between trade partners as predicted by the gravity model.

The coefficient of Uganda's population is negative for both export categories though not significant for the food and livestock exports. This result suggests that an increase in Uganda's population translates into an increase in domestic demand for these commodities which reduces the net quantity available for export. The simultaneous justification is that an increasing population requires food itself for consumption and at the same time, agricultural commodities are key raw materials for the expanding manufacturing sector in Uganda. Though not significant, the importer's population has a negative impact on Uganda's exports which is divergent from the gravity model expectations. Distance has the expected negative and significant effect on Uganda's total as well as food exports. This implies Uganda exports less to countries that are far off because distance translates into increase of the cost of trade through high transportation costs. Therefore, since distance is a proxy for transport costs, any trade facilitation policies and agricultural support that reduce costs for exporting will enhance exports of food and livestock.

Augmented Gravity Model

Table 4: Augmented Gravity Model Results

Variable	Total Exports		Food & Livestock Exports	
	Coefficient	Std. Dev	Coefficient	Std. Dev
Constant	-4.3408	5.2621	-6.9924	5.8036
GDP Uganda	0.2661	0.4071	0.4103	0.4849
GDP Importers'	0.6977***	0.1716	0.4976***	0.1910
POP Uganda	0.0283	1.0768	0.6665	0.2952
POP Importers'	-0.1031	0.2068	0.3089	0.2248
DISTANCE	0.0287	0.5263	-0.4928**	0.5748
REER	-0.3919	0.4138	-0.7753	0.4849
BORDER	6.9852***	2.507	7.2883**	2.5944
LANG	0.6913	0.7108	0.0654	0.7436
COLONY	2.3909	2.1266	3.2976	2.1746
COMCOL	0.8326	0.8006	-0.0336	0.8449
WTO	0.3314	0.4745	0.4459	0.5568
EAC	7.1039***	2.4232	5.6043**	2.5312
COMESA	0.3771	0.6484	1.1504**	0.7354
EU	1.053*	0.6231	0.8746*	0.6636
Adjusted R ²	0.7109		0.5978	
F- Test	97.37***		69.99***	
Observations	873		767	

Notes: i) *, ** and * refer to significance at 1%, 5% and 10% respectively**

The results of the augmented gravity model are presented in Table 3. Unlike in the basic gravity model, Uganda's GDP has the expected positive but insignificant effect in both the export categories. However, the impact of Importer's GDP is positive and significant. The positive income elasticity indicates that Uganda's exports could rise significantly if her trading partners maintain strong economic growth. There is evidence to support this argument for Uganda because faster economic growth of her immediate neighbors namely; Democratic Republic of Congo, Rwanda and Southern Sudan have compelled Ugandan food farmers to produce for these regional and accessible markets. The population variable for both Uganda and her importer are positive but not significant for the food and livestock exports. Therefore, the economic size based on trade partners' population as depicted by the gravity does not matter for Uganda's export of food and livestock commodities. Distance has the expected negative and significant effect on Uganda's export of food and livestock. In this case, investment in transport infrastructure by the government should be taken as an export enhancing strategy for Uganda's export growth in the food subsector.

The estimates for real effective exchange rate are negative but not statistically significant for both export categories. A general observation is that the effect of exchange rate depreciation is greater on food and livestock exports compared to the total exports. This suggests that food and livestock

exports are exchange rate elastic in comparison to total exports. To this, depreciations of the exchange rate that could result from escalating world food prices do not necessarily benefit for exporters of agricultural commodities. In this case, maintaining a stable exchange rate is important for the profound motives of macroeconomic stability and should be taken as short term to long term strategies for export growth.

The subsequent variables below are country specific effects that were added to the estimation as dummy variables whose coefficient interpretation has to follow a value equal to $(e^{\alpha} - 1)$ because the dependent variable was transformed to natural log form; where α = estimated coefficient.

The effect of trade partners sharing a common border is positive and significant. For instance, sharing a common border is expected to increase total export value by 1080 times and food and livestock by 1460 times respectively. This positive relationship is highly expected as trade partners sharing a geographical should experience ease of trading with minimum transportation costs as well as other trade facilitation constraints. Though not significant, the impact of trade partners using a common language is positive on trade flows. Therefore, having the English language in common between Uganda and trading partner nations helps to build networks of trust. Institutions are also shared by increasing the degree of common cultural, literary and educational material, and by increasing the probability of migration (Sichei et al, 2008).

The historical relationship of trade partners is very paramount in trade because it is expected to smoothen the understanding and equally build trust between trade partners in international exchanges. For food and livestock exports, having once been a colony is associated with an increase in bilateral trade with the colonizer by 26 times while a common colonizer is associated with a decrease in bilateral trade by an insignificant 0.03 times. There is a positive impact of exporting to countries that are WTO members even though the coefficients are insignificant for both export categories. Also, trading with EU member countries substantively enhances Uganda's export of food and livestock as well as total exports. To this, the EU market has been the leading destination for Uganda's export commodities over a long period of time. In relation to regional trade agreements, being a member of the EAC and COMESA enhances Uganda's exports to that country. The positive values of the EAC and COMESA coefficients implies that Uganda has a higher propensity to trade with a country member of the same RTA, other things being equal, than from non-members. This argument could be valid for three reasons. First, membership to COMESA tends to reduce trade barriers of Uganda's exports commodities to member countries. Second, Uganda is a key member of EAC customs market which implies that her exports commodities face preferential tariffs/treatment in member states. Third, Uganda has been a regional "food basket" in the East and Central region of Africa particularly to Southern Sudan and Democratic Republic of Congo that have been experiencing civil unrest. These countries have had to depend on Uganda for food supply that partly explains the volume of bilateral trade existent among them.

Trade Potential

Following the estimated gravity model for export flows, the coefficients were utilized to estimate export trade potential for Uganda. The export potential was calculated as a ratio of the actual export value over the predicted export value. A positive value greater than one would depict exhausted trade potential between Uganda and that country while a value less than one would

depict that Uganda is yet to reach its maximum trade potential with that particular country. The alternative approach to compute trade potential is to obtain the difference between predicted value by the model and actual export volumes. To this, a large positive value would depict unexhausted potential while a high negative value would reveal maximum trade potential between Uganda and that country. The product compositions of food and livestock export to different countries are based on Standard International Trade Classification (SITC.2 Revised).

Table 4: Uganda's Export Potential by EAC Member Country and Region

Partner Name	Total Exports			Food and Livestock Exports		
	Actual	Predicted	Potential	Actual	Predicted	Potential
Burundi	12227.49	189.18	53.61	3402.26	89.13	33.72
Kenya	72528.48	115713.60	0.59	46386.43	18864.90	2.36
Rwanda	41285.88	41306.00	0.86	8727.35	8364.63	1.19
Tanzania	11321.45	80916.91	0.12	1685.37	21784.87	0.08
EAC	2146.30	3720.71	0.58	940.65	767.24	1.23
COMESA(Non-EAC)	379.95	47.14	8.06	175.16	21.19	8.26
EU	511.17	144.03	3.55	365.82	91.95	3.98

Notes: i) Potential = Actual/Predicted ii) Export potential computed is the mean for the years 1994 - 2010

Results show that Uganda has potential to expand its total exports to 60 countries and food and livestock exports to 85 countries all over the world. In the EAC perspective, there is unexhausted export potential for Uganda's Food and Livestock commodities in Tanzania. The unexploited export potential to Tanzania is equivalent to an estimated export value of 70 US\$ millions in total exports and 20 US\$ millions in food and livestock exports respectively. While Uganda has exhausted its export potential in the COMESA and EU regions as a whole, there are specific countries within these regions that the country can strategically exploit. These trade potential results should be taken with reservations because there are notable instances where Uganda has exported observable quantities in a single period and nothing overtime to some countries. Overall, trade potential results should give a working plan to the government in its efforts to boost and sustain the export sector in the country.

Conclusion and Policy Inferences

This study employed an "augmented" gravity model to Uganda's annual bilateral exports of total as well as food and livestock exports to randomly 168 selected trading partners over the period 1994 to 2010. The traditional factors of the basic gravity model reveal precise and plausible income and distance elasticities as per the theoretical expectations. Historical and cultural similarities also impact positively upon bilateral trade. Specifically, certain characteristics of the trading partners enhance Uganda's export of food and livestock commodities and these include; Uganda's GDP, Importer's GDP, Importer's population, common border, English language, trading with EU member countries, membership to EAC and COMESA. Geographical distance

and depreciation of the exchange rate inhibit the exports of food and livestock commodities. The negative effect of distance implies that high transport costs inhibit Uganda's exports of food items. This is not surprising given the fact that the most of these agricultural exports are perishable and require swift and reliable transportation mechanisms that may not be affordable to many exporters. Also, there is no justification as per the results to infer that rising global food prices induce export of food and livestock commodities because the effect the impact of REER is negative and insignificant.

In addition, the gravity model shows that Uganda has market in the EAC region for total exports and for food and livestock commodities. However, there are particular constraints that exporters may face in exploiting these export destinations. These include among others; a country not being a member of the WTO, lack of trade agreement with the country, non-tariff barriers and emergence of new food producers. Agriculture remains one of the most protected sectors in world trade which may impose restrictions on the export of some commodities to particular destinations.

Given Uganda's post liberalization trade data, it is evident that the growth in imports has significantly surpassed the growth in exports, thus creating an expansion in Uganda's trade imbalance and consequently the current account imbalance. From a policy perspective, the results of this study obliquely suggest that government should use the identified export potential markets by increasing the production capacities of total exports and particularly food and livestock exports for overall trade growth. On the other hand, a related study in the future can estimate two models (one for imports and other for exports) for food and livestock products to give greater insights on trade and its implications on Uganda's current account imbalance. Furthermore, supply side factors like augmented credit to crop exporters, subsidizing the small scale farmers, value-addition at all levels of production, infrastructure development and strengthening the role of the Uganda Export promotion Board (UEPB) will increase production capacity domestically that can satisfy the growing regional market and therefore form priority avenues for the enhancement of Uganda's export of food and livestock commodities.

References

- Achy, L. 2006. Assessing Regional Integration Potential in North Africa, National Institute of Statistics and Applied Economics, Rabat, Morocco
- Agricultural Commodities in Uganda, Economic Policy Research Centre, Kampala, Uganda; Research Series No. 36
- Ajibejun, I.A and Daramola, G.A (2003), "Efficiency of Micro Enterprises in the Nigerian Economy" AERC Research Paper no. 134
- Application of Augmented Gravity Model, Centre for Policy Dialogue (CPD), Dhaka-1209, Bangladesh. Paper 61
- Atingi-Ego, M and Sebudde, R.K., 2004. Uganda's Equilibrium Real Exchange Rate and Its Implications for Non-Traditional Export Performance, African Economic Research Consortium, Nairobi, AERC Research Paper 140
- Background to the Budget, 2002/2003. Ministry of Finance, Planning and Economic Development, Kampala, Uganda

- Cameron, S.; D. Kihangire and D. Potts, 2005. Has Exchange Rate Volatility Reduced Ugandan Fish Export Earnings? Bradford Centre for International Development (BCID), University of Bradford, Bradford, BD7-1DP, U.K
- Discriminatory Trade Arrangements, *Applied Economics*, 26: 107-120
- Hayrapetyan, G and Hayrapetyan, V. 2011. Regional and International Trade of Armenia: Perspectives and Potentials, EERC Kiev, Working Paper No11/1E
- Investment and Trade Policy Centre, Department of Economics, University of Pretoria
- Jakab, Z.M. Kovacs, M.A. and Oszlay, A. 2001. How Far has Regional Integration Advanced?: An Analysis of the Actual and Potential Trade of Three Central and European Countries, *Journal of Comparative Economics*, 29: 276-292.
- Jordaan, A.C., and Eita, J. H., 2007. Determinants of South Africa's Exports of Leather Products, Kihangire, D., 2004. The impact of exchange rate variability on Uganda's exports (1988-2001). *PhD Thesis*, University of Bradford
- Martinez-Zarzoso, I. and Nowak-Lehmann, F. 2003. Augmented Gravity Model: An Empirical Application to Mercosur-European Union Trade Flows, *Journal of Applied Economics*, 6(2): 291-316.
- Mátyás, L. 1999. Proper Econometric Specification of the Gravity Model, *World Economy*, 20(3): 363-368.
- McKay, A., O. Morrissey and C. Vaillant, 1998. Aggregate Export and Food Crop Supply Response in Tanzania, CREDIT Discussion Paper No.4. Nottingham: Centre for Research in Economic Development and International Trade
- Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), 2000. Plan for Modernization of Agriculture, Kampala, Uganda
- Nerlove, M., 1958. The Dynamics of Supply: Estimation of Farmer's Response to Price. Baltimore: John Hopkins University Press
- Ngaruko, F., 2003. Agricultural Export Performance in Africa: Elements of Comparison with Asia, Centre d'Etudes en Macroéconomie et Finance Internationale CEMAFI, Université de Nice, France
- Oguledo, V.I. and Macphée, C.R. 1994. Gravity Models: A Reformulation and an Application to Ozdeser, H. and Ertac, D. 2010. Turkey's Trade Potential with Euro Zone Countries: A Gravity Study, *European Journal of Scientific Research*, Vol.43 No.1, pp.15-23
- Pöyhönen, P., 1963. A Tentative Model for the Volume of Trade between Countries, *Weltwirtschaftliches Archiv*, 90: 93-99
- Prabir De, 2009. Global Economic and Financial Crisis: India's Trade Potential and Future Prospects Asia-Pacific Research and Training Network on Trade Working Paper Series, No. 64
- Pradhan, S.R. 2006. India's Export Potential to the Gulf Cooperation Council (GCC) Countries: A Gravity Model Analysis, Asia-Pacific Research and Training Network on Trade, *Post Workshop Reports*
- Rahman, M., Bin Shadat. W, and Chandra Das, N. 2006. Trade Potential in SAFTA: An Rudaheranwa, N.; L. Bategeka, M. Banga and A. Mukungu. 2003. Supply Response of Selected Ruiz J.M, and Vilarrubia, J.M. 2007. Trade and Gravity: Estimating Trade Potentials in the Euromed Region, Banco de España
- Sichei.M.M, Erero.J.L and Gebreselasie, T. 2008. An Augmented Gravity Model of South Africa's Exports of Motor vehicles, Parts and Accessories, *South African Journal of Economics and Management Sciences*, Pretoria, South Africa; SAJEMS NS 11 No.4

- Tinbergen, J., 1962. Shaping the World Economy; Suggestion for an International Economic Policy, New York
- Uganda Bureau of Statistics, 2009. Statistical Abstract, Kampala, Uganda
- Vicarelli, C and De Benedictis, L. 2004. Trade Potentials in Gravity Panel Data Models, ISAE - Piazza dell'Indipendenza, Rome; Working paper No. 44
- Were, N.; N.S.Ndung'u, A. Geda, S.N.Karingi. 2002. Analysis of Kenya's Export Performance: An Empirical Evaluation, Kenya Institute for Public Policy Research and Analysis, Nairobi, Kenya; Discussion Paper No.22

Determinants of Tax Effort: A Case Study of Uganda (1987 – 2009)

Will Kaberuka and Samuel Agaba Bakehena

Introduction

Uganda like most developing countries continues to face difficulties in generating sufficient revenue necessary for public expenditure. Government spending has persistently continued to be higher than revenue receipts, which has led to budget deficits year after year. The problem of recurring high fiscal deficits poses important challenges to policy makers. To reduce the budget deficits, the policy makers have to either reduce expenditure on investments, in areas such as infrastructure and human capital which alternative may negatively impact on the economic growth, or raise revenue.

Ghura (1998) opines that in order to improve the environment for private sector development and sustained economic growth, governments need to play a supportive role by investing in physical and human capital and institutional infrastructure. Tax revenue is needed for such expenditure if inflationary financing and the crowding out of the private sector are to be avoided. Prior to 1987, Uganda suffered prolonged periods of political turmoil and civil strife that led to the collapse of the economy. By the mid 1980s, tax revenues as a share of GDP had fallen to a paltry 6 percent down from 15 percent in 1970. Moreover, tax administration capacity had deteriorated greatly, smuggling and evasion were rampant, a situation that denied the country the needed revenue for trade, investment and enterprise (Tumusiime - Mutebile, 2010).

Uganda has since 1987 undertaken major economic reforms aimed at achieving key economic objectives including promoting sustainable economic growth, achieving macroeconomic stability, reducing fiscal vulnerability and alleviating poverty. In particular the country's tax system has undergone through a series of numerous reforms aimed at raising domestic revenue. Although some remarkable performances have been realized in the form of tax as a share of GDP increasing from about 5 percent in 1987 to about 12.1 percent in 1994, there remains a challenge in addressing fiscal imbalances. High fiscal deficits have persisted suggesting that Uganda's revenue generating capacity has not been commensurate with the expenditure demands. Moreover, at the current ratio of 12.2 percent of GDP (FY2008/2009) not only has Uganda's tax effort stagnated it remains low by the standards of many countries in Sub Saharan Africa whose average is about 23 percent (Ayoki et al, 2005).

This paper investigates factors deemed to determine of tax as a share of GDP in Uganda. More specifically this paper examines the effects of the level of development, the size of international trade as a proportion of GDP, the relative size of the country's debt stocks to GDP and the structure of the economy on Uganda's tax effort. Tax effort has been defined by Leuthold (1991) as the exertion a country puts into collecting its revenue, given the tax handles available to the country, where a tax handle is an easily accessible tax base that yields productive revenue.

With the aim of investigating the factors determining tax mobilization in effort in Uganda, this paper is organized as follows: Section II discusses the major tax reforms in Uganda and the structure of domestic taxes, section III discusses the theoretical issues concerning the determinants of tax mobilization, section IV briefly describes the data then it introduces the

econometric model and the main econometric results. Finally in section V, conclusions and some policy recommendations are made.

Major tax reforms in Uganda since 1987

In 1987, Uganda initiated a series of tax reforms aimed at attracting and promoting investment, increasing the revenue yield and simplifying tax administration. The initial focus on tax policy reform in the late 1980s and early 1990s was on reducing the heavy dependence on trade taxes that had developed since the 1970s. Export revenue mainly from coffee contributed as much as 50 percent of the total government revenue. Import tariffs were as high as 350 percent, (Cawley and Zake, 2010), which was a hindrance to increased international trade and had created anti export bias. Other tax policy reforms included the partial removal of tax exemptions from the Minister of Finance, the reduction of rates on personal income and on business and the introduction of Value Added Tax (VAT) at 17 percent in 1996 as a replacement of Sales Tax and Commercial Transaction (CTL). VAT was considered superior to other forms of indirect taxation in terms of both economic and administrative efficiency.

The tax administration reforms included notably the formation in 1991 of Uganda Revenue Authority (URA), a semi – autonomous body responsible for carrying out tax policy implementation. It was charged with the task of administering and collecting tax revenue for the central government. Prior to setting up of URA, the tax policy formulation was a responsibility of Ministry of Finance and Ministry of Planning and Economic Development which after the merger of the two ministries became Ministry of Finance and Economic Development. Other reforms in the tax administration were the automation of tax administration, improved transparency and tax education, fighting against smuggling where the Anti – Smuggling Unit (ASU) was set up in 1992 to assist URA in fighting the smuggling threat (Kaweesa, 2004).

A combination of good governance, improved tax administration, credible macroeconomic policies and other discretionary tax measures resulted in an improved tax to GDP ratio. Tax-GDP ratio increased from 5 percent of GDP (FY1988/89) to 12.2 percent in 2001/02(MFPED, 2005). However, this improvement was short lived as revenue performances have stagnated since.

At the current ratio of 12.2 percent of GDP (FY2008/2009), Uganda's tax effort remains low by the standards of many countries in Sub – Saharan Africa (SSA) whose average is about 23 percent. Apart from having low levels of revenue to GDP, Uganda relies on international trade taxes which are vulnerable to external shocks. In comparison to other countries with in the region, international trade taxes in Uganda continue to account for more than 50 percent of government revenues while for Kenya, Rwanda, Zambia international trade taxes contribute less than 30 percent of their revenue. (Ayoki et al, 2005)

The low tax share in GDP in Uganda has been attributed to a substantial part of value added in national income accounted for by the agricultural sector. The value added from Agriculture accounts for nearly 40 percent of GDP as compared to an average of about 16 percent of Sub-Saharan Africa. Other reasons include administrative short comings such as red – tape bureaucracy, poor tax administration infrastructure, inadequacy of logistics, little political will and support, high degree of tax evasion, rampant corruption and inappropriate technology. The current tax structure is made up of domestic taxes comprising direct and indirect taxes, and international trade taxes. Direct domestic taxes include PAYE, corporation tax and withholding

tax among others while Indirect taxes include excise duty on domestically produced goods and VAT. international trade taxes are composed of petroleum duty, VAT and import duty. Other sources of revenue include fees and licenses such as drivers' permits, passport fees e.t.c. categorized as Non Tax Revenue (NTR).

Determinants of Tax Effort: Theoretical Issues

Considerable effort and attention in most developing countries is devoted to policies best suited to the promotion of economic development. The major focus of these efforts is the search for desirable fiscal policies with considerable stress being placed on the role of taxation as an important instrument for augmenting revenue. This is as true in developing countries as in developed countries, where tax revenue is a major source of domestic revenue. Thus the most important motivation for fiscal policy in most developing countries is the need to raise revenue (Teera, 2002). Two main methods have been used in recent studies on tax effort (see for example Tanzi 1981, 1987; Eltony, 2002; Piancastelli, 2001; Gupta 2007; 1998, 2002; Teera and Hudson, 2004). One of the methods is the tax revenue/GDP ratio which is determined by taking the ratio of taxes in a country to a measure of tax base usually GDP. Here it is assumed that the tax base is a proper measure of taxable capacity. However, a simple tax base such as GDP is not sufficient as a measure of taxable capacity as not all taxes are linked to income, and the distribution of income and how income is earned from different sources such as agriculture and the informal sector which also affect the country's tax system (Stotsky and Wolde – Mariam, 1997).

The second method is the regression approach which is used to measure taxable capacity by regressing for a sample of countries the tax revenue/GDP ratio on explanatory variables that serve as proxies for possible tax bases and other factors that might affect a country's ability to raise tax revenues. The predicted tax/GDP ratio from such a regression is considered a measure of taxable capacity and the regression coefficients are interpreted as average effective rates on those bases. The ratio of the actual to the predicted tax ratio is then computed and used as an index of tax effort. This approach is considered relatively superior to the simple tax ratio method in that it considers the differences among countries in their capacity to raise taxes (Stotsky and Wolde – Mariam, 1997; Begum, 2007). However, both of the above methods have their limitations; the tax/GDP ratio does not provide insight into other factors such as the structure of the economy, the level of economic development and the administrative and political capability that affect a country's tax performance. For the regression approach, while using the predicted tax capacity that is based on average values for the sample, it may have no relevance for a given country making it a poor normative indicator of taxable capacity (Addison and Levin, 2006). Moreover, both methods are static in nature. They only describe tax revenue at a given point in time (Begum, 2007). They cannot explain plausible short – run and long – run dynamic changes in the tax system. This limitation could be important since economic reforms may take a long time to influence the potential impacts in the economic system (Mwakalobo, 2009).

This study makes a contribution to the existing literature by investigating the determinants of tax effort by employing a dynamic econometric analysis – error correction regression – for a single country (Uganda as a case study). Some of the factors that have been deemed to determine tax effort are the general level of economic development, the sectoral composition of the economy, administrative and political constraints on the fiscal system. The following sections discuss those factors that were considered for this study.

The level of economic development.

Chelliah et al (1971) as cited by Bird opines that a higher per capita income reflecting a higher level of development goes with a higher capacity to pay and collect taxes as well as a higher relative demand for income elastic goods and services. There is also a consideration that, as income grows, countries generally become more urbanized. Tanzi (1987) says urbanization brings about a greater demand for public services increasing the need of a government to raise more taxes while at the same time facilitating tax collections. Gupta (2007) examined the determinants of tax revenue efforts in developing countries. He regressed Tax-GDP ratio on a number of predictors and his findings revealed that GDP per capita and the level of openness in a country significantly increase the tax-GDP ratio. On the other hand, Agriculture sector share to GDP significantly reduces a country's tax efforts (tax-GDP ratio).

Sectoral composition of GDP.

Tanzi (1992) asserts that a country's economic structure is one of the factors that could be expected to influence the level of taxation. The sectoral composition of value added in the economy is considered likely to be an important influence on tax share because some sectors of the economy are more suitable to taxation and generate taxable revenues while others are not. An economy with a large GDP share of agriculture is expected to generate low tax revenues. For developing countries, the share of agriculture may be an important influence on the tax share, from both the demand and supply point of view. On the supply side, it is very difficult to tax the agricultural sector "explicitly", though it is often very heavily taxed in many implicit ways such as; import quotas, tariffs, controlled prices for output, or overvalued exchange rates. On the other hand, small farmers are notoriously difficult to tax and a large share of agriculture is normally subsistence, which does not generate large taxable surpluses, as many countries are unwilling to tax the main foods that are used for subsistence.

(Teera, 2002) says that since many public sector activities are city oriented, it is assumed that the more agricultural a country is, the less it will have to spend for government services hence inferring that as the share of agriculture in GDP rises, the need for total public spending and so for tax revenue mobilization may fall. In the same study, it is postulated that the share of manufacturing could have a positive relationship with tax to GDP ratio as manufacturing enterprises are easier to tax than agricultural enterprises owing to business owners being better book keepers. If production is efficient, manufacturing can generate larger surpluses therefore, manufacturing is expected to be positively related to the tax ratio.

In a study by Eltony (2002) on the determinants of Tax effort in Arab countries, the share of manufacturing was found to be insignificant in determining the tax revenue.

Openness to trade

The share of international trade in GDP is a measure of openness to trade that reflects the degree of exposure of an economy to external economic influences (Eltony, 2002). Ghura (1998) suggests that in the presence of inward capital flows, the overall level of activity in the economy is artificially or temporarily increased through foreign borrowing and so is the aggregate tax base and consequently, tax revenues tend to become artificially buoyant. Since the overseas sector is the most monetized sector of the economy, it makes international trade more available to taxation than domestic activities also the tax collections are done at specific points. This is in agreement

with Eltony (2002) who mentions that certain features of international trade make it more suitable to taxation than domestic activities. In developing countries, the overseas sector is the most monetized sector and has gained increasing importance in recent years. Thus import and export share are important in determining of the tax share.

Outstanding debt

The growth of public spending has generated large fiscal deficits in many developing countries leading to increased share of public debt relative to GDP (Tanzi and Blejer (1988)). With a large debt, the government needs to raise the revenues necessary to service it. When the interest on the debt exceeds net borrowing plus the possible reduction in the non – interest expenditure, the level of taxation must go up unless the rate of growth of the economy is sufficient to neutralize the increase. Therefore, public debt plays a role in determining the extent to which countries may take advantage of their taxable capacity (Tanzi, 1987). However, a high debt burden can also create macroeconomic imbalances that may tend to reduce the tax level (Tanzi, 1987).

Teera (2002) asserts that the need to service a debt increases revenue collections since it is the only way through which this can be done. The debt in the previous period is more likely to affect the revenue in the current period. This was evidenced in the results of her study of revenue performance in Uganda 1970- 2000. Lagged debt variable was generally significant and positive for total tax revenue. Tax evasion also significantly undermines the tax revenue-GDP ratio of Uganda as seen from its significant and negative coefficient.

Data Analysis and presentation of the results

This paper makes use of time series data on Uganda that covers a period 1987 to 2009. The choice of this period is motivated by the fact that prior to 1987, the country experienced a long period of turmoil that led to the collapse of all the sectors of the economy. This period was characterized by rampant corruption, smuggling, mis recording of data where it was done among others which led to inaccurate records that did not give an accurate representation of the data. The paper uses data obtained from the World Bank's World Development Indicators CD – ROM 2010. The original data obtained were available only with an annual frequency that provided a few data points. In order to increase the data frequency hence reduce errors associated with using a few data points such as non normality, a quadratic match average process was applied to transform annual data into quarterly data.

Tax effort was modeled as a function of the level of economic development, the sectoral composition of the economy, the size of the international trade and the external debt stocks. The representation of the tax effort function that was formulated for this study is shown below.

$$TAX\_GDP = f(T, CAPITA, AGRIC, MANUFACT, SERVICE, ODEBT, OTRADE) \dots\dots\dots 1$$

A log – log model which is of the form shown below was derived from the above function

This model is a derivative of the above function that was attained by using logarithmic transformation of the data. The representation of the model is as shown below where **l** preceding the variable name indicates the natural log transformation of the data values for that variable.

$$lTAX\_GDP_t = \beta_0 + \beta_1 lT + \beta_2 lCAPITA_t + \beta_3 lAGRIC_t + \beta_4 lMANUFACT_t + \beta_5 lSERVICE_t + \beta_6 lODEBT_t + \beta_7 lOTRADE_t + \theta_t$$

...2

Where

. β_i s are the parameters of interest for model.

TAX_GDP = tax revenue as percent of GDP

CAPITA = GDP per capita in US dollars with 2000 as the base year

AGRIC = value added agriculture as percent of GDP

MANUFACT= value added manufacturing as percent of GDP

SERVIC= value added services as percent of GDP

OTRADE = sum of imports and exports as percent of GDP

ODEBT = external debt stocks (% of GNI)

T= time trend

. θ_t is the error term with white noise properties.

Estimation results from are presented in Tables 1below.

Table 1: Results of Ordinary Least Squares regression (log - log regression model)

Dependent Variable: LTAX_GDP				
Method: Least Squares				
Sample(adjusted): 1987:1 2008:4				
Included observations: 88 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-27.38143	3.042103	-9.000821	0.0000
@TREND	-0.012876	0.004187	-3.075608	0.0029
LCAPITA	3.701178	0.537130	6.890660	0.0000
LAGRIC	1.233441	0.129607	9.516805	0.0000
LMANUFACT	-0.053927	0.084557	-0.637762	0.5254
LSERVICE	1.290931	0.150661	8.568432	0.0000
LODEBT	0.154789	0.020306	7.622983	0.0000
LOTRADE	0.052904	0.102705	0.515103	0.6079
R-squared	0.963651	Mean dependent var		2.210101
Adjusted R-squared	0.960471	S.D. dependent var		0.292203
S.E. of regression	0.058096	Akaike info criterion		-2.766942
Sum squared resid	0.270009	Schwarz criterion		-2.541730
Log likelihood	129.7455	F-statistic		302.9856
Durbin-Watson stat	0.332355	Prob(F-statistic)		0.000000

The results in Table 1 suggest spurious results because of a very high value of the adjusted R^2 of 96 percent as compared to the Durbin – Watson statistic equal to 0.33 which necessitates carrying out a test for stationarity on the variable. The test for stationarity is one of the underlying properties of the processes that generate time series variables used in the equation. For meaningful results, it is required that all variables are stationary prior to their use in a regression. All variables were tested for stationarity using the Augmented Dickey Fuller (ADF) test and they were found to be integrated of order one $I(1)$ hence the long run relationship model and the Error Correction Model (ECM) were estimated and the results are presented in Tables 2 and 3 below.

Table 2: Long run relationship of the variables

Dependent LTAX-GDP			
Variable	Coefficient	Std. Error	t-Statistic
C	32.17		
T	0.19		
LCAPITA	-15.85	11.5885	-1.36774
LAGRIC	6.46	3.18991	2.025136
LMANUFACT	-0.72	0.58299	-1.23501
LSEVICE	7.8	3.959	1.970194
LODEBT	-1.15	0.77318	-1.48736
LOTRADE	0.64	0.59405	1.07735

Results in the table 2 above reveal that in the long run, services and agricultural shares to GDP have a significant positive effect on tax efforts. The other independent variables i.e. Outstanding debt, Openness to trade, Manufacturing sector's contribution to GDP and GDP Per capita do not significantly affect the level of Uganda's tax in any given period. However, some variables such as outstanding debt, GDP per capita, the value added agriculture and value added manufacturing as percent of GDP turned out with coefficient signs different from the anticipated ones.

Table 3: Short run relationship of the variables

Dependent Variable: D(LTAX_GDP)				
Method: Least Squares				
Sample(adjusted): 1987:3 2008:4				
Included observations: 86 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.007689	0.007546	1.018997	0.3117
T	-0.000282	0.000132	-2.129823	0.0367
D(TAX_GDP(-1))	0.063718	0.012659	5.033466	0.0000
D(LCAPITA)	2.804974	0.497057	5.643166	0.0000
D(LCAPITA(-1))	-1.425149	0.609203	-2.339364	0.0222
D(LAGRIC)	0.313491	0.256701	1.221229	0.2261
D(LAGRIC(-1))	-0.297587	0.267235	-1.113578	0.2693
D(LMANUFACT)	-0.292321	0.165806	-1.763033	0.0823
D(LMANUFUCT(-1))	0.148717	0.166787	0.891658	0.3756
D(LSERVICE)	0.185792	0.481233	0.386075	0.7006
D(LSERVICE(-1))	-0.306942	0.479998	-0.639464	0.5246
D(LODEBT)	0.060826	0.043667	1.392924	0.1681
D(LODEBT(-1))	-0.041424	0.054086	-0.765896	0.4463
D(LOTRADE)	0.255747	0.128779	1.985938	0.0510
D(OTRADE(-1))	-0.007753	0.004182	-1.854122	0.0679
ECT1(-1)	-0.197922	0.052141	-3.795905	0.0003
R-squared	0.633718	Mean dependent var		0.012527
Adjusted R-squared	0.555229	S.D. dependent var		0.033938

S.E. of regression	0.022633	Akaike info criterion	-4.572541
Sum squared resid	0.035859	Schwarz criterion	-4.115919
Log likelihood	212.6193	F-statistic	8.073970
Durbin-Watson stat	2.061889	Prob(F-statistic)	0.000000

As displayed in table 3, approximately 56 percent of the variation in tax efforts measured by tax-GDP ratio is explained by tax efforts for the previous period, structure of the economy, outstanding debt, GDP per capita and openness to trade as suggested by the adjusted R^2 . The probability of the F statistic is highly significant implying that the model was well specified. Tax efforts of the previous period significantly affect the current period's performance. A one percent growth in the tax/GDP ratio in a given period on average leads to a growth of 0.06 percent in the subsequent year's effort.

GDP per capita has a significant positive effect on tax efforts in Uganda. If other factors are held constant, a percentage increase in GDP per capita in a given period increases the tax efforts (Tax-GDP) by 2.8 percent points. Chelliah (1971) and Gupta (2007) while studying the determinants of tax efforts in developing countries also found out that increased GDP per capita significantly increased tax effort. Increased contribution of agriculture to the economy decreases tax efforts. A percentage increase in the agricultural share to GDP of any period, decreases that tax efforts of the following period by 0.29 percent points other factors held constant. This finding is consistent with past findings like Tanzi (1992) and Teera (2002) who found out that increased size of the agriculture sector reduces the tax-GDP ratio owing to the difficulty in taxing the sector that is mainly subsistence hence generating limited tax supplies.

The level of openness to trade also helps boost tax efforts and the effect is significant at 10 percent level of significance. A one percent increase in openness to trade increases tax efforts by 0.25 percent points. The positive relationship between openness to trade and tax efforts in Uganda is the same as in other developing countries. Eltony (2002) also found a similar and significant relationship between the two and attributed this to the convenience and ease of taxing international trade as tax collections are done at specific points.

Increased debt stock increases tax effort. A one percent increase in the debt stock increases tax-GDP ratio by 0.06 percent. However, the effect of outstanding debt on tax efforts is not significant. The outstanding debt in a given period negatively affects the tax effort in the following period. This finding contradicts previous findings such as Tanzi (1987) and Teera (2002). Teera (2002), while studying determinants of tax share in Uganda, found out that lagged debt significantly increase tax-GDP ratio. According to Tanzi (1987), when debt interest outstrips borrowing, the level of taxation ought to go up unless the rate of growth of the economy is sufficient to sustain the increase.

The structure of the Ugandan economy reflected by sectors contribution to GDP has no significant positive effect on tax efforts. As noted earlier, increased agricultural contribution to the economy decreases tax-GDP ratio significantly. The other components of the economy i.e. Services and manufacturing do not significantly affect the tax efforts in Uganda. Although their growth increases tax efforts, the effect is not statistically significant. Results of the effect of manufacturing sector on tax efforts are similar to Eltony (2002) who in study on the determinants

of tax efforts in Arab countries also found out that though the manufacturing sector positively impacts on tax efforts, the effect is not significant. The insignificant effect of the manufacturing and services sectors on tax efforts in Uganda could be a result of the dominance of these sectors by foreign investors who receive numerous tax breaks and tax incentives such as VAT refund on building materials for industrial and commercial building, duty and tax free import of plant and machinery among others. The negative coefficient of the Error Correction Term (ECT) shows that there is a feedback mechanism in the short run. The coefficient for the ECT implies that the long run equilibrium tax relationship is adjusted by 0.18 percent

Conclusions

Empirical evidence from the estimation of the model suggests that tax efforts (Tax-GDP ratio) of any given period have a bearing on the subsequent period's efforts. If the tax-GDP ratio increases by one percent in a given period, the ratio in next period increases by 0.53 percent. GDP per capita has a significant positive effect on tax efforts in Uganda. If other factors are held constant, a percentage increase in GDP per capita in a given period increases the tax efforts (Tax-GDP) by 2.63 percent. Previous studies by Chelliah (1971) and Gupta (2007) on the determinants of tax efforts in developing countries also found out that increased GDP per capita significantly increases tax efforts. The level of openness to trade also boosts tax efforts. A percentage increase in openness to trade increases tax efforts by 0.21 percent. The positive relationship between openness to trade and tax efforts cuts across all developing countries. Eltony (2002) found a similar a relationship between the two and attributed this to the convenience of taxing international trade as compared to taxation of domestic activities.

The level of debt stock significantly affects tax efforts. A percentage increase in the debt stock increases tax-GDP ratio by 0.07 percent and this is corroborated by previous findings. Teera (2002) found out that lagged debt stock significantly increases tax-GDP ratio. According to Tanzi (1987), when debt interest outstrips borrowing, the level of taxation ought to go up unless the rate of growth of the economy is sufficient to sustain the increase. The structure of the economy reflected by the sectoral contributions of Agriculture, services and manufacturing to GDP has varying effects on tax efforts.

Increased share of agriculture to the economy decreases tax efforts. A percentage increase in the agricultural sector's contribution to GDP in a given period decreases that tax efforts of the following period by 0.23 percent. Tanzi (1992) and Teera (2002) also found out that increased size of the agriculture sector reduces the tax-GDP ratio owing the difficulty in taxing the sector that is mainly subsistence hence generating limited tax supplies. Services and manufacturing sectoral contributions to GDP do not significantly affect the tax efforts in Uganda. Although the growth of the above sectors increases tax efforts, the effect is not statistically significant. The insignificant effect of the manufacturing sector on tax efforts was found to be a confirmation of past findings. Eltony (2002) investigated the determinants of tax efforts in Arab countries and found out that though the manufacturing sector positively impacts on tax efforts, the effect is not significant. The insignificant effect of manufacturing sector on tax efforts is attributed to the dominance of the manufacturing sector by foreign investors who in the initial period of the establishment of their firms are entitled to claim VAT incurred in the procurement of inputs and offsets since production of final output does not commence immediately.

Recommendations

Uganda's tax efforts can be propelled to the Sub Saharan Africa average level of around 16 percent by addressing certain concerns. There is need to emphasize taxation of domestic activities in addition to revenue from international trade. Investment in areas that promote the manufacturing and services sectors should be undertaken since they are important in tax effort. There is need for incentives and investments to commercialize the agricultural sector by enhancing agricultural production and productivity, agro processing and marketing so as to be able to bring agricultural activities under the tax net.

References

- Ayoki, M., Obwona, M. and Ogwapus, M. (2005). Tax reforms and domestic revenue mobilization in Uganda. Washington, D.C, U.S.A: Global Development Network.
- Bahl, R.W. (1971). A Regression Approach to Tax Effort and Tax Ratio Analysis, *International Monetary Fund Staff Papers*. Vol. 18, pp.570 – 612.
- Bangladesh. *Working Paper Series: WP 0715*, Policy Analysis Unit (PAU): Research
- Begum, L. (2007): A Panel Study on Tax Effort and Tax Buoyancy with Special Reference to
- Cawley, G., Zake, J. (2010). Tax Reform in Florence Kuteesa, Emmanuel Tumusiime – Mutebile, Alan Whitworth, Tim Williamson (eds). *Uganda's Economic Reforms: Insider Accounts*: Oxford University Press.
- Chelliah, R. J. (1971). Trends in Taxation in Developing countries. IMF staff papers, n. 18, p. 254 – 331
- Department, Bangladesh Bank, Dhaka, Bangladesh.
- Eltony, Nangy, M. (2002). Determinants of Tax Effort in Arab Countries, API Publications, Kuwait.
- Ghura, D. (1998). Tax Revenue in Sub – Saharan Africa: Effects of Economic Policies and Corruption.
- Gupta, S, A. (2007). Determinants of Tax Revenue Efforts in Developing countries. IMF Working paper WP/07/184.
- International Development*, 16, 785-802.
- Ministry of Finance, Planning and Economic Development. (2004). Background to the Budget, Financial year 2005/2006, Kampala.
- Ministry of Finance, Planning and Economic Development. (2005). Background to the Budget, Financial year 2005/2006, Kampala.
- Ministry of Finance, Planning and Economic Development. (2008). Background to the Budget, Financial year 2008/2009, Kampala.
- Ministry of Finance, Planning and Economic Development. (2009). Background to the Budget, Financial year 2009/2010, Kampala.
- Piancastelli, M. (1991). Measuring the Tax Effort of Developed and Developing Countries. Cross Country Panel Data Analysis /1985/95, Discussion Paper, IPEA, Rio de Janeiro.
- Stotsky, Janet, G. and Wolde – Mariam ,. (1997). Tax Effort in Sub – Saharan Africa. IMF WP/97/107 73.
- Tanzi, V. (1987). Quantitative Characteristics of the Tax Systems of Developing Countries, Oxford University Press.
- Tanzi, V. (1992). Structural Factors and Tax Revenue in Developing Countries: A decade of Evidence, Cambridge University Press: 267 – 281.

- Tanzi, V., Zee, H, H.,(1997). Fiscal policy and long – run growth. IMF staff papers, n. 44, p. 179 – 209.
- Tanzi, Vito; Blejer, Mario (1988): Public Debt and Fiscal Policy in Developing Countries, in Arrow, Kenneth J., ed; Boskin, Michael J., ed. The economics of public debt: Proceedings of a conference held by the International Economic Association at Stanford, California. New York: St. Martin's Press
- Teera, J. M. and Hudson, J. (2004): Tax Performance: A Comparative Study. *Journal of*
- Teera, M, J. (2002). Determinants of tax revenue share in Uganda.
- Tumusiime-Mutebile, E (2010). Institutional and Political Dimensions of Economic Reform in Florence Kuteesa, Emmanuel Tumusiime-Mutebile, Alan Whitworth, Tim Williamson (eds). *Uganda's Economic Reforms: Insider Accounts*: Oxford University Press.

Adequate Mathematics For Developing Countries

Christian Baruka Alphonse

Abstract.

This paper presents a mathematical modelling problem which illustrate how mathematics can be applied in analysing problems facing farmers in a developing country. It is anticipated that such applications which touch the interest of a common person could motivate developing countries to use their meagre resources in supporting mathematics training. Otherwise most developing countries will see training and research in mathematics as a luxury which they can not afford.

Key words: *Mathematical modelling, developing countries, linear programming*

Introduction:

People study Mathematics for many reasons. There are those who believe that mathematics is worthy studying just for its own sake. Generally, this is what most pure mathematicians believe - that there is a certain beauty about mathematics, enough reason to spend hours, days, or a life-time, doing mathematics just for the sake of it. However, to me, the primary reason for studying mathematics lies in its applications. We study mathematics in order to apply it. Good mathematics is always applicable, even if we haven't yet found how it can be applied! Mathematics has been applied to virtually all facets of life. The process of applying mathematics to a real life situation is often referred to as *mathematical modelling*. A model in this sense is a simplified, mathematical concept that represents a real life situation. Mathematical models are developed to help in the understanding of physical phenomena. Formulating a model usually involves making observations, collecting data or carrying out an experiment. The observations made, or the results of our experiment, are then put in a mathematical form, together with some assumptions. Often this means representing our observations or experimental results by an equation or set of equations involving some derivatives of one or more unknown functions. Such equations are called differential equations, and these constitute our mathematical model.

The situation is rather different in Developing countries. Here, local daily life problems are rarely mentioned in the mathematics classroom. Mathematics modelling is often restricted to large scale research projects. Egypt, India, Benin, and Niger use mathematical modelling for national and regional economic long-term planning. South American countries use it for water control and analysis of water reservoirs. Mathematical modelling can also be used as an aid for long-term planning. These studies are carried out by international organizations or consulting agencies in cooperation with government departments in developing countries. However, the results of these large scale projects often reflect the point of view of the organization financing the research, which may differ from the indigenous people's point of view.

Agriculture employs the largest percentage of the population in most developing countries. Very often, there is little understanding of the problems that poor farmers struggle with in the village. Village organizations, farmers cooperatives, and district planners do not have access to the organizations that decide which research projects receive funding. Yet there are many urgent problem areas in the everyday life of farmers that could benefit from such research.

Many of the problems faced by farmers in Sub-Saharan Africa can be solved analytically. Mathematics modelling, mathematical theory, operations research, and practical applications are

useful tools for predicting crop yield or for planning how much land should be cultivated. Some of these methods could be included as practical examples in mathematics curricula, allowing students to gain an interest in these topics.

Some of the basic problems that farmers face include:

- What crops should be grown?
- What area should be sown to minimize the risk of producing too little food in the event of insufficient rainfall?
- Should the emphasis be on subsistence or cash crops?
- Should a village or district use ox-drawn ploughs or tractors?
- Is small-scale irrigation possible? What are the economic advantages?
- What size of plot should be used for communal farming?

Some of these questions could be answered by using mathematics models and operations research methods. Staff and students in universities are in a position to develop models and present their findings to farmers in village organizations. The mathematical analysis could bring up many important points for discussion. For example:

- What is best for a village may not be best for the government.
- The selling price of the produce is not always in reasonable proportion to the amount of agricultural labour used to produce it.
- Can the farmers carry the risks of fluctuating world market prices themselves, or would it be better to accept a lower income that was stabilized by the government?

The following example illustrates how a real life farming problem can be modelled mathematically.

Example

Mtakuja is a village in Shinyanga Region in Tanzania, where about one thousand families live. They grow maize as a major crop for subsistence. During the growing season, farmers use ox-ploughs, but they have been discussing whether they should hire a tractor to plough and whether they should use herbicides to avoid weeding. The purpose of this investigation is to help them make that decision. In quantitative terms, how many acres have to be ploughed by a tractor to make it cost-effective, and for how many acres should they buy herbicides?

The study will examine the farming activities of an average family in the village with 5 people. Studying a family unit instead of the village as a whole is acceptable because all families use the same methods to grow maize. It is assumed that each family owns an ox-plough. The main quantities and constraints are first laid out as variables to analyze this problem.

The land available to the family can be ploughed by tractor or by ox. The farmers may also choose to weed the land manually or apply herbicide. The number of acres assigned to each of these choices is shown in Table 1.

	Manual weeding	Herbicides weeding
Tractor	X_{tm}	X_{th}
Ox	X_{om}	X_{oh}

Table 1

The total acreage for maize can be expressed as the sum of land cultivated using each of the above methods.

$$X_{\text{total}} = X_{\text{tm}} + X_{\text{th}} + X_{\text{om}} + X_{\text{oh}}$$

We assume there is enough land available to the farming family, so there is no land constraint. To formulate the labour constraint, the timing of ploughing, planting, weeding, and harvesting must be considered due to the seasonal nature of the farming activities.

Farming Schedule and Labour Constraints

Ploughing and planting are done for three months between January and March.

Ploughing season = Planting season = 3 months/yr.

Constraints when using a tractor to plough one acre: A tractor needs 1 hour to plough an acre.

Tractor plough rate = 1 hr./acre (1)

The tractor can be hired for 8 hours per day.

Tractor time = 8 hr./day (2)

Ten person-hours of family labour are needed for clearing, preparation, and planting of each acre.

Clearing rate = 10 pers. hr. /acre (3)

The ploughing is done twice, the first time for clearing, the second time for planting.

Number of plough passes = 2 passes/acre (4)

Constraints when using an ox-plough to plough one acre: An ox-plough needs 12 hours to plough an acre.

Ox plough rate = 12 hr./acre (5)

An ox-plough can be used 4 hours per day.

Ox time = 4 hr./day (6)

Forty person-hours of family labour are needed for clearing, preparation, and planting of each acre.

Clearing rate = 40 pers. hr. /acre (7)

Ploughing is done twice.

Number of plough passes = 2 passes/acre (8)

Weeding is done for two months in April and May.

Weeding season = 2 months/yr.

Constraints when weeding is done manually: The weeding takes 100 person-hours.

Weeding labour rate = 100 pers. hr. /acre (9)

Constraints when weeding is done using a herbicide: It takes 5 hours to spray one acre during the planting period.

Spraying rate = 5 hr. /acre (10)

Harvesting is done for two months in June and July.

Harvesting season = 2 months/yr.

Harvesting is done manually, and it takes 30 person-hours to harvest an acre of maize.

Harvesting labour rate = 30 pers. hr. /acre (11)

The above information will help formulate a set of labour constraints, taking into account that one month has 25 working days.

Ploughing

The tractor must plough the acreage ($X_{\text{tm}} + X_{\text{th}}$) twice at a rate of one acre per hour. The use of the tractor is limited to 8 hours a day for the 3-month (75 day) planting season. This gives the following constraint for the use of the tractor:

$$(2 \text{ passes}) \times (X_{\text{tm}} + X_{\text{th}}) \leq 75 \text{ days} \times 8 \text{ hrs/day} \quad (12)$$

The ox-plough takes 12 hours to plough each acre, and can only be used 4 hours per day. Therefore the constraint for use of the ox-plough is:

$$(2 \text{ passes}) \times (12 \text{ hr.}) (X_{om} + X_{oh}) \leq 75 \text{ days} \times 4 \text{ hr./day} \quad (13)$$

The human labour constraints are based on 5 family members working 10 hours per day during planting (Jan.-Marc.), weeding, and harvesting. During each three-month season, they work the land twice; clearing it after each ploughing pass.

Clearing

$$(40 \text{ pers hrs.})[2 \times (X_{tm} + X_{th}) + 2 \times (X_{om} + X_{oh}) + 5(X_{th} + X_{oh})] \leq [75 \text{ days} \times 10 \text{ hr./day} \times 5 \text{ pers.}]$$

or

$$80(X_{tm} + X_{th}) + 80(X_{om} + X_{oh}) + 5(X_{th} + X_{oh}) \leq 3750 \quad (14)$$

The first term in Equation 14 is the time needed to clear when using a tractor. The second term is the corresponding time when using an ox-plough.

Planting

When a tractor is used, 10 person-hours are needed for planting each acre (Equation 3). With an ox-plough, 40 person-hours are needed for planting (Equation 7). The constraint for human labour during the planting season shown in Equation 15 is based on Equations 3, 7 and 10.

$$10(X_{tm} + X_{th}) + 40(X_{om} + X_{oh}) + 5(X_{th} + X_{oh}) \leq 75 \text{ days} \times 10 \text{ hr./day} \times 5 \text{ pers.} \quad (15)$$

Weeding

The weeding takes 100 person-hours during the weeding period in April and May. The human labour constraints for weeding will be:

$$100(X_{tm} + X_{om}) \leq 50 \text{ days} \times 10 \text{ hr./day} \times 5 \text{ pers.} \quad (16)$$

Harvesting

Based on the number of hours needed to harvest maize (Equation 11), The constraint for the harvesting period in June and July is represented in Equation 17.

$$30(X_{tm} + X_{th} + X_{om} + X_{oh}) \leq 50 \text{ days} \times 10 \text{ hr./day} \times 5 \text{ pers.} \quad (17)$$

Maize Yields, Production, and Costs

The yield of maize per acre is 1,000kg, independent of the method of ploughing or weeding. The consumption on maize by the family is estimated as 50kg per month, or 600kg annually. Therefore, the food requirement constraint can be described as:

$$1000(X_{tm} + X_{th} + X_{om} + X_{oh}) \geq 600 \text{ kg} \quad (18)$$

The objective is to maximize the total production total production of maize:

$$\text{MAX: } 1000(X_{tm} + X_{th} + X_{om} + X_{oh}) \quad (19)$$

Net profit is the difference between the revenue function and the cost function from selling the surplus maize at 600 Tzs per kilogram. The cost of hiring a tractor to plough one acre is 5000 Tzs, and the cost of the herbicide is also 3000 Tzs. The cost of the ox-plough is very small and can be omitted.

The maximum profit function is given by:

$$\text{MAX: } 600\{1000(X_{tm} + X_{th} + X_{om} + X_{oh}) - 5000(X_{tm} + X_{th}) - 3000(X_{th} + X_{oh}) - 600\} \quad (20)$$

We have now defined a solvable set of equations that can be solved using linear programming methods. While it is possible to calculate a solution by hand using variables and graphs, there are software packages readily available to solve such sets of equations. In this case a software package called LINDO was used to solve the constraints in Equations 12-20 to provide us with the maximum revenue or the minimum cost.

Results

The focus of the study was to determine whether or not a tractor should be hired and herbicides used. The results suggest it would be beneficial to hire a tractor ($X_{tm} = 12.5$ acres), and ($X_{th} = 20.6$ acres). These numbers represent two dominant figures in the profit function:

$$\text{MAX: } 595000X_{tm} + 59200X_{th} + 60000X_{om} + 597000X_{oh} - 36000 \quad (21)$$

The herbicides should be bought and used on about 20.6 acres. The result shows the significance of manual work in relation to the machine (tractor). As a matter of fact, manual labour is involved during the planting period (January, February, March), the weeding period (April, May), and the harvesting period (June and July).

Conclusion

The results from a model like this one could be disseminated through training and mass media. It is also worthwhile to refine the model by investigating some other alternatives. For instance, what would be the impact on the revenue obtained if tractors were not hired? What would happen if only half as much herbicide was bought? Does it make much difference to maximize the yield or the net revenue? What would be the income per family? This example illustrates that it is possible to use some straightforward equations to provide guidance to small farmers.

Reference

- Alphonse C. B. (1997) *Applications of the AHP to Agricultural Problems in Developing Countries*, Journal of Agricultural Systems, vol. 53, pg. 97-112.
- Hitch, C. *"Operations Research and National planning, A Dissent,"* Operations Research, 5, 718-723, 1957.
- Schweigman, C. *"Doing Mathematics in a Developing Country,"* by Tanzania Publishing House p. 63-67, 1979.

Towards Sustainable Ecotourism through Stakeholders' Collaboration Strategies

L. Passape, W. Anderson and G. Lindi

Abstract

This paper aims to assess the stakeholders' strategies towards sustainable ecotourism, with specific focus on networks and public private partnership strategies. A survey involving tourism stakeholders (n=250) was conducted in the eastern and northern tourist circuits of Tanzania. Through binary logit modeling, relationship between various variables was analyzed by looking at the attributes associated with identified strategies. The study results show that despite the number of the stakeholder's networks available, the level of their involvement in the management of ecotourism is still low. There is also statistical evidence showing that the extent of public private partnership in ecotourism activities is not so much clear and formalized. This leads to inadequate seriousness and sense of ownership among stakeholders especially community members and jeopardizes the development of ecotourism in the country. It is therefore authors' opinion that there is greater potential of sustaining ecotourism in Tanzania if all stakeholders will be represented and collaborated via networks and public private partnerships.

Key words: Stakeholder Collaboration, Strategy, Sustainable Ecotourism.

Introduction

Despite the general consensus that, tourism can be successfully used as a powerful tool for economic development worldwide, there is still a gap on developing specific strategies on the sustainability principles that could make tourists better-off without leaving the destination communities worse-off. In view of that, the world is facing a global crisis due to man-made disasters and other natural phenomena affecting the quality of life on different sides of the globe. Unfortunately, the remaining question that goes unanswered till today is how to make tourism more environmental friendly and at the same time preserve it as an interesting vacationing experience for the tourists, especially in developing economies that embrace tourism as the panacea to their economic woes. The answer usually is found in ecotourism which primary focuses on experiencing natural areas, which fosters environmental and cultural understanding, appreciation and conservation. By definition ecotourism is the traveling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations found in these areas (Anderson, 2009; Fennel 2001; Ceballas-Lascurain 1983). According to Anderson (2009), in order for attraction to be regarded as ecotourism-oriented it should primarily involve the natural environment, with associated cultural elements constituting secondary components; also the interaction between the tourists and the environment attraction should be based on education, learning and appreciating; ecotourism should be environmentally, social-culturally and economically sustainable.

Tanzania is not unique in this, as most of its visitors come for ecotourism attractions. It is estimated that at least 90% of tourists visiting Tanzania follow nature-based tourism (Anderson, 2010). Various reports reveal that Tanzania has more competitive advantage than other countries when comes to ecotourism. Tanzania Tourist Board (2009) revealed that the key reason to Tanzania's competitive advantage is the country's location, natural resources, cities and broad cultural heritage. Moreover, it has been reported that Tanzania is the only country in the world which has allocated more than twenty five percent of its total area to wildlife national parks and

protected area compared to the world average of 4% only (Anderson & Amiri, 2011). According to Anderson (2010) and Honey (2008), Tanzania ranks second in the world for its natural resources; is a home to approximately fourteen national parks, thirty three game reserves, forty four game controlled area, one conservation area and two marine parks. That is equally saying that, most of tourism activities in the country depend on ecotourism's attractions.

The economic contribution of ecotourism in Tanzania's economy is significant. Carlson (2009) and SNV (2010) show that tourism is one of the primary national foreign exchange earners in Tanzania, contributing to 17.2 per cent of the gross domestic product and producing over 400,000 jobs, nearly one job for every additional tourist. In an effort to increase the country's ecotourism achievement the Ministry of Natural Resources and Tourism (2005) stipulated that Tanzania focuses on developing a sustainable tourism quality which is friendly to the conservation and restoration of environment and its people's culture as well as seek to maximizing benefits to be shared by the indigenous community for poverty alleviation. These initiatives among others featured in National Tourism Policy 1999 and being incorporated in the country's Integrated Tourism Master Plan 2002 (MNRT, 1999; 2002).

It has been revealed in Murphy (1997) that as the world is changing and experiencing shifts in social values that affect the way people act as individual, business and government, countries recognize more impact of those changes on environment. This brought more attention to the issue of sustainable ecotourism which is assumed to play a vital role in ensuring economic, ecological and cultural sustainability of the ecotourism destinations and country's development at large. In lieu of that, various principles of sustainable ecotourism were presented for instance, Mwamwaja (2006) argued that sustainable ecotourism involves using resources sustainable; reducing over-consumption and waste; maintaining diversity; integrating tourism into national/local planning; supporting and involving local communities; consulting stakeholders; skills development, training and marketing tourism responsibly. Anderson (2009) shows that network theory has been used in different settings when exploring the roles of networks in promoting ecotourism in the Balearic Islands. The study concludes that network theory provides a prescriptive approach for facilitating community-based tourism planning using stakeholder involvement and proposes five steps for a successful collaboration process: a high degree of interdependence, the recognition of mutual benefits that decisions arrived at will be implemented and therefore legitimised, that all stakeholder groups need to be involved, and the introduction of a formal strategic planning process.

Although there are numerous principles of sustainable ecotourism in the ecotourism literature, there is still a gap to be filled on developing specific strategies on each of the presented principles, particularly in emerging destinations like Tanzania. This study therefore focuses on principles of local community involvement and stakeholders' consultation by assessing the role of stakeholders' collaboration strategies towards sustainable ecotourism in Tanzania concretely focusing on stakeholders' networks and public private partnerships. The assumptions underlying the study's objective recline on the argument that in order for any project to be successfully implemented, community has to be involved. In line with that assumption, Vernon *et al.*, (2005) depicted that successful implementation of sustainable tourism requires cooperation by a wide range of different stakeholders (the public sector, accommodation businesses, transport operators, attractions, restaurants, food suppliers, utility companies, host communities and tourists).

The study findings are expected to be useful to ecotourism stakeholders since it increases public awareness on various stakeholders' collaboration strategies for sustainable ecotourism. The study also contributes towards fulfilment of ecotourism strategies presented in Tanzania Tourism Policy of 1999 on the aspects of community participation, human resources and skills development. In addition to that, the findings contribute substantially towards development and strengthening of stakeholders' networks and various partnerships between public and private players which in turn will ensure the incorporation of many stakeholders' interests and enhance smooth operation of ecotourism activities as argued by Pierce (1997) that control of tourism facilities through ownership by community groups as well as substantial community representation and committees may limit the negative social impacts. Vernon *et al.*, (2005) depicted that successful implementation of sustainable tourism requires cooperation by a wide range of different stakeholders (the public sector, accommodation businesses, transport operators, attractions, restaurants, food suppliers, utility companies, host communities and tourists). Finally it contributes to the general knowledge on ecotourism and sustainable development strategies, which is lacking in tourism emerging destinations like Tanzania.

Literature Review

Ecotourism is the fastest growing sub sector of the tourism which emphasizes on protection of the environment and natural habitats. It originates from ethics of conservation and sustainable development (Miller, 2007). According to Anderson (2009), ecotourism is the part of sustainable tourism which is made up of cultural, rural and natural tourism aimed to conserve biodiversity, sustain the well-being of local people, includes learning experience, involves responsible actions on the tourism industry, requires lowest possible consumption on non-renewable resources and stresses. Byrd (2007) argued that for sustainable tourism development to be successful stakeholders must be involved in the process.

A stakeholder in the tourism concept is identified by Freeman (1994) as any group of individual who effect or is affected by tourism development in an area; hence their participation is very crucial. Arnstein (1969), Cohen and Uphoff (1980) argued that stakeholders' participation can be grouped into three categories of non-participation (stakeholders who has no input); degree of tokenism (stakeholders voice their interest but can't influence the decision making) and degree of citizen power (stakeholders voice their interest and influence decision making). Stakeholders' collaboration is important in the community as it empowers community members, generate new ideas to the community, reduce conflicts, increase sharing of responsibilities and leads to an informed community (Carmin et al., 2003). Generally, stakeholder collaboration is regarded as a process of ensuring that there is interaction of various stakeholders with common or related goals during planning, learning, decision making and empowerment mainly for the sake of enabling smooth management, collectively decision and innovation when tackling challenges, opportunities and plans for current and future well-being of a particular society.

The current study is determined to examine efficient ways of collaborating stakeholders such as networks and public private partnership. Anderson (2009) defined network as a mechanisms for the pooling of resources among two or more stakeholders to solve a problem or create an opportunity that neither can address individually. Moreover, Dredge (2006) cited in Anderson (2009) interprets the sense of network theory as relationships between government, business and

civil society in such that those relationships shape issue identification, communication, resource sharing and collective actions among stakeholders.

Various theories on stakeholders' collaboration exist worldwide. For example Donaldson and Preston (1995) state that every legitimate person or group participating in the activities of a firm do so to obtain benefits and that the priority of the interests of all legitimate stakeholders is not self-evident. The theory is composed of three interrelated but different aspects known as: descriptive/ empirical aspect (describes some characteristics and behavior of an organization or development); the instrumental aspect (identifies the connection or misconnection between stakeholder management and the organization achievement or development goals) and the normative aspect (interpret function of moral or philosophical corporation whether is right thing to do or due to certain interest). The stakeholders' theory is relevant to this study as it help the understanding of stakeholders and their interest or motives in the tourism industry as well as the consequences of connections of various organizations in tourism industry.

In addition to stakeholders' theories, some authors presented various models on stakeholders' collaboration. Rowley (1997), for instance, integrated stakeholder theory and social network analysis to construct a theory of stakeholders influence with an argument that stakeholder relationship do not occur in vacuum or dynastic ties but are influenced by a network among stakeholders. Due to its relevance on stakeholders' collaboration aspect, the stakeholders' model is applicable in the present study with some modification so as to include local communities, service providers, community and nongovernmental organizations, academicians and researchers as well as government officials. These were regarded as primary stakeholder group with an argument that without their continuing participation, the ecotourism will not be sustainable as evidenced to their importance in ecotourism's development. Carkson (1995) argued that if a primary stakeholder group became unsatisfied and withdraw from the corporation system in the whole or in part the corporate will be seriously damaged or unable to continue as gain concern.

On the same views, Bramwell and Sharman (1999) presented collaboration analytical framework to assess the extent to which a local arrangement is inclusive, has collective learning and consensus-building, and provides a mechanism for evaluating the power relations between stakeholders. In this framework, three sets of issues were proposed to measure the collaboration process encompassing the scope of the collaboration, intensity of the collaboration, and the degree to which consensus emerges among actors. Besides that, Harisson *et al.*, (2003) conducted a study on sustainable ecotourism development in the Caribbean with main focus on practical challenges. A key challenge towards sustainable ecotourism identified by Harisson and colleague is the exclusive nature of tourism which inhibits participation of local people in development of tourism. For sustaining tourism in Caribbean, their study recommend establishing more dialogue and collaboration between industry practitioners, government policy makers, academicians, researchers and students; emphasizing on policy oriented and actionable research as well as providing stakeholders with access to information that are found within academic institutions. Moreover, their study is relevant as it discusses various important principles of sustainable tourism and in view of that, the present research worked upon the study's recommendations on stakeholders' collaboration by examining further on how best various stakeholders can collaborate to sustain ecotourism.

Moreover, Byrd (2007) held a study on stakeholders in sustainable tourism development and their roles to investigate the roots of stakeholders' involvement and public participation and how they have been applied in the tourism. The findings show that in the process of sustaining tourism development four groups of stakeholders are supposed to be involved, including the actual and future visitors, as well as the present and future host community. The study also depicted that the extent of stakeholder involvement in sustainable development process depends much on time, available resources and leadership of that particular society. The current study acknowledged the four groups of stakeholders presented and worked further on involvement of various players in the group of present host community in Tanzanian context particularly on various ways to enhance their collaboration. Above all, the current study acted upon study's recommendation on identifying methods and strategies which will enhance not only local community participation but also widening community knowledge and empowerment.

Anderson (2009)'s study on promoting ecotourism through networks in the Balearics takes us a mile further to understand the nature and context of various actor networks and the way they are utilized to promote ecotourism (see Figure 1). The study reveals that as Balearic Archipelago was experiencing pressure from tourism activities on its resources, different stakeholders recognized the power of networking and came up with three networks, namely Alcudia Network (which offers environmental education and training programmes); Sustainable Hotels Network (that promotes green environments in the hotel establishments) and Calvia Network (which mainly focuses on individual development through ensuring active participation of hosts, control of tourism quality and sustainable use of resources). The study is pertinent as it provides in-depth discussion of stakeholders' networks and gives five vital characteristics to networking process which are interdependence; joint ownership of decision; stakeholders' assumption of collective responsibility for the future direction of the domain; and network as an emerging process.

Based on literatures the present study conceptualizes stakeholders' collaboration. Strategies influence sustainable ecotourism in Tanzania as revealed in the null hypothesis that "Stakeholder networks and public private partnership have significant impact on sustainable ecotourism in Tanzania". The assumption underlying the hypothesis lies on the fact that stakeholders in partnerships and networks are more likely to promote sustainable ecotourism than otherwise. The argument is widely supported in Anderson (2009) and Ladkin and Bertramini (2002) that stakeholder collaboration acts as a tool to enhance stakeholders' understanding of common goals and to help these stakeholders solve problems in the sector development processes. The conceptual framework which guides the study in formulating and assessing the strategies on how best ecotourism stakeholders can collaborate for ensuring that there will be sustainable ecotourism is given in Figure 2; where the study methods are described in the next section.

Data and Methodology

This paper aims to assess the stakeholders' collaboration strategies towards sustainable ecotourism in Tanzania through stakeholders' networks and public private partnerships. The study adapted the quantitative methodology as it involves gathering of factual data and assessment of the existing relationships between dependent (in this case sustainable ecotourism) and independent variables (in this case networks and public private partnerships). The study population comprised of Tanzania's tourism stakeholders within the main tourist circuits of Tanzania in the east (Dar es Salaam, Pwani, Morogoro, Tanga and Zanzibar) and north

(Kilimanjaro, Arusha and Manyara). It is estimated that about 700 tourism businesses were registered in 2008; 66% of them in the northern tourist circuits (Anderson, 2010: 107).

Through simple random sampling, 250 respondents were selected to form a sample population and distributed at the ratio of 2: 3 for eastern and northern circuit respectively as most of ecotourism activities take place in the northern circuit as compared to the eastern circuit. The study adopted a survey approach to collect data where preliminary version of questionnaire was pre tested to few respondents for its validity, relevancy and clarity. The relevant secondary data mainly on strategies, challenges, opportunities and performance of tourism industry was collected from Tanzania Tourist Board and research institutions in order to analyze previous and current trend of ecotourism and tourism industry in general.

The influence of respondent's characteristics (gender, age, residency, education level and role) on their perception towards issues of sustainability of ecotourism in Tanzania was analyzed on each of the stakeholders' collaboration strategies by specifying and estimating binary logit models. The used questionnaire comprised of two general questions intended to assess the respondent's opinion on importance of stakeholders' networks in management of ecotourism together with the need for allowing private players to manage ecotourism. Respondents were asked 'How do you agree or disagree with the contribution of the 23 stakeholders collaboration strategies towards sustainability of ecotourism in Tanzania?', the mentioned 23 statements (see Box 1) were grouped into two groups of stakeholders network and public private partnership (PPP). The responses to these questions were coded so that the lower values indicated stronger response, as follows: "totally agree" 1, "agree" 2, "neither agree nor disagree" 3, "disagree" 4 and "totally disagree" 5. Furthermore, those response options were grouped into two groups of either 'agree' (option 1 and 2) and 'disagree' for option 3, 4 and 5 and hence qualify for the binary discrete choice model. The analysis was aided by Statistical Package for Social Science (SPSS), when estimating the degree of agreement on the influence of various variables (such as networking and public-private partnerships strategies) on sustainable ecotourism. The estimated binary logit model was as follows:

$$P(\text{AGREE}=i) = \exp(x_i\beta) / 1 + \exp(x_i\beta)$$

$$\text{Where: } x_i\beta = \beta_0 + \beta_1 \text{ net} + \beta_2 \text{ ppp} + \sum_j \beta_j Z_{ij}$$

Hence AGREE_i denotes the *i*th individual agree (AGREE_i=1) or not agree (AGREE_i=0) with the stakeholders collaboration strategies, *z_{ij}* denotes the dummy variables, β_1 and β_2 denotes the regression coefficients. For the purpose of interpreting the model, the reference group related to the following variables was defined: a male respondents aged between 36 and 35, residence of Kilimanjaro, educated at the level of college certificate and local community members.

Results

Respondent's Characteristics

The sample population comprised of 65.2 and 34.8 percent for male and females respectively. When comparing the gender variation from the two sampled tourism circuits, the percentage of males was 62.6 and 37.4 for northern and eastern circuit respectively while those of female was 55.2 and 44.8 percentage for northern and eastern circuit respectively. With regard to age, the majority of respondents fall between 36 and 46 years old, this group comprised of the 30.8

percent of the total respondents. Other respondents' age were distributed as follows: between 26 and 36 years 28.8 percent; between 46 and 55 years 24.0 percent; less than 25 years 9.6 percent and above 55 years 7.2 percent. The result implied that approximately 60 percent of all respondents were aged between 26 and 46 years old probably because this age group forms the majority of work force in Tanzania. The findings also revealed that 60 percent of total respondents were found in the northern circuit and 40 percent were found in the eastern circuit of tourism. This is due to the sampling layout that the respondent's ratio between the two circuits to be 2:1 as many of ecotourism's activities take place in the northern as compared to eastern circuit MNRT (2009). Moreover, it was disclosed that respondents have different level of education ranging from primary to Ph.D whereby 34.4 percent of total respondents reached at least advanced level of secondary education.

The majority of respondents (51.2 percent) possess the undergraduate qualifications at different levels of certificate, diploma and first degree while those with post graduate qualification (Masters and Ph.D.) comprised of 14.2 percent of the total respondents. Respondents play different roles in the society as far as ecotourism is concerned. The majority group (23.4 percent) comprised of stakeholders from government organizations while local community members and players from private sector and nongovernmental organizations form 20.4 and 20.0 percent respectively. On other side researcher and academicians from various institutions forms 15.2 percent and service providers' group (comprised of tour operators, transporters, hotel and restaurants) form 20.8 percent of total respondents. The selected respondents' roles represented the major group of ecotourism stakeholders in the community as evidenced in Navruzov (2000) with an argument that the word of community is widely used with varying meanings, within these, five factors are perhaps more important for clarification are individuals, social groups, nongovernmental organizations, community sector and local population. The detailed respondents' characteristics reflecting gender, age, location, education level and their roles in ecotourism is presented in Table 1.

Degree of agreement with usefulness of stakeholders' networks in ecotourism management

In Tanzania, the tourism networks comprised of several groups of stakeholders situated in various ecotourism attraction sites. Among the key networks accordingly are the following:

- i. *The Tourism Confederation of Tanzania (TCT)* is the union of Tanzania's tourism associations and networks representing various private business sectors in the travel and tourism sector. The ten main registered members are Tanzania Association of Tour Operators (TATO), Hotel Association of Tanzania (HAT), Tanzania Hunting Operators Association (TAHOA) and Tanzania Society of Travel Agents (TASOTA), Tanzania Air Operators Association (TAOA), Intra-Africa Tourism & Travel Association (ITTA), Tanzania Professional Hunters Association (TPHA) and Zanzibar Tourism Investors Association (ZATI), Tanzania Tour Guides Association (TTGA) and Tourism & Hotel Professionals Association of Tanzania (THPAT). By this nature and mixture of members TCT is considered as the apex body in travel and tourism in the country. The main roles of the confederation have been designed to ensure that, through national representation, appropriate macro policies and strategies are adopted for developing and maintaining an environment for protecting natural and cultural heritage for the sake of both domestic and international as well as for growth and development of the country at large. In ensuring that, the confederation achieves its goals, efforts are undertaken to improve competitiveness,

expand investment in tourism and address operational challenges, mainly in the areas of hospitality, quality and infrastructure.

- ii. *Tanzania Association of Tour Operators (TATO)* was established in 1983 to represent the licensed tour operators in Tanzania. The mission of TATO is uniting, promoting and providing tools to local and international individual tour operators as well as placing the country in the world map, as most unique place for tourist destinations, globally. With about 256 members from both Tanzania Mainland and Zanzibar, TATO endeavours to carry out advocacy for and on behalf of its members, provide a comprehensive position in its relations with the Government and its institutions in matters pertaining to the formulation of tourism policy, plans and programmes. TATO maintains high quality and standards amongst its members. This network also plays a major role in linking its members with the government in the view of PPP in order to create enabling working environment and promotion of tourism in Tanzania. Furthermore, the association undertakes feasibility studies, research, appraisal, managing and executing programs and projects in areas where tourism activities are carried out. On top of that disseminates information to its members and relevant institutions and offers capacity building programs to its members.
- iii. *Zanzibar Association of Tourism Investors (ZATI)* is a non-governmental, non-religious, and non-political organization established in 2003 to represent the interests of all tourism investors in Zanzibar. The main aim of its operations is to ensure that, there is a sustainable and professional tourism industry of the highest standard as well as working with all stakeholders including government institutions. The association has about 106 members from various sectors such as hotels (60), tour operators (10), suppliers (8), water space (8), restaurants (5), shops (3), consultant (1) and health (1). One among the key achievements of the association is creating and implementing the PPP for enabling best tourism environment for both investors and tourists. The association also emphasizes excellence in hospitality, management, marketing together with sustainable growth and development of the sector for benefit of majority of stakeholders, mainly the local community
- iv. *Hotels Association of Tanzania (HAT)* is a non-profit organization established as a forum to connect society and tourists with the hotel community in Tanzania. The core objectives of HAT include: advocating on behalf of its members to strengthen, promote and protect the industry; provide value-added services that help members deliver on their financial, social, and environmental sustainability goals; and assist members in pursuing world-class services and hospitality standards. The association has about fifty common members and five affiliated ones including Bagamoyo Beach, Hotel Sea Cliff Limited, Kibo Palace, Kipepeo Village, Mafia Island Lodge, Mount Meru Hotel, Saadan River Lodge, Serena Hotels, Zara Adventures, Friends of Serengeti and Acorn Tourism Development Consultants. Despite the fact that, the association links and represents its members, it also strives to ensure quality and best practices among its members by stipulating and monitoring code of conduct for all members in the areas of standards, guest and employee management, promotion, information sharing and accounting.
- v. *Tanzania Air Operators Association (TAOA)* was established and became operational in October 10th, 2002 as a platform for positive dialogue between licensed air operators and

other stakeholders in the aviation industry and air transport sector. With approximately 30 members, TAOA operates to ensure development and expansion of sustainable Aviation services with much emphasis on safety, efficiency, smooth, regular and economic operations through involvement of all key stakeholders both in private and public sectors. The eight founding members of the TAOA comprised of Air Excel, Air Tanzania Corporation, Coastal Travels Limited, Desert Locust Control East Africa, Flight Link Limited, General Aviation Services, Northern Air and Tanzania Air Services.

- vi. *Mkongo-Mloka Development Association*: is the largest Non- Governmental Organization with more than 15,000 members in more than 3000 groups. This organization was officially registered in 1996. It's headquarters are at Kipo village in Rufiji District and secretariat office at Dar es Salaam, Tanzania. The main objectives of this organization among others are: motivating and empowering people to, engage into development activities; poverty alleviation education provision and diseases fighting; agriculture, Fishing development and environmental protection activities and rural tourism promotion and management of natural resources. Mkongo-Mloka Development Association is also managing three sister programs known as: Community based artisan fishing program (CBAFP), Wildlife Management Area under community based conservation (WMA-CBC) and Community forest management Rural program.

Beside those networks, Tanzania Private Sector Foundation under Cluster Competitiveness Program, undertook a study on cluster competitiveness in the country and presented tourism clusters in regions of Dar es Salaam, Tanga, Unguja, Pemba, Mwanza and Arusha. These clusters comprised of networks of stakeholders who offer several support to tourists and service industry and for this reason they benefit from the sector both financially. For instance, Unguja tourism cluster (Plate 20) in Zanzibar is made up of various stakeholders' networks such as hotels, transport, training institutions, government agencies, trade and sectorial associations as well as investors and multilateral donors. From the figure the interconnection of players is clearly shown, which in turn ensures the best environment for tourists who visited a variety of tourist attractions due to availability of various support services such as accommodation, transport, financial, health, information and internet.

In the assessment of the impact of number of factors on the likelihood that, respondents would report that, stakeholders' networks are vital in the management of ecotourism activities in Tanzania, the findings revealed that 70 % of all respondents agreed that, stakeholders' networks are very crucial during management of ecotourism. Moreover, 30 % of the total respondents were of the opinion that, the stakeholders' networks are not important in the management of ecotourism related activities in the country. The overall percentage of correctly classified cases was 69.6 %, implying that, the model classified all cases would not agree with the need of using stakeholder's networks in management of ecotourism

Degree of agreement with private players' participation in ecotourism management

It has been reported by Nkya, (2004) and Ngowi, (2006) that, since 1990's, some countries in Africa, Tanzania being one of them have also started to contract out provision of public goods and services such as sewage, waste water management, hospital services, garbage collection, and financing of infrastructure projects to private partners. Despite the fact that, PPP is common in

the mentioned areas, a range of community-private tourism ventures have emerged in Tanzania, starting in the early 1990s mainly in the northern part of the country, where tour operators have entered into legal contracts with Village Councils. These contracts generally provide for tour operators to be able to access village lands in exchange for set payments by the operator, and villages agreeing to set aside a concession area where they will not farm or settle. Such agreements serve to maintain natural vegetation and prevent land use changes in these ecotourism concessions, while villages maintain full land rights and authority over the areas (TNRF, 2008). Moreover, the same source reported that, both the public and private sectors have increased efforts to promote domestic tourism such as advertisements through the media and participation in local fairs such as “Karibu Travel Fair”, “NaneNane” and “Saba Saba”. As a way of encouraging residents to visit national parks, museums’ and antiquities’ entrance fees have remained low. However, there is still no real official policy framework or support from government agencies particularly involved in developing notions as to how a private sector entrepreneur can carry out effective community involvement with ecotourism (Loibooki, 2010).

The study findings reveal that, most of the key people in the management of ecotourism are from the public sector and respondents expressed their need for increasing the participation of stakeholders from the private sector in the management of ecotourism. This has been evidenced by the fact that while 80 percent of all respondents do agree that there is a need for allowing private players to manage ecotourism in Tanzania, 20 percent of them depicted that there is no need for allowing private players in the management of country’s ecotourism. These findings resemble the agreement of ecotourism stakeholder in World Ecotourism Summit (2002) about the significance of strengthening small and medium enterprises and particularly micro enterprises to enable them to successfully engage with the tourism industry in Africa.

Discussion and Conclusion

Stakeholder’s Collaboration Strategies towards Sustainable Ecotourism

The 23 items representing stakeholders’ collaboration strategies (box 1) were grouped into two groups on the basis of stakeholders’ network (statement 1-12) and public private partnership (statement 13-23). Each of these two groups contains specific strategies under study whereby respondents were required to agree or disagree on the proposed strategies towards stakeholders’ collaboration and sustainable ecotourism. All strategies were compared with five respondent’s characteristics namely as gender, age, location, education and role of respondents in ecotourism. The general findings reveal that in Tanzania’s northern and eastern ecotourism zones, stakeholder’s networks and public private partnerships are not much emphasized and so respondents extend their concern on need for extra efforts to incorporate more stakeholders in various forms such as using their representative groups, associations and networks as well as partnerships with public sector for sake of sustainability of ecotourism as follows:

Stakeholders Networks

The main stakeholders’ networks strategy revealed in the study were: forming more advocacy groups in the community, involving local community members (which accounted for 95.6 % of all responses), followed by business and service providers; government agencies; researchers and academician in managing ecotourism (93.4 %), involving stakeholders at local level (92%) and establishing networks for stakeholders’ interest(90.4%). The overall responses for “agree” and

“disagree” were skewed percentage-wise with an insignificant number of respondents disagreeing with the strategies ranging from 4.4 to 18.8 % (Table 2.).

In the same context, the results show that, despite the minimum number of the stakeholder's networks, the level of their involvement in the management of ecotourism is also low and hence, in order to ensure better and sustainable ecotourism in Tanzania, all key stakeholders such as local community members; business and service providers; government agencies; researchers and academicians in both public and private institutions have to be involved in its management using different roles. The findings are supported by findings by Gunn, (1994) who argued that, one main key to successful implementation of sustainable tourism development in a community is the support of stakeholders such as citizens, entrepreneurs and community leaders. Also, it is assumed that, the increased contributions of communities to locally managed ecotourism create viable economic opportunities and reduce environmental issues associated with poverty and unemployment. Stakeholder's involvement results in generation of new ideas, reduction of conflicts and sharing of responsibilities within an informed community (Carminet *al.*, (2003).

Likewise, the participation of people with disabilities within the networks is low in such a way that, respondents demanded for their full involvement so as to safeguard their interests. With regard to various functions of stakeholders' networks, for the sake of sustainability of ecotourism and community benefits, networks should always stand for stakeholders' interests and involvement in conflict resolution as well as advocacy. Additionally, formation of the stakeholders' networks should not be forced by laws, but instead, be voluntarily formed and managed at local or grass-root levels. This has also been supported and evidenced by Chanan, (1997) who suggests two types of residents' involvement, which are participation or active citizenship as a general constructive voluntary activity among individuals or social groups, and partnership between community sector and other local actors. So, the differences between these two types of social activity could be clarified in two aspects of participation and partnership. Still, results depicted low level of educated people in most of the society and the issue of stakeholders' consultation is also not very much impressive. In lieu of that, it was proposed that, in addition to having educated society members who can protect the eco attraction sites and use for their own societal benefits, stakeholders involved in ecotourism have to be consulted before authority making huge ecotourism decisions, which have substantial impact on their day to day activities socially, economically and culturally. By so doing, the community will feel as part of these projects, which in turn will lead them to be more responsible and protective over ecotourism attractions and resources and hence, ensure current and future use of ecotourism attractions in their areas.

Public Private Partnerships (PPP)

With regard to PPP, the main collaboration strategies accepted by respondents are involving private players in the capacity building of community (87.6%), increasing private partnerships in the management of projects (85.6%) as well as permitting PPP in infrastructure development, information and communication (84.8%). However, the most unacceptable strategies were: formalization of all PPP (51.6 %) and ensuring that, the public have the majority shares than private partners in the partnership (40.4% of all respondents). The details of the respondents' decisions are summarized in Table 3. Despite the significant value of the coefficient of determination (R^2) for most of the proposed strategies, the poor explanation was recorded on

establishing partnership with foreign private partners (16%) and formalization of all PPP (12%) implying that, formalization of all partnerships with foreigners does not fully guarantee stakeholders collaboration and commitment for sustaining ecotourism.

Concerning the extent of influence of predictors, negative influences have been recorded in three of them, which are formalization of all PPP; enhancing more PPP in research and development activities; as well as ensuring that, the public has the majority shares than private partners as reflected in their negative values of regression coefficient (β). Nevertheless, respondents were in dilemma on the structure of the partnerships whether to be formalized or not, majority of them depicted that, for effective and efficiency of PPP in ecotourism, system should allow both formal and informal PPP. The reason to that argument might flexibility purposes which will take into account planned and unplanned changes or effects. The importance of PPP in sustainability of ecotourism has been also supported by World Ecotourism Summit, (2002) with the argument that, PPP should be seen as a key facilitating mechanism, particularly for informing and educating the traveling public about the consequences of their travels as well as their potential for beneficial action. Partnerships could also be used to educate community members and other stakeholders on effective and efficient use of ecotourism resources for the both current and future use. Areas for partnerships and role of each partner are other key areas to be taken care of as far as sustainability of ecotourism is concerned. The findings show that, partnership between private and public should base on six key areas of infrastructure development, namely; capacity building of community, information and communication, research and development activities as well as in the management of projects.

The findings have been supported and clarified further by Eagles, (1995) that the role of the public sector in ecotourism is to provide environmental protection; provide security and enforcement; build infrastructure (such as roads and airports); as well as monitor and control impacts. In another dimension, private sectors' role in ecotourism typically is in providing accommodation and food; provide transportation, such as buses and airlines; information, such as guides and brochures, promoting sites to potential visitors; and providing consumer products, such as souvenirs.

Public-Private Partnership may use various systems and techniques, as mentioned by Ngowi, (2006) as follows:

- i. *Contracting Out*: placing of a contract by a public agency to an external private company.
- ii. *Franchising/Concession*: A private partnership takes over responsibility for operating a service and collecting fees and possibly be used for funding new investments in the form of fixed assets.
- iii. *Affermage*: Public authority controls construction and owns the fixed assets, but contracts out operations, maintenance and collecting service charges.
- iv. *Leasing*: Making use of equipment/assets without purchasing, but paying a lease.
- v. *Privatization*: Public service is entirely sold to a private partner.
- vi. *Management contract*: Private organization takes over responsibility for managing a service to specified standard by using staff, equipment of public authority.
- vii. *Build Own and Operate (BOO)*: Partnership between public and private sectors whereby, the private firm may build, own and operate the asset/service.
- viii. *Build Operate and Transfer (BOT)*: Same as BOO, but the asset/service will be transferred to the public sector after a period of time.

- ix. *Management Buyout (MBO)*: The management of well-run internal functions negotiates the purchase of that function and becomes a private venture.
- x. *Co-operatives*: Self-governing voluntary organizations designed to serve the interest of their members, working in partnership with public authorities.

In addition to that, the modality of the partnerships should be open such that, the system allows partnership between public, community sector and other local actors as well as with foreign private partners, whereby local partners have to be given higher priorities during the formation of the partnerships for enhancing and strengthening community involvement Chanan,(1997). With regard to the extent of partnership, even though some of the respondents were of the opinion that, there should be equal shares for public and private, the majority advised that, efforts should be made to ensure the public remains with majority of shares for ensuring sustainability of ecotourism activities. When comparing these findings on ownership mode to previous related studies and actual practice in different areas around the world, literature reveals that while Tuohino and Hynonen (2001) argue that, most forms of ecotourism are owned by foreign investors and corporations that provide few benefits to local communities as majority of profits are put into the pockets of investors instead of reinvestment into the local economy or environmental protection. Likewise, the evidence from Senegal during the World Ecotourism Summit (2002) shows that, the issue of foreign ownership draining many of the benefits at the local level.

Estimating Logit Models

All 23 logit models that deliver the estimated probability of agreement with each of the proposed stakeholders' collaboration strategies towards sustainable ecotourism were estimated to ascertain the attributes related to each strategy. The general findings (Table 4) show that, the probability of agreement with network strategies increases mainly with residency of respondents followed by education level and occupation.

Specifically, the chance of agreement with strategy on 'ensuring that stakeholders are forced by laws to participate in ecotourism management increases with residency of respondents except for respondents residing in Manyara. Besides, staying in the eastern tourism circuits mainly Dar es Salaam, Coast, Morogoro , Zanzibar and Tanga) increases agreement of the need for people establishing networks as a result of common goals and interests. The reasons towards these observations could be due to the argument that, the more the stakeholders are educated and closely living in ecotourism attraction site, the more they see the need and importance of protecting those areas as well as joining effort to safeguard and enjoy the expected benefits.

In spite of that, being a researcher and living in eastern tourism circuit decreases the probability of agreeing with the 'need for involving stakeholders voluntarily in ecotourism management'. The possible reason behind that being majority of the stakeholders discover existing loop holes in tourism governance so as the need for government to set up machinery. The high expectation of stakeholders is reclined on the arguments that the mechanism will clearly stipulate modalities for stakeholders involvement in the ecotourism management rather than the practice of stakeholders forming their associations and decide whether to or not to commit themselves in ecotourism. If left unaddressed, the stakeholders will involve themselves in the areas where they will benefit directly socially or economically hence left other ecotourism areas unattended which in turn might affect their growth and sustainability.

Besides, the findings depicted that, the degree of agreement with ‘ensuring stakeholders are forced by laws to participate in ecotourism management’ and ‘involving stakeholders at local level’ decreases with the female gender and age ranging between 46 and 55 of respondents. This might be contributed by the fact that, people with such age groups are considered as mature and in most cases are managers of various issues at family or community level hence, they know the importance of involving players voluntarily at local level through bottom-up models as evidenced by Gunn, (1994).

In the case of female gender, the findings can be linked to the position of women in most African societies, which don’t allow them to make decisions, but instead their men decide on their behalf and later on they are supposed to implement whatever has been agreed upon. However, as society views on this matter starts changing, females are now realizing the need for their voluntary involvement in ecotourism and other development matters in the society. Furthermore, the study findings show that, being a female decreases the probability of agreement with the ‘establishing networks involved in conflict resolutions’, ‘grooming educated society on ecotourism issues’ and ‘involving stakeholders at local level’. It has been established that, in most of local societies it is not common for women to be involved in decision making especially in conflict management and train or lead other members in the society, mainly men.

According to Timothy, 2001 cited in Weiving and Neil (2009), most of women and ethnic minorities in the past have had little voice in policy matters, particularly in the developing world and most of their work has been relegated to the economic periphery since it is either domestic in nature or undesirable to those in positions of power. The political right of women and their entitlement to participate in tourism planning and decision making are ill-defined in tourism policy practice. When these people particularly in the informal sector are not given opportunities to participate in decision making, their position becomes even more tangential. Likewise, their work becomes progressively marginalized.

Besides, the degree of agreement with strategies on ‘incorporating the contribution of people with disabilities’, and ‘stakeholders’ networks formed by people with different goals and interests’ increases with occupation of respondents especially for academicians in public universities, nongovernment organization, local government officer and researchers. Similar effect occurs for strategies on ‘grooming educated society on ecotourism issues’ and ‘consulting stakeholders before making any ecotourism decisions’. These groups of stakeholders usually have higher education level and hence their understanding in most of development issues is higher than others hence they know the benefit and impact of consultation, multi-disciplinarily, educated society for sustainable development.

Like in stakeholders’ networks, generally, the degree of agreement with public private partnerships with higher number of locals than foreign partners increases more with influence of residency of respondents and occupation in most of the strategies. It is assumed that, community residing within or near the ecotourism attraction sites engage so much in profit-making activities so they have higher chances of experiencing several challenges. Such kind of experience, lead someone to see the need for extra effort to support the sector through PPP with local partners being the majority possibly because for long period of time mostly in African countries,

foreigners benefited more than locals in ecotourism investments as revealed in Tuohino and Hynonen, (2001),

It has also been established from the findings that, being uneducated decreases the probability of agreement with formalization of all partnerships between public and private', 'allowing informal public private partnerships' and 'promoting partnerships in the infrastructure development. The level of awareness on benefits of PPP, sense of responsibility, accountability and consequences between players is believed to be low in this group of people. This is because some of them believe that only the government is mandated to build and support infrastructure. Bhuiyan *et al.*, (2011) indicated that, in order to ensure ecotourism development, governments must focus on ecotourism action plan, building institutional capacity; invest in ecotourism projects, creation of protected areas, image and branding, linkage to other types' tourism, advertising and publication, human resource development and SME operation as well as ensuring participation of the local people. The findings from the current study imply that, all those focus areas will flourish if governments will incorporate private sector in the implementation plan via PPP.

Respondent's age was another influencing factor on the possibility of agreement with 'ensuring equal shares for both public and private in the partnership' since the likelihood of agreement decreases with age below 25, between 25-35 and above 55. The reason behind is probably because most of the respondents below 25 years are normally not fully engaged in the economic activities due to educational commitments and hence, not seeing the need and consequences of PPP. On the other hand, respondents aged above 55 years are reaching retirement age hence are in better position for self-employment and commit themselves fully in ecotourism related activities. This might make them need more opportunities to be given to private individuals rather than sharing equally with public sector. On the contrary, the findings were not expected for stakeholders between 25 and 35 years to have decreasing possibility of agreement because they were believed to be most active groups with higher chances of engaging themselves in economic activities and partnerships.

Conclusion

This paper assesses the stakeholders' collaboration strategies towards sustainable ecotourism in Tanzania through stakeholders' networks and public private partnerships using 250 ecotourism stakeholders residing in the northern (Kilimanjaro, Arusha and Manyara) and eastern tourism circuits (Dar es Salaam, Pwani, Morogoro, Tanga and Zanzibar) . After analysis by binary logistic models, the findings show that 70% of respondents agree and 30 % disagree with usefulness of stakeholders' networks in the management of ecotourism, while 80 % of respondents agree with the need for private players' participation in ecotourism.

Pertaining to specific studies on stakeholders' network, findings revealed that, the main agreed strategies were: forming more ecotourism advocacy groups, involving local community members business and service providers; government agencies; researchers and academicians in managing ecotourism, involving stakeholders at local level and establishing networks for the interest of stakeholders'. Despite the fact that, all the proposed strategies show positive influence on sustainability of ecotourism, some respondents disagree with the strategies ranging from 4.4% to 18.8%. Moreover, with regard to probability estimates, it was established that, the probability of the agreement with stakeholders' network strategies increases so much with residency, education

level and occupation of respondents. Additionally, it was established that, being an academican in a private institution and living within the eastern circuits especially in the regions of Dar es Salaam, Coast, Tanga and Zanzibar decreases the probability of agreement with the need for involving stakeholders voluntarily in ecotourism management. Possibly this is because in most cases stakeholders will involve themselves in the ecotourism areas where they will benefit directly hence other areas might be left unattended. Besides, the degree of agreement with ensuring stakeholders are forced by laws to participate in ecotourism management and involving stakeholders at local level decreases with the female gender and age ranging between 46 and 55.

With regard to public private partnerships, participants expressed the necessity of involving private players in capacity building of community members (87.6%), in the management of projects (85.6%) in the infrastructure development and in the information communication (84.8%). The output also depicts that, formalization of all partnerships will not guarantee fully stakeholders collaboration and commitment for sustaining ecotourism activities and that PPP should base on six key areas of infrastructure development, capacity building of community, information and communication, research and development activities as well as in the management of projects. When ten logistic models of PPP were estimated, the findings show the following: being uneducated decreases the probability of agreement towards formalization of all partnerships between public and promoting partnerships in the infrastructure development; degree of agreement for strategy on ensuring equal shares for both public and private in the partnership decreases with age below 25, between 25-36 and above 55; and also being female decreases the degree of agreement with need for increasing private partnerships in the management of ecotourism related projects.

The study is hereby recommending that, stakeholders and the general public should organize themselves and establish networks as well as strengthen the existing networks so as to join efforts in safeguarding their interests and aid joint decision-making processes, and hence, ensuring one voice for their stand. They should also invest and participate in development processes pertaining to ecotourism particularly, in the areas of management, infrastructure support, capacity building and conservation of both natural and cultural attractions in local communities.

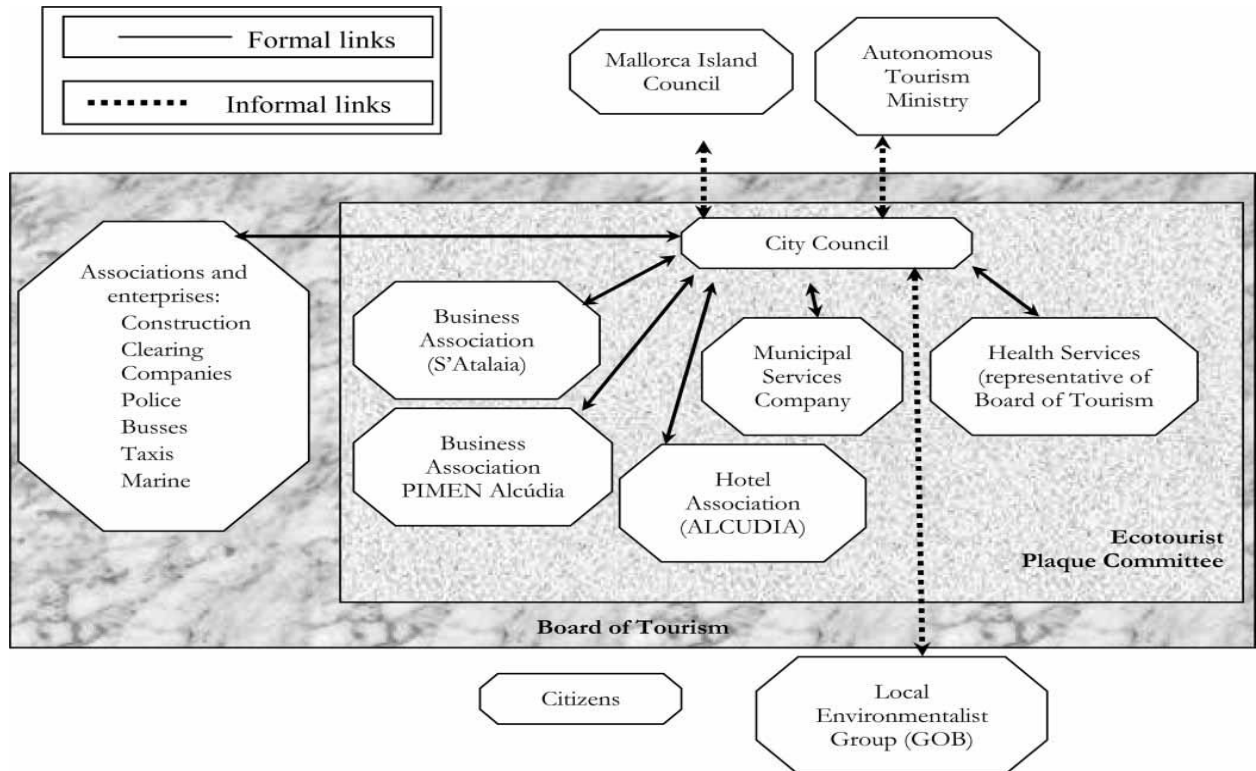
Despite the fact that, the findings from this study will add up to the existing literature and general knowledge on ecotourism and sustainable development around the globe, further research needs to be conducted on structure, composition and extent of involvement of the stakeholders' network and public private partnerships as well as other components of stakeholders collaboration strategies, which might have impact on sustainability of ecotourism. Knowledge of the stakeholders' collaboration strategies cannot be enough and complete, therefore the authors wishes to see future research exploring other factors and areas necessary for sustaining ecotourism from other perspectives. This will enhance joint effort from different angle and perspectives for sustainable ecotourism and development in general.

From the point of view point of policy and management, the findings will be helpful to policymakers and other decision-makers in ensuring that, appropriate decisions and measures are taken for stakeholders' involvement. In view of this, for effective and efficient stakeholders' collaboration, it is hereby recommended for involvement of stakeholders in the form of stakeholders' networks and public private partnerships in all ecotourism programs. Moreover, the

role of the private sector in the partnership with public for the sake of development and sustainable ecotourism must be specific, clear and in line with government rules, regulations and public private partnership policy.

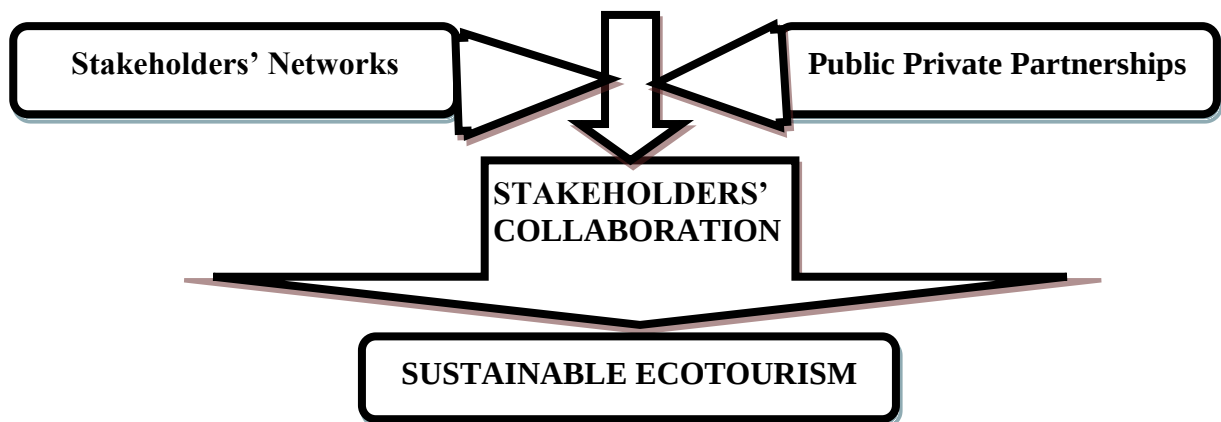
Tables and Figures

Figure 1: Local ecotourism network in Alcudia



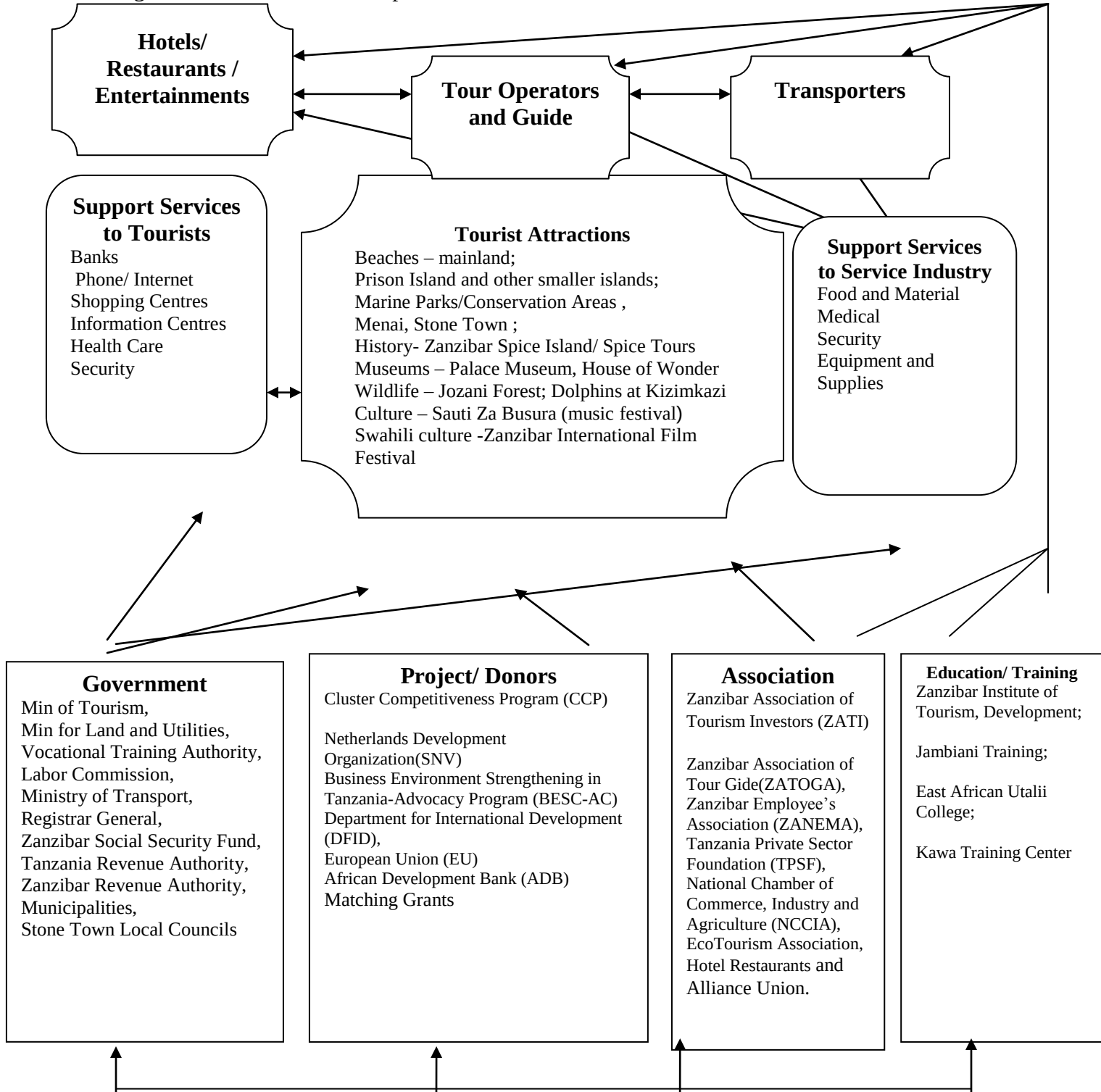
Source: Adopted from Anderson (2009)

Figure 2: Conceptual Framework



Source: Designed in this study

Figure 3: Tourism Cluster Map in Zanzibar



Source: Adopted from Tanzania Private Sector Foundation, (2011)

Box 1:
1) Involving local community members; business and service providers; government agencies; researchers and academicians in managing ecotourism.
2) Incorporating the contribution from people with disabilities.
3) Stakeholders' networks formed by people with common goals and interests.
4) Stakeholders' networks formed by people with different goals and interests.
5) Establishing networks for stakeholders' interest.
6) Establishing networks involved in conflict resolutions
7) Forming more advocacy groups in the community.
8) Grooming educated society on ecotourism issues.
9) Involving stakeholders voluntarily in ecotourism management.
10) Ensuring stakeholders are forced by laws to participate in ecotourism management.
11) Involving stakeholders at local level.
12) Consulting stakeholders before making any ecotourism decisions.
13) Formalization of all partnerships between public and private.
14) Allowing informal public private partnerships.
15) Promoting partnerships in the infrastructure development.
16) Involving private players to be involved in capacity building of local community.
17) Permitting public and private partnerships in information and communication.
18) Enhancing more public and private partnerships in research and development activities.
19) Increasing private partnerships in the management of ecotourism related projects.
20) Allowing partnership between public and local private partners.
21) Establishing partnership with foreign private partners.
22) Ensuring that public have the majority shares and say than private partners in the partnership.
23) Ensuring equal shares for both public and private in the partnership.

Table 1: Respondent's Characteristics (obtained from this study)

Variable	N=250 (Percent)
Gender	
1) Male	65.2
2) Female	34.8
Age	
1) <25 years	9.6
2) between 26-35	28.4
3) between 36- 45	30.8
4) between 46-55	24.0
5) >55 years	7.
Residency	
1) Dar es Salaam	8
2) Pwani	8
3) Morogoro	8
4) Zanzibar	8

5) Tanga	8
6) Kilimanjaro	20
7) Arusha	20
8) Manyara	20
Education	
1) un educated	0.8
2) primary education	8
3) form four	15.6
4) form six	10.8
5) college certificate	20.4
6) college diploma	15.2
7) first degree	15.6
8) masters	10
9) PhD	3.6
Occupation	
1) local community member	10.8
2) central government officer	8.4
3) local government officer	10.4
4) community based organization member	8
5) nongovernmental organization member	12
6) governmental organization member	4.8
7) researcher	7.2
8) academician in private institution	3.2
9) academician in public institution	4.8
10) tour operator	8
11) hotel and restaurants	8
12) transporter	4.8

Source: Obtained from this study

Table 2: Stakeholders' Network Strategies for Stakeholders Collaboration

Stakeholders Networks Strategies	N=250 (%)			
	Agree	Dis Agree	R ² %	β
1) Involving local community members; business and service providers; government agencies; researchers and academician in managing ecotourism.	93.6	6.4	87	0.8
2) Incorporating the contribution from people with disabilities.	81.2	18.8	29	1.4
3) Stakeholders' networks formed by people with common goals and interests.	85.2	14.8	46	1.0
4) Stakeholders' networks formed by people with different goals and interests.	72	18	56	0.7
5) Establishing networks for stakeholders' interest.	90.4	9.6	71	1.4
6) Establishing networks involved in conflict resolutions	84.8	15.2	33	2.4

7) Forming more advocacy groups in the community.	95.6	4.4	42	2.7
8) Grooming educated society on ecotourism issues.	88.8	11.2	61	1.7
9) Involving stakeholders voluntarily in ecotourism management.	82.4	17.6	23	1.3
10) Ensuring stakeholders are forced by laws to participate in ecotourism management.	87.2	12.8	121	1.0
11) Involving stakeholders at local level.	92	8	67	1.5
12) Consulting stakeholders before making any ecotourism decisions.	82.4	17.6	47	0.5

Source: Obtained from this study

Table 3: PPP Strategies for Stakeholders Collaboration

Public Private Partnership Strategies	N=250 (%)			
	Agee	Dis Agree	R ² %	β
1) Formalization of all public and private partnerships	48.4	51.6	12	-0.12
2) Allowing informal public private partnerships.	84.4	15.6	31	1.0
3) Promoting partnerships in the infrastructure development.	84.8	15.2	43	1.8
4) Involving private players in capacity building of community.	87.6	12.4	25	1.9
5) Permitting public and private partnerships in information and communication sector.	84.8	15.2	33	1.0
6) Eenhancing more public and private partnerships in research and development activities.	76	24	119	-0.1
7) Increasing private partnerships in the management of projects.	85.6	14.4	67	1.0
8) Allowing partnership between public and local private partners.	60	40	66	0.04
9) Establishing partnership with foreign private partners.	61.2	38.8	16	0.3
10) Ensuring that public have the majority shares than private partners in the partnership.	59.6	40.4	41	-0.2
11) Ensuring equal shares for both public and private in the partnership.	70	30	61	0.7

Source: Obtained from this study)

Table 4 Summary of the 23 Logit Models on Stakeholders Collaboration

	Stakeholder's Network												Public private Partnership										
Gender	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Female						-		-			-							+	-				-
Age																							
<25 years																							-

CBO represent Community Based Organization
NGO represent Non Government Officer

Source: obtained from this study)

References

- Anderson, S. C, Wilson. M. K, Mwansa, L.K and Osei-Hwedie, K. (1994). " Empowerment and Social Work Education and Practice in Africa". *Social Development in Africa*, 9 (2): 71-86.
- Anderson, W. & Saidi, S. A (2011). Internationalization and Poverty Alleviation: Practical Evidence from Amani Butterfly Project in Tanzania. *Journal of Poverty Alleviation and International Development*, 2(2): 17-45
- Anderson, W. (2009). "Promoting Ecotourism through Network: Case Studies in the Balearic Islands". *Journal of Ecotourism*, 8 (1): 51-69
- Anderson, W. (2010) "Determinants of all-inclusive travel expenditure". *Tourism Review*, 65 (3):4 - 15.
- Arnsten, S. (1969). Ladder of Citizen Participation. *Journal of the American Institute of Planner*. (4): 216 – 224
- Breamwel, B. and Harman, A. (1999) Collaboration in local tourism policymaking. *Annals of Tourism Research*, 26, 392-415.
- Byrd, E. T. (2007). "Stakeholders in Sustainable Tourism Development and their Roles: Applying Stakeholder Theory to Sustainable Tourism Development". *Journal of Tourism Review*, 67 (2): 6-13.
- Carlson, L. (2009). Tanzania Tourism and Travel News.
- Carmin, J., Darnall, N. and Mil-Homens, J. (2003). "Stakeholder Involvement in the Design of U.S. Voluntary Environmental Programs: Does Sponsorship Matter"? *Policy Studies Journal*, 31 (4): 527-543
- Chanan Gabriel (1997). "Active Citizenship and Community Involvement: Getting to the Roots". Discussion Paper. - European Foundation for the Improvement of Living and Working Conditions. – p. 43.
- Cohen, J.M. and Uphoff, N.T. (1980). "Participation's Place in Rural Development: Seeking Clarity through Specificity". *World Development*, (8) 213-235
- Department of Community and Local Government (2007).
- Donaldson, T. and Preston, L, E. (1995). "The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications". *Academy of Management Review*, 20 (1): 71.
- Eagles, P.F.J. (1995). "Key Issues in Ecotourism Management". Paper presented at the Western Australia Annual Tourism Conference, Perth
- Fennel, D. (2001). "A content analysis of ecotourism definitions". *Current Issues in Tourism*. . 4: 403-421
- Freeman, R.E. (1994). "The Politics of Stakeholder Theory: Some Future Directions". *Business Ethics Quarterly*, 4 (4)
- Gunn C. 1994. "Tourism Planning". New York : Taylor and Francis (3rd ed.).
- Harrison, L.C., Jayawaeden, C., and Clayton, A.(2003). "Sustainable Tourism Development in the Caribbean: Practical Challenges". *International Journal of Contemporary Hospitality Management*, 15(5): 295-298

- Honey, M. (2008). "Ecotourism and Sustainable Development: Who Owns Paradise"? 2nded. Washington, D.C: Island Press. pp.551.
<http://www.communities.gov.uk/corporate/visited> on 12 August, 2009 at 12:30 pm.
<http://www.gdrc.org/uem/eco-tour/Final-Report-WES-Eng.pdf> visited on 12 July, 2011
<http://www.tanzaniainvest.com> , visited on June 20, 2009 at 10:10 am.
- Improvement of Solid Waste Management in Dar es Salaam. Uongozi Journal of Management Development, Vol. 16, (1), June 2004: pp. 78 – 98. Mzumbe Book Project.
- Miller (2007). Global Ecotourism Conference. Oslo Norway, May 14-18
- Ministry of Natural Resources and Tourism, (1999). National Tourism Policy. The United Republic of Tanzania
- Ministry of Tourism and Natural Resources (2002). Integrated Tourism Master Plan 2002, The United Republic of Tanzania
- Ministry of Tourism and Natural Resources (2009). www.mtnr.or.tz visited on 10 June, 2009
- Murphy, P.E (1997). Tourism and Sustainable Development". Global Tourism The Next Decade 274- 290.
- Mwamwaja, E. (2006). "Developing Sustainable Tourism in Tanzania". A Paper Presented in USAID Training Seminar on Sustainable Tourism in Arusha on 19/02/2006.
- National Tourism Policy (1997). Ministry of Natural Resources and Tourism, pp 40.
- Navruzov Yuri (2000). The Category "Gromada" in Modern Lexicon of Public Administration. – Actual Problems of Public Administration, DB UAPA Research Papers, # 1. – p. 134-145
- Ngowi, H.P. (2006). "Public-Private Partnerships (PPPs) in the Management of Municipalities in Tanzania – Issues and Lessons of Experience" African Journal of Public Administration and Management Vol. XVII, (2).
- Nkya, E (2004). Public-Private Partnership and Institutional Arrangements: Constrained
- Rowley, T. (1997). "Stakeholder Theory: Where Does it Fit Among Existing Theories of the Firm," Proceedings of the International Association for Business and Society, San Destin, Florida, March, 1997
- Tanzania Tourist Board (2009). www.ttb.or.tz visited on 10 June, 2009 at 1:10 am.
- TNRF. 2008. *Wildlife for all Tanzanians: Stopping the Loss, Nurturing the Resource and Widening the Benefits. An Information Pack and Policy Recommendations*, Tanzania Natural Resource Forum.
- Tuohino, A., and A. Hynonen (2001). *Ecotourism - imagery and reality. Reflections on concepts and practices in Finnish rural tourism*. Nordia Geographical Publications. pp. 30(4):21–34.
- Vernon, Esex, Pinder and Curry (2005). "Collaborative Policy Making: Local Sustainable Projects". Annals of Tourism Research, 32 (2): 325-345
- Weaving, S. and Neil, J. (2009). "Ecotourism: Impacts, potential and possibilities?". Butterworth-Heinemann, 286 pp.

Content Analysis of Tourism Promotional Materials: A Focus on Tanzania Tourist Board (TTB)

Judith Michael Mtweve and Dev Jani

This study explored the differential use of different tourism products and services by tourism promotional agency in Tanzania particularly the Tanzania Tourist Board (TTB). Available literature indicates the differential promotion of attractions at a destination leads into the differential tourism consequences; unfortunately little has been done with respect to Tanzania on how it is being communicated. In addressing this research problem, this study used a qualitative-quantitative approach through the transformation of qualitative data from tourism promotional magazines into quantitative data that was subjected to quantitative analyses. Tourism magazines from TTB were collected with the pictorial presentations was coded, and directionally content analyzed by the researchers into frequency data matrices. The frequencies were then subjected to independent sample and paired sample t-tests in testing the differential use of different touristic attraction over time. Natural attractions were noted to be overly promoted than services and culture in the Tanzania Tourist Board magazines. Moreover, over the years the trend in the usage of touristic attraction decreased in terms of pictorial presentation. The study recommends TTB to include other tourism products like culture and others in terms of pictorial presentation in order to attract diverse tourists into different Tanzanian attractions. Moreover, awareness between all tourism stakeholders should be in elevated for them to participate in the promotion of Tanzanian diverse attractions.

Keywords: tourist attractions, content analysis

Introduction

Tourism is one of the largest and fastest growing industries in the world. It is an increasingly important source of income, employment and wealth in many countries. International tourism now accounts for a larger share of foreign exchange receipts and export earnings than any other industry in the world (World tourism Organization). Tanzania recognizes the potential of international tourism in accelerating socio-economic development, particularly as a supplier of foreign exchange, investment and employment. Tourism has emerged as an instrument for employment generation, poverty alleviation and sustainable human development. Tourism promotes international understanding and gives support to local handicrafts and cultural activities. It is an important segment of the country's economy especially in terms of its contribution towards foreign exchange earnings, generation of additional income and creation of employment opportunities.

National Tourist Organizations engage in sales promotion activities in an attempt to persuade potential tourists to visit the destination, and these activities may take various forms including media advertising and public relations (Witt and Witt, 1995). They typically conceptualize the marketing campaign, designs promotional strategies, and implement the program. They are also responsible for designing the advertising literature, brochures, media advertisement, designing and maintaining of effective web sites and other publications to support the marketing campaign. The Tanzanian government through the Tanzania Tourism Board (TTB), is actively promoting the nation as an attractive tourism destination through media outlets around the world.

However for the tourism sector to develop it needs to be promoted so that potential tourists can become aware of the different products the sector provides. The promotional visuals portrays

what one can find if comes to Tanzania as a tourist. The implications of pictorial representations in tourism promotional materials motivate this analysis as it may give light to why some tourism products in the country are not that much familiar like others. Hence the study aims at analyzing deeply the content in the tourism promotional materials for tourists from the Tanzania Tourist Board (TTB) so that to know which tourism products are promoted and at what frequency so that we can know what strategies to be taken into consideration for Tanzania tourism promotion.

Tanzania like other destination is a product and thus should be marketed as any other products. There is a need to ensure effective marketing strategies in order to increase the competitiveness of destinations and influence decision making. Despite the Country's rich tourist attractions ranging from wildlife, historical building like Bagamoyo, beaches, water bodies, diversity of culture and numerous archaeological site, the market share of international tourist is still small evidenced by international tourists arrivals market share of 0.08% worldwide in 2009, which is very small compared to 6% market share of the total international tourist arrivals worldwide by receiving 1.62 million of the total international tourist arrivals of 940 million worldwide (Ministry of Tourism and Natural Resources, 2011). This indicates there might be a promotional related problem among others that led into this situation (Crouch, 1995). Pike (2008) argues that a destination that fails to attract tourists as per the number of attractions is likely to have a communication problem with the stakeholders including potential tourists. In Travel and Tourism competitiveness report (<http://www.weforum.org/reports/travel-tourism-competitiveness-report-2011>) it is indicated that Tanzania is highly ranked with respect to natural resources compared cultural resources. To the authors' knowledge, there is no study that has focused on the Tanzanian tourism promotional to neither elucidate the differential use of the natural nor cultural over time. Consequently this study aimed at appraising the content of tourism promotional materials from Tanzania Tourist Board.

Literature Review

One of the most influential factors in the purchase of a tourist product (destination) is information about tourist goods and services. Among the various factors influencing tourists to visit an overseas country is that of promotion/marketing activity by tourism operators and government tourist commissions in the destination country. Moreover, tourists differ in the information sources they use before making a decision (Moutinho, 1987). Institutions, travel agents and tourist businesses make great efforts and spend a lot of money to make tourist information circulate. Despite the high investment made on communication and promotion, there is a general lack of knowledge as to which information source tourists use to make their choice (Kim et al., 2005; Nolan, 1976; Gitelson and Crompton, 1983; Snepenger et al., 1990; Weilbacher, 2003). Nolan's (1976) tried to determine how information sources are used, and the relationship between this use and tourist consumer behavior. The information about a concrete destination which is occasionally demanded by tourists is a particularly important means of promotion for the tourism industry.

Sources of information about a destination have a great influence on the process of tourist decision-making, and the behavior of tourists determines how the search for information is done and how information will be used (Andereck and Caldwell 1993; Capella and Greco 1987; Snepenger, Meged, Snelling and Worrall 1990; Snepenger and Snepenger 1993). Coltman (1989)

allude that potential customers “will compare the brochure of one destination or supplier with the brochure of its competitors, and it is likely that the one with the best brochure will receive the business”.

For many potential visitors the promotional materials they possess actually represent the product or destination they are purchasing. Another important factor is image, because it influences destination selection. Formal sources of information, like brochures, and informal sources, for example relatives and friends, have an influence on image formation in a tourist destination (Beerli and Martin, 2004; Crompton, 1979; Etzel and Wahlers, 1985). On other hand, images serve many functions at many different levels; they are used in a number of practical ways to convey ideas and messages. These are all practical areas where promotion, through tourism imagery and representation, plays a vital role in a highly competitive and constantly changing marketplace.

Destination image is certainly a determining factor of tourist buying behavior. Research by Pearce (1982), and Woodside and Lysonski (1990) demonstrate that there is an evident relationship between positive perceptions of destinations and positive purchase decisions. Although these perceptions may not be based on fact or first-hand experience, they nevertheless exert a vital influence on a potential tourist's decision to visit a destination. Similarly, negative images, even if unjustified, will determine potential tourists and result in a decision not to purchase (Morgan and Pritchard, 1998). Moreover, image formation can be defined as the development of a mental notion based on limited impressions coming from a single information source. In tourist destination image, this information originates from numerous and diverse sources (Gartner, 1993). Firstly, induced information includes promotional materials (brochures, posters) as well as tour operators' and travel agents' opinions. Secondly, self-information also plays a role and it is obtained from mass media and popular culture. Finally, organic information comes from friends and relatives, as well as from personal experience. The authors also suggest that the “ultimate goal of any destination must be to ensure that visitors' experiences of that place – from the time when they are first exposed to its online and offline marketing communications to when they return home – is a positive one that encourages repeat visits and creates enthused ambassadors for the destination” (Morgan et al, 2010).

Methods

According to Kothari (1990), a research methodology refers to a systematic way applied to solve the research problem. Research design is defined as a framework or plan for a study, used to guide in collecting and analyzing data, it is a blue print that is to be followed in completing the study (Kothari, 2000). This study was conducted in order to evaluate the tourism industry in Tanzania that is the content analysis of tourism promotion materials from Tanzania Tourist Board. For this purpose, the qualitative analysis was used for the study as it describes the nature within the specified area. Content analysis method was used in analyzing data by collecting information from different periods of time. Data collection was done through the use of In-depth interviews and document analysis. The documents focused on were the tourist information magazines which promote the different tourism products in the country. The use of this kind of research considers the different aspects of the programs involved in the promotion of tourism

internationally. The use of these research methods also dictates that the use of two resource methods utilised, the primary and the secondary data. The primary data was derived from the answers respondents give in the interview conducted. The secondary data, on the other hand, derived from the findings stated in published documents and literatures related to the research problem. The secondary sources of data were obtained from Tourism and Management books, thesis studies on tourism development and articles from journals, and published documents from the Tanzania Tourist Board (TTB) and the Ministry of Natural Resources and Tourism.

Data analysis

In order to examine the dominant portrayals of tourism products, tourists magazines were requested from the Tanzania Tourist Board. For the purpose of this study only 3 magazine issues from 2010 to 2012 were selected in the sample of magazines because these issues are the ones which can be found complete in the three consecutive years. In the study the tourism products were classified into three categories which try to incorporate the different tourism products promoted in the magazines. The first category is natural attractions which include national parks, Beaches, Zanzibar, Kilimanjaro and others, whereby the magazine content was thoroughly analysed to know how many times these attractions appear in the magazine in terms of number of pages. The second category is services which include hotels, transport (air), conferences and tours services. The last category is cultural tourism where by the content of the magazines in terms of cultural tourism promotion was noted. The data gathered from the content analysis were organized in data matrix and thereafter statistically analyzed with the support of Statistical Package for Social Sciences (SPSS) by Independent and Paired Sample Tests.

Results and discussion

As one of the world's largest industries, tourism has the capacity to improve the country's development through receiving foreign currency. This is particularly true in Tanzania where international travellers flock the city for business, leisure and for shopping. This development has in return produced positive and negative effects on the economy and the lifestyle of residents of the country. Specifically, the tourism industry has greatly produced an impact on the hotel industry, the aviation, communication and transportation industries, the environment, the tourism planning of the country and the residents.

A total of 3 tourism promotion magazines from TTB were analyzed for the three years period that is year 2010, 2011 and 2012, of which all had the tourism products set for analysis that were Natural attractions, Services and Culture. The findings were tabulated in data matrix (Table 1) in order to obtain a clear picture of the occurrence of the tourism products in the magazines. Here the data revealed that the Natural attractions were more featured in the magazines with a total of 390 appearances in the three years that is 58.6% appearance among the tourism products promoted. The services advertised in the magazines accounted for a total number of 212 in the three years which is equivalent to 31.8% appearance among the tourism products promoted in the magazines. Lastly, the aspect of culture accounted for only 63 appearances in the three years issues contributing to only 9.5% appearances in the magazines. The data gathered were analyzed using SPSS through Paired sample test and Independent sample test in order to know the relationship between variables so as to answer the hypothesis set beforehand.

Table 1: Data matrix for Appearances of Tourism Products in the TTB Magazines

	2010	2011	2012	Total scores
NATURAL ATTRACTIONS				
National Parks	62	59	65	
Beaches	16	16	11	
Places	9	12	9	
Monuments	9	9	7	
Souvenir	3	6	4	
Activities	34	27	32	
Scores for issue	133	129	128	390
SERVICES				
Hotels and Lodges	50	45	51	
Events	13	9	8	
Tours	12	11	13	
Scores for issue	75	65	72	212
CULTURE	25	22	16	63

A paired sample t-test was performed to ascertain any statistical difference between the scores of attraction over the years. The results are indicated a presence of significant difference (2 tailed t-value -4.545, p. value .002) as indicated in Table 2. The results portray that there is a relationship between the scores and the number of years the tourism products had been advertised in the magazines. From the data matrix table it can be observed that as the years passed the number of pictorial appearances for all the products is generally decreased.

Table 2: paired t-test between scores and year

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	year - score	-71.88889	47.45641	15.81880	-108.367	-35.41066	-4.545	8	.002

In comparing the differential usage of natural attractions, cultural attractions, and the supporting touristic services, a one way ANOVA was performed with the output displayed as Table 3. Since the F-value has a p value of approximately 1, it indicates the absence on statistical differences between the pictorial appearances of the tourism products in the TTB magazines.

Table 3: one way ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.

Between Groups	64.222	2	32.111	.011	.989
Within Groups	17912.667	6	2985.444		
Total	17976.889	8			

Summary, Conclusion and Further Recommendation

The paper concentrates on the content analysis of tourism promotional materials from the Tanzania Tourist Board. In order to conduct such a study, three issues of Tanzania magazine from the Tanzania Tourist Board were selected. The content analysis resulted in understanding the relationship between the different tourism products promoted in the magazines, namely, natural attractions, services and culture. This approach began with the assumptions that there was no significant relationship between the variables tested that is natural attractions, services and culture over the selected years. The results mirrored the assumptions while others did not, for example the first assumption that there was no statistical significance difference between the number of appearances of tourism products (scores) and the years in the TTB promotional materials did not match with the results and so the null hypothesis had to be rejected. The assumption that there were no differences in the use of the three types of tourism products in the magazine had to be accepted as there was not statistical evidence for it.

From the findings it can be seen that the tourism products promoted in the Tanzania Tourist Board (TTB) magazines can be categorized into three aspects that is Natural attractions (National parks, Beaches, Places, Activities, Souvenir and Monuments), Services (Hotels and Lodges, Tours and Events), and Culture. But the findings show that Natural attraction is the aspect which is more promoted in the magazines with more coverage in terms of number of times it appears in the magazine. Culture is the least advertised with less coverage in terms of number of times it appears in the magazine. This is because natural attractions have been the mostly known tourism product in Tanzania hence more promoted than other products. Over the years the use of pictorial presentation decreased with more textual content.

It is important for the promoters (TTB) to take into consideration the other tourism products like culture and give it more coverage in terms of appearance in the magazine. It is time now to expand tourism products and really starting to cultivate the potential the country has in terms of culture tourism. Through this, they will be other potential tourist who will be attracted to come for cultural tourism. There should be an awareness between all stakeholders that tourism promotion is for a common cause and mutually beneficial for all. A spillover benefit of public /private partnerships in tourism promotion can be very effective as private sector has more sense of entrepreneurship and is more responsive than the government can thus provide valuable expertise for a market driven promotional and marketing activities. This can be done by the government entering into partnership with tourism stakeholders in Tanzania such as tour companies to promote the tourism products. The tour companies have an access to a number of potential tourists hence easier to deliver the promotion message.

Selected references

- Bryden, J.M. (1973). *Tourism and Development: A Case Study of the Commonwealth Caribbean*; Cambridge: Cambridge University Press.
- Crouch, G.I. (1995). Promotion and demand in international tourism. *Journal of Travel and Tourism Marketing*, 3(3), 109-125. BOT (1999), *Economic and Operations Report*, Dar es Salaam: Bank of Tanzania, (June).
- De Kadt, E (eds.) (1979). *Tourism - Passport to Development?* Oxford University Press.
- Gee, C. Y. (eds.) (1997). *International Tourism: A Global Perspective*, Washington, D.C.: WTO.
- Juma M.L., M.H. Ali (1999). 'Tourism development and Change of Life Standards: A Case Study of Two Coastal Villages of Zanzibar'.
- Kotler Philip"Marketing Management prentice hall United States (1969)
- Kotler, Philip, Kotler, Kevin Lane, "Marketing Management" 12 e, Printice Hall of India Private Limited, New Delhi, 2007
- Larsen, K. (1998). *A Case Study on Tourism, Economic Growth and Resource Management in Zanzibar, Tanzania*, Washington, D.C.: The World Bank.
- Mjema G.D., J. Shitundu, T.S. Nyoni (1998). "Tourism as an Export Sector in Tanzania: Literature Survey of the Potential and Problems existing in the sector", paper presented at Economic Research Bureau seminar, 24-3-98, UDSM.
- Pike, S. (2008). *Destination Marketing: An Integrated Marketing Communication Approach*. Butterworth-Heinemann, MA, USA

Are Economic Crises Good for the Environment? Some Perspectives From the 2008 Economic Crisis

Honest Prosper Ngowi

Abstract

The paper is on whether economic crises are good for the environment or not. Based on the knowledge of the 2008 global financial and economic crisis (GFEC), the author makes a discussion on whether economic crises are good or bad for the environment in general and in the context of energy use and climate change in particular. Various potential and actual environmental opportunities and challenges that emanate from the 2008 crisis are presented and discussed. It is generally found that the 2008 crisis is both good and bad for the environment. There are many and far-reaching opportunities for environmental protection that emanate from the crisis. Likewise the crisis poses substantial challenges that may deepen environmental destruction as countries struggle to halt the crisis and mitigate its many and far-reaching impacts through various stimuli packages and bail out plans.

Among the key policy implications that emanate from this work is the need to mainstream and factor-in environmental protection issues in the various stimuli packages and bail out plans across the world. Every stimulus package and bail-out plan should have a 'green content' if the world is to emerge from the crisis with a more environmentally cleaner, healthier and sustainable earth.

Keywords: *Global economic crisis, Green economy, environment*

Introduction

Human activities have been mainly held responsible for the current problem of generally unhealthy and unsustainable earth environment. Among the major causes of the environment is the climate change in form of global warming. The human activities that are responsible for this unfortunate phenomenon include research and development (R&D), production, transport, storage and consumption of goods and services and eventual disposal of wastes that result from these processes. The 2008 global economic crisis is necessarily resulting into some changes in the human activities outlined above. Whereas some activities are likely to take new patterns, frequencies and speed, others are likely to emerge and yet others disappear. All this is due to the different reactions, strategies and initiatives to halt the crisis and mitigate its many and far-reaching impacts across the globe. Most notably, the human activities in the context of the crisis are associated with the different stimuli packages and bailout plans to fight the crisis and its detrimental impacts.

A number of works have discussed the relationship between the crisis and the earth's environment. The major aim has been to find out whether the global economic meltdown is good for the earth environment or not. Among such works include but are not limited to Walsh (2008) with an article titled 'Going Green: Will the Environment Lose Out to the Economy?' Other works include Sivakumar (2008) with an article titled 'Will financial crisis impact environmental issues?'; Klare (2008) with an article on 'The Crisis and the Environment'; Osuji (2008) dwelled on 'Nigeria: Impact of the Global Economic Crisis on Earth Resources and the Environment'; Schlaikjer (2009) poses the question 'Is the global economic meltdown good for the

environment?'; Jaura (2008) worked on 'Environment: Climate Action Could Escape Financial Crisis'; and Friedman (2009) worked on 'Climate, Financial Crises: Two Sides of One Coin'.

In this work, the author reviews and makes a discussion on whether the current global financial crisis is good for the environment or not. This is done by identifying some opportunities for environmental protection that by design and/or accident emanate from the crisis. The opportunities then imply that the crisis is good for the environment hence a blessing in disguise because the crisis itself is generally a bad thing. The challenges for the environment that emanate from the crisis include but are not limited those actions and/or omissions that due to the crisis that are likely to contribute into more environmental degradations of various kinds.

Methodology

This work is basically a desk research. Secondary data sources have been mainly used to inform the study. Information from various sources were collected through and then analyzed and synthesized in the context of this work. The limitation of this work to desk research is due to resources (manly time and pecuniary/financial) limitations that made field research and primary data collection impossible. The limitation constitutes areas for further research in the future.

Introduction to the 2008 Global Financial and Economic Crisis

The 2008 global financial and economic crisis started officially in the United States of America (USA) in September 2008 or so. It is generally manifested in the form of inadequate liquidity as a result of credit crunch in the financial markets. As a result, a recession is looming across the globe in form of a general, rapid and high decline in economic activities. The activities include production, distribution and consumption of goods and services. This form of economic turmoil was last experienced at global level during the Great Depression of the 1930s.

The crisis is increasingly resulting into inter alia, uncertain and hard social and economic times for countries across the globe. Whereas the developed countries started suffering from the first round and direct effects of the crisis, the developing ones are suffering more from the second and indirect effects of the crisis – the bounce-on effects.

The current crisis is still in its relative infancy stage of development. It is still taking shape and there are many unfolding issues, realities and lessons. There are many unknown issues and realities of the crisis. Among these unknown variable in the equation of the crisis include but is not limited to its clear and full impacts on the environment, among others areas.

Meaning, Nature and Causes of the Crisis

The current global financial crisis is also termed the credit crunch, economic turmoil, economic downswings, global downturn, financial meltdown and financial mayhem among other nomenclatures. The crisis is termed 'the current' to distinguish it from a similar crisis that was experienced in the 1930s that resulted into the Great Depression. The crisis is manifesting itself in form of severe credit, banking, currency, and trade crisis which emerged in September 2008. Some background financial market events dating from July 2007 however, show that the credit crisis is the result of sub-prime mortgage crisis. It is believed however that there are a number of economic problems during the late 2000s that formed the basis of the current crisis.

Akbar (2008) correctly argues that the current global financial crisis is an ongoing major financial crisis. The crisis became prominently visible in September 2008 with the failure, merger or conservatorship of several large United States-based financial firms including Goldman Sachs, Morgan Stanley, J.P. Morgan, Bank of America, Merrill Lynch, Citigroup, Wells Fargo, Bank of New York Mellon and State Street.

The underlying causes leading to the crisis had been reported for many months before September 2008, with commentary about the financial stability of leading U.S. and European investment banks, insurance firms and mortgage banks consequent to the sub-prime mortgage crisis. See Akbar (ibid), Evans-Pritchard (2007), *The Economist* (15th May and 22nd May, 2008).

The failures of large financial institutions in the United States rapidly evolved into a global crisis resulting in a number of European bank failures and declines in various stock indexes, and large reductions in the market value of stock (Norris: 2008) and commodities worldwide (Evans-Pritchard, ibid). The collapse of Lehman Brothers in September 2008 when it filed for bankruptcy was a symbol of the global financial crisis. Broadly, it is seen that lack of adequate regulation (*laissez-faire*) of the financial markets by the appropriate authorities in the US is the major explanation behind this crisis.

Generally, the crisis has several but closely interlinked causes. They include but are not limited to sub-prime mortgage where non-credit worth borrowers were able to access credit in the US financial house. This in turn was partly possible due to inadequate financial sector regulations. The financial sector in the US has been highly liberal with minimal regulations from and by the country's leading monetary authority – the Federal Reserve Bank. Other causes for the crisis include search for high profitability, growth based on indebtedness (debt-based consumption) and capital gains. The functioning of global finance too has its part to play in the causing the crisis including banks' lending behaviours, derivative products, financial bubbles and failures in the national and international regulatory frameworks. See Ngowi (2009a, 2009b and 2009c).

General Impacts of the Crisis

Before a detailed discussion on the actual and possible impacts of the crisis on the environment, a brief discussion on the general impacts of the crisis is presented in what follows.

The crisis is having many and far-reaching direct and indirect and short-term and long-term impacts across the globe. So far however, given the source and nature of the crisis it is the developed countries that have been more affected than the developing ones. However, the impacts of the crisis are continuously unfolding.

The actual extent of impacts of the crisis will depend on a number of issues. These include but are not limited to the degree to which a particular country is integrated into the dynamics of global investment flows, expanded trade, information technology and vibrant financial security arrangements. It will also depend on the extent to which a country is marginalized from the dynamic processes above. The kinds of policies that will be put in place by individual governments independently and in collaboration with the global community to solve and mitigate the impacts of the downturn will determine inter alia, the severity and length of the crisis.

Generally, the crisis has led to a liquidity problem and the de-leveraging of financial institutions especially in the United States and Europe, which further accelerated the liquidity crisis. It is

causing fears and declining sentiments in the market. It is ongoing and continues to change, evolving at the close of October 2008 into a currency crisis with investors transferring vast capital resources into stronger currencies such as the yen, the dollar and the Swiss franc. This in turn is leading many emergent economies to seek aid from the International Monetary Fund. (Landler: 2008) and Fackler (2008).

Most developing countries including Tanzania are dependent on commodities for import or export. The impacts of the crisis in these countries are likely to be profound and far-reaching. Commodity-dependent economies are exposed to considerable external shocks stemming from price booms and busts in international commodity markets. UNCTAD (2008) reports that uncertainty and instability in international financial, currency and commodity markets, coupled with doubts about the direction of monetary policy in some major developed countries, are contributing to a gloomy outlook for the world economy and could present considerable risks for the developing world.

Other general impacts of the crisis include reduced aggregate demand of goods and services across the globe. This is due to limited liquidity and related problems such as all-times low consumer sentiments that are emanating from the crisis. The reduced aggregate demand in turn is leading to reduced production of goods and services with the necessary result of reducing demand for and employment of factors of production including labour. The implications of reduced employment of factor inputs include reduced incomes to the factors and their owners in general and reduced consumption and standard of living and possibility of vulnerability to poverty for labour in particular. In some countries, migrant workers, (foreign labour) are likely to suffer more by being the first to be laid-off. This will have many and far-reaching implications on the countries and individuals dependent on transfers from migrant workers in form of remittances.

For selected specific impacts of the crisis in Tanzania see appendix number one of this paper. For selected specific impacts in selected countries see appendix number two.

General Possible Solutions to the Crisis

In order to better understand the actual and possible impacts of the crisis on the environment it is important to understand the possible and actual solutions to the crisis so far. This is because it is the nature, extent and depth of these solutions that will by and large affect the environment.

Generally, the solution to the current global financial crisis should be to address its specific causes in general and reverse its impacts in particular. Among the key to solving the crisis is to address the demand side of the economy. This can be done by various measures to stimulate aggregate demand at national, sub-regions and global level.

Among the strategies towards that end include use of expansionary monetary and fiscal policies in general and appropriate policy tools in particular. Among the appropriate monetary policy instruments that can be employed include appropriately increased money supply and reduced interest rate. Fiscal policy instruments include appropriately reduced tax rates and numbers and increased subsidies for both producers and consumers of goods and services. Other similar measures include surplus as opposed to deficit budgets.

Generally therefore more spending at all levels is the key out of the crisis. Among other things, these measures are likely to stimulate the supply side of the economy positively. The challenges in implementing the measures especially for poor developing countries include the availability and accessibility of the huge funds needed to make a real and sustainable positive difference. Rich governments have designed various bailout and economic stimuli packages either for the whole economy or specific sectors and industries. The sectors and industries include the cash-trapped major banks and the car industry.

Other measures to solve the crisis in the long term and help to avoid one in the future include effective and comprehensive reform of international banking, financial and monetary systems.

Some countries can and indeed are already turning to the IMF for help. As Stiglitz (2008a) notes however, the worry of turning to IMF is that, at least in some cases, the fund will go back to its old failed recipes: fiscal and monetary contraction, which would only increase global inequities. While developed countries engage in stabilizing countercyclical policies, developing countries would be forced into destabilizing policies, driving away capital when they need it most. No wonder then that, according to The Daily News (Friday, November 28th, 2008: 13) Indonesia said no to IMF loans.

Financial market liberalization and very rapid growth should be reconsidered and be substituted by more stringent controls, regulations and supervisions. The logic here is that lower but more stable long term growth may be better and sustainable in the long run rather than short bursts of high growth followed by disruptive bursts, some of which can be very violent as the current crisis is showing.

Interpreting Stiglitz (2008b), there is a need for well designed incentive structures, adequate competition, change-minded behaviour, and adequate transparency in the financial sector. Better regulation is required to reign in the financial markets and bring back trust in the system.

Selected Solutions Across the World

In line with the outline of the general solutions to the crisis above, understanding some specific solutions in selected countries is important in understanding how the crisis may affect the environment. Some selected solutions that have been applied in various countries are briefly outlined in what follows.

There have been many and varied responses across the globe in the bid to fight the crisis. The most notable responses include the multibillion dollar (over 800 billion USD) economy-wide stimulus package and industry-specific (for example motor vehicle and banking industries) bail out plans in the US.

China has mainly so far responded by addressing the demand side of the economy in form of consumption incentives and aggregate demand stimulus. It is among other things financing consumption of domestic electrical and electronic appliances to its people including those in rural China. It is refocusing its growth strategies from export-led to domestic consumption-led growth. The country is among those that have taken the crisis as an opportunity. It is involving itself in

acquisition of assets across the globe as their prices are the lowest for many years. Among others, it has stricken oils supply deals from Brazil (Petrobras) and minerals from Australia (Rio Tinto). Its main advantage is its staggering reserves.

Germany is giving incentives for crushing old vehicles and buying new ones in order to stimulate demand. The Euro-zone is basically calling for less stimulus package to avoid hyperinflation. This is a classical inflation-growth trade off. It is a situation where the global economy is faced with two evils and it has to choose the lesser one. There is a devil on one hand and a deep blue sea on the other, a rock on one hand a hard place on the other. The choice of a lesser evil is not easy as it may not exist in this situation!

Some responses have taken the form of economic nationalism and protectionism. We have witnessed such slogans as ‘buy American’, ‘buy East African’ etc. While understood, such individualized moves will make solving the global crisis – which takes coordinated global efforts – very difficult. Responses have also been in forms of conferences, workshops, seminars and formation of special task forces and working groups with the crisis as the main theme. It is extremely important to involve all the key stakeholders and brains in such efforts.

Is the Crisis Good or Bad for the Environment?

In what follows a discussion on the impacts of the crisis on the environment is presented. As outlined in the introduction, some authors have questioned whether the crisis is good or bad for the earth’s environment. The focus is on whether the crisis will result into a more or less healthy and sustainable environment.

A healthy and sustainable environment among other things is associated with, less adverse climate change in general and global warming in particular. Climate change is closely related to human activities in general and human activities that use energy and generate and emit greenhouse gases especially carbon dioxide (CO₂). Osuji (2008) correctly argue that not much is being said about the impact of the crisis on the environment and its sustainability. This is because the nexus between financial and environmental matters is not immediately obvious. In this section, various potential and actual opportunities and challenges posed to the environment by the global economic crisis are outlined and discussed.

The Environmental Situation Prior to the Crisis

Although this is not an impact assessment of the crisis on the environment, it adds value in this work to give an outline of the situation of the earth’s environment prior to the crisis. Klare (2008) correctly reports that the recent steady growth in the world economy has been driven by the phenomenal economic expansion in China, India and other nations. The growth has produced a corresponding increase in demand for energy of all forms, especially greenhouse-gas emitting fossil fuels. The author informs further that according to the latest pre-crisis projections by the U.S. Department of Energy (DOE), combined energy consumption by all nations of the world was expected to grow by 22% between 2005 and 2015, from 462 to 563 quadrillion British thermal units (BTUs). Almost 90% of this increase was expected to come from fossil fuels which include oil, coal, and natural gas.

The result of this energy consumption has been a dramatic projected increase in the emission of carbon dioxide (CO₂) which is the leading source of climate-changing greenhouse gases. DOE projections indicate that total world emissions of CO₂ were expected to increase by a frightening 22% between 2005 and 2015, from 28.1 to 34.3 billion metric tons. This increased rate of greenhouse-gas emissions would precipitate global climate change. This in turn will lead to persistent droughts, increased storm activity, and a significant rise in the sea level.

Many governments, energy firms, and venture capitalists have announced plans to spend vast sums on the development of climate-friendly alternative fuels and improved methods for obtaining energy from wind and solar power. These efforts will not reverse the trend toward higher CO₂ emissions between 2005 and 2015 but could set the stage for a dramatic turnaround in the years that follow. The question now is whether the crisis will worsen or improve the environment in forms of inter alia, less or more energy consumption and climate change. Different schools of thoughts on this question exist as discussed in the two sub-sections that follow.

Environmental Opportunities that Arise From the Crisis

The environmental opportunities that may arise from the crisis are presented and discussed in this sub-section. There are various general mechanisms and frameworks through which the environmental opportunities are likely to arise. The recession, downturn, shrinking and cooling of the global economy generally imply reduced economic activities in the hither-to over-heated and ballooning global economy. This is especially so in countries such as China and India whose economic growth figures were to the tunes of double digits.

The reduced economic activities include but are not limited to research and development (R&D); production of goods and services (in factories, farms, mines and in the services sector among others); transport of goods and services (both factor inputs and outputs) by road (vehicles and rail), air and water; consumption of goods and services at household, corporate, community, national, continental and global levels; and disposal of gaseous, liquid and solid wastes. All these are likely to lead to less use of energy including fossil fuel. The reduced energy use should result in reduced greenhouse gas emission and its resultant global warming hence leading to a more healthy and sustainable environment. The potential and actual reduction in economic activities therefore is among the mechanisms and frameworks through which the environment may gain from the crisis – a blessing in disgrace though.

The other mechanism and framework through which the environment may benefit from the crisis is the formulation and most importantly the implementation of various stimuli packages and bail out plans. If green (environmental friendly) stimuli packages and bailout plans are formulated, mainstreamed, factored-in and implemented as the world struggles to come out of the crisis and mitigate the impacts of the same, the crisis will be an opportunity for the environment.

This opportunity may be somehow late if the stimulus packages and bail out plans already formulated and implemented by such countries as the US, China, Japan, Germany, European Union etc have not been green. However, it is not yet a lost opportunity because some of the stimuli packages and bail out plans are still being formulated and some of those formulated are yet to be fully rolled out and implemented. There is still a room to intervene by mainstreaming

and factoring-in green stimuli packages and bailout plans in the various measures to halt the crisis and mitigate its adverse impacts.

The international community, governments, the corporate world, communities, individuals, civil societies especially pressure groups such as environmentalists and other friends of the earth and lovers of flora and fauna have various duties and roles to play in making sure that environmental protection issues are mainstreamed and factored-in in the various stimuli and bail out plans. This is an opportunity for a new beginning in the bid for a more healthier and sustainable environmental in the world where economic growth and monetary/pecuniary profit have occupied an upper hand.

In conformity with part of the general mechanisms and frameworks above, Schlaikjer (2009) correctly argues that one upside to the economic crisis is a cleaner environment. This view is shared by McLaughlin (2009) who takes China as a case for elaboration. She argues that:

“...if there is a bright spot amid the global economic slump for China, it may be in the air — and in the water and soil. Dramatically slowed production in recent months has meant less pollution. In notoriously filthy places like Taiyuan, the capital of China’s coal country, that means more relatively blue skies and healthier breathing”.

McLaughlin (ibid) correctly argues that the sharp decline in demand for power (energy), concrete, steel and iron - along with massive factory closures - has provided some relief to severe air pollution. Basically, the global recession is likely to cause some low-budget, inefficient, highly polluting factories to shut down because they may not be able to compete with high-budget, efficient and competitive factories. According to McLaughlin (ibid) the impact of China’s cooling economic growth (6.8 percent in the fourth quarter of 2008 and 6.1 percent in the first quarter of 2009 compared to 13 percent in 2007) has hit hardest in cities in the export-heavy south such as Dongguan. Roughly 10 percent of the 22,000 factories in Dongguan have closed since 2008. In Zhejiang province, at least 60,000 small factories are shuttered. Survivors have slashed production and grounded fleets of diesel-fume-belching trucks. As a result, streams where factories dumped their waste are getting cleaner and the air is less smoggy. In 2008, the number of days with dangerous levels of air pollution in Dongguan fell by 65 from the year before, mostly in the final months of the year. It is expected that this experience is not limited to China only. This is a clear benefit of the crisis for the environment.

McLaughlin (ibid) quoting Liu Zhiming – environmental scientist of Dongguan University of Technology correctly reports that “When there’s less work, there’s less release of sewage and trash, so environmental pressures have eased” However, this may not be a long-term respite from pollution as a result of the economic slump. This is due to the fact that inter alia, the short-term benefits do not tell the full story.

According to Elkington and Thorpe (- undated, cited in McLaughlin, ibid), “...the credit crisis is helping to conceal the growing energy and natural-resource crises, which are conspiring to distract attention from the accelerating climate crisis.” Another reason for the environmental benefits of the crisis not to be enjoyed in the long term is the fact that the short-term benefits are not guaranteed to last. McLaughlin (ibid) correctly argues further that “...factories looking to

save might skip required pollution controls, and as has often been the case in years past, simply fail to turn on the filters...there is potential for even worse pollution than before.”

The entry of the current global financial crisis may not lead to exit of actions on climate change. As argued in Jaura (2008), the global financial turmoil should not push climate change action into a corner. More investment in clean technologies and other environmental-friendly initiatives should be made despite of the crisis. Among the encouraging signs that the crisis may not necessarily lead to more environmental degradation is the action of the leading industrialised countries to pledge more than six (6) billion dollars in July 2008 to two climate investment funds (CIFs). The CIFs are international investment instruments designed to provide clean technologies to developing countries and to test innovative approaches to climate change.

The crisis may force countries to realize that economic and environmental sustainability are not mutually exclusive. It may be increasingly recognized that corporate sustainability as measured by things like eco-efficiency and environmental reporting, is a key competitive advantage. According to McLaughlin (ibid), the Chinese government plans to some of its \$585 billion (about 4 trillion Yuan) stimulus package to fund green economy projects. The projects will improve energy efficiency and ultimately, stem climate change. Other examples of China’s commitment to improving the environment in response to the recession include the ‘green tinges’ in China’s plan to build more infrastructure including rail and power, as one solution to surviving the downturn; and the China’s National Development and Reform Commission’s commitment to saving energy and reducing pollution despite economic woes. The crisis therefore, may be good for the Chinese environment.

Another actual environmental opportunity of the crisis has been seen in the US where, according to Walsh (200) the Congress has already added a tinge of green to the bailout. This is in form of the bill that includes a long-awaited extension of tax credits for the clean energy sector, which were due to expire at the end 2008.

As outlined in the general mechanisms and frameworks through which the crisis can be an opportunity for the environment, economic hard times will cause people to drive less, fly less, and otherwise consume less energy. This will lead to lowering of expectations for greenhouse-gas emissions. Klare (ibid), citing the International Energy Agency (IEA) informs that global oil demand in 2008 was 240,000 barrels per day less than in its earlier predictions, and 440,000 barrels per day less than in its predictions for 2009. The demand is likely to drop even further as the economic crisis deepens. Due to the deepening crisis, consumers’ sentiments are declining globally. Among other things, they cut back on their travel and energy use. The less oil consumed, the less CO₂ emitted and the healthier and more sustainable the environment *ceteris paribus*.

Petroleum consumption decline is leading to the drop of price of oil. This is likely to discourage investments in many costly and environmental hazardous energy projects. The price of oil has plunged by nearly half recently from \$140 to \$70 a barrel. The plunge is likely to go even lower with fifty dollars a barrel being within the realm of possibilities. At these prices, it may no longer be profitable to advance some of the more technologically challenging energy projects with a significant environmental risk. This will be of the benefit for the environment.

There is a close linkage between the economic crisis and housing. According to Klare (2008) “Many dwellings built in the heydays of sub-prime lending were oversized homes in distant suburbs far removed from public transit, or second homes in Sunbelt vacation sites far from owners’ primary residences. These houses consumed a lot of energy and necessitated long commutes. Now, many of these exurban/vacation homes are up for sale and it is doubtful that many of them will be occupied for a long time to come. People are staying where they are, moving closer to public transit, and flying less to second homes. This will also produce a substantial decrease in energy use and CO2 emissions”. In this context therefore, the crisis is a blessing for the environment.

Environmental Challenges that Arise From the Crisis

The various interventions to halt the crisis and mitigate its many and far-reaching impacts are likely to impact the environment negatively. The interventions have taken many forms including stimuli packages and bail out plans. These have taken many forms including expansionary monetary and fiscal policies. Among the fiscal policy instruments that are in use include reduction of the number and rates of taxes. Among the possible taxes that may be reduced or even abolished in a number of countries include environmental (green/polluter's taxes). If and when this happens the environment will be negatively affected by the crisis.

With the sharp drop in oil prices, oil producing countries may be tempted to reconsider the fixed deadline for a halt in gas flaring. This will result into the continuation of numerous environmental problems including but not limited to global warming and its many adverse effects including warming of the seas and oceans which in turn will harm aquatic life and result in the rise of sea levels and possible submergence of coastal cities and islands. Global warming also leads to the loss of forests and forestry resources, conservation and biodiversity related problems including but not limited to the destruction of natural habitats.

The global economic crisis is resulting into abandonment of a number of projects. Osuji (ibid) correctly argues that where huge aqua-based projects such as dams and bridges are half completed, there will be significant altering of existing ecosystems in the surrounding seashores and estuaries while also defacing the seashore and ocean/river frontage. This leaves terrestrial and aquatic habitats permanently damaged and has far reaching environmental and ecological implications.

Due to the crisis, there is a possibility that companies may do nothing to refill sites around construction, drilling, mining and other areas that they may have excavated for various purposes including source of sand and other construction materials. This will result into further environmental degradation.

Osuji (ibid) correctly argues that for abandoned waste disposal projects, there could likely be the seeping of dangerous materials into the earth thereby posing severe consequences for surrounding flora and fauna lives. If the materials are hazardous and find their way into underground aquifers where water is drawn for human and livestock consumption, the situation will be worsened. The crisis has resulted into a drop in crude oil demand and a drop in its price. In the context of environmental degradation, this may lead to the drop in research funding towards safe,

alternative, environmentally efficient and renewable energy sources because it is not just the priority in a situation where oil sales revenues are declining.

Jaura (2008) is pessimistic on the impacts of the crisis on the environment. The author argues that the crisis will have a fundamental impact on the ability to achieve the United Nations (UN) development goals and on capacities to address global challenges like poverty and climate change. Among the possible reasons for this optimism include the fact that with the crisis, funds may not be available for environmental projects. This may be a result of inability of UN member countries to pay adequately for their contributions to the organization as a result of the crisis.

Walsh (2008) is pessimistic that the crisis is not good for the environment. The author argues that “...with the tanking economy dominating the news, and the government willing to virtually bankrupt itself to bail out the financial sector, it could be hard to push the climate change agenda — and possibly hard to find any money left to support it ...If this crisis consumes all of our attention, it might definitely impact the speed at which global warming legislation could be passed”.

Walsh’s pessimism is well understood when one looks at the staggering financial resources that countries are spending as stimuli packages and bail out plans. This is especially so more for the US, China and Japan than for the EU where (in the later than in the former trio) there are more elaborate and generous social welfare system to mitigate the impacts of the crisis.

Another pessimism on the impact of the crisis on the environment is based on the observations made during the 2008 presidential election in the USA. Concerns about the economy (the crisis in particular) trumped those about the environment. According to Walsh (ibid), “...the election was supposed to be the first one in which global warming would be the front-and-center issue, but that hasn't been the case”. This observation suggests that the crisis is ‘stealing the show’ and dominating over the environment and other crises. In issues-based elections across the world, candidates are likely to attempt to win more voters by using the economic crisis ticket than the environmental one. Voters on the other hand are more likely to vote to office candidates with promises to solve the crisis and mitigate its impacts than those with environmental agenda.

The crisis is also likely to crunch funding for new clean and alternative energy projects across the world. There is a risk that venture capitalists will refrain from investing in innovative energy projects. There is a real danger of sharp drop-off in alternative energy funding because lower oil prices make it harder to justify investment in the same. Similar to this argument, Walsh (ibid) correctly reports that when the global economy was surging, fossil fuel prices were surging too. The cost of oil exceeded \$150 a barrel at one point in 2008. The economic turmoil has shrunk the prices quickly to even below \$95 a barrel. This will make renewable energy projects like wind and solar less attractive. This is because they are likely to be more costly to initiate and investment funds may not be available while the costs of investment on oil are historical.

The crisis may erode the ability and willingness of both the private and public sector to finance investments in clean power. This may be caused by a narrowed tax base due to the crisis with the resulting reduced public revenues. Liebreich (undated, cited in Walsh, ibid), argues that “...the financial crisis might make governments less willing to extend preferential subsidies and incentives for clean power, as a sinking economy makes high energy prices sting a little

more...In country after country, the web of support mechanisms for clean energy is now under review”

Another pessimism on the impact of the crisis on the environment comes from Proglia (2008). The author argues that although the crisis will cause a severe and long-lasting chill on the economies of several countries, this should not be an excuse to give up the fight against climate change. He correctly observes that economic crash could deflate the climate crusade. This partly, is because as the global economy panics, global and local leaders are in danger of abandoning lofty climate-change goals, promises and pledges. Governments may be in difficult times getting funds to finance alternative energy projects – except near major election due to government opportunism. As a result of the crisis therefore, the environment stands to suffer. Similar to Proglia (ibid), Klare (2008) contends that of the many areas that will be impacted by the downturn, the environment stands out in particular. This is because the crisis is closely tied to the tempo of resource consumption and significant efforts to ameliorate environmental decline will prove very expensive and out of reach for already very stretched and minimal budgets.

Costly environmental endeavors and ambitious energy initiatives in countries’ drives to reduce greenhouse-gas emissions are likely to be scaled back due to the crisis. They may also be postponed as a result of the staggering amount of money needed to implement various stimuli packages and bailout plans.

In support of the view above, Klare (ibid) argues that “...leaders of some European Union (EU) countries are calling for a slowdown in efforts to curb emissions of greenhouse gases due to the burgeoning economic crisis...at a rancorous summit meeting of the EU heads of state in mid-October 2008, Prime Minister Silvio Berlusconi of Italy and the leaders of some Eastern European countries indicated that due to the current crisis, they were no longer able to finance the high costs of attaining the 2020 (emission) goal and so weren't prepared to adopt a detailed plan” The preoccupations of fighting the crisis and mitigating the impacts of the same at country, community, corporate, household and individual levels may render concerns for the environment redundant. McLaughlin (ibid) argues that factory owners across the globe argue that their top priority should be job preservation. Spending money on pollution controls or switching to renewable energy has to wait. In Guangdong province in China for example, factory owners are lobbying the government to roll back environmental standards that have made them uncompetitive with Southeast Asia. Factory managers, under pressure to cut costs, know they can reap easy savings by turning off smokestack scrubbers and dumping waste rather than treating it. When and if this happens the crisis will be a challenge to the environment.

Conclusion

From the discussion in this work it is obvious that the current global economic crisis is both an opportunity and challenge to the environment. However, it is inconclusive on whether the crisis will do more good or more harm to the environment. In the short term, the crisis is likely to reduce the increase in greenhouse gases emission including carbon dioxide. This is because the cooling global economic activities will result into lesser energy demand and use. The crisis has resulted to reduced R&D; reduced production of goods and services; reduced transportation; reduced storage of goods; reduced consumption of goods and services and reduced gaseous, liquid and solid wastes disposal. All these are results of reduced and in most cases all-times low

consumer sentiments. They are environmental benefits from the crisis that make it (the crisis) an environmental opportunity.

The crisis is also likely to cause a delay in developing environmentally hazardous projects. This is due to liquidity problems that reduce investors' appetite for new projects of all kinds including those in the energy sector. With all-times low investors' confidence, development of new investment projects in general and the environmentally hazardous ones in particular is likely to be either stopped altogether or postponed to some future dates. This is good for the environment although it can be only short-lived.

But the crisis may also be bad for the environment. This will be the case if the various stimuli packages and bail out plans will not have a green content. If environmental healthy and sustainability issues will not be factored-in and mainstreamed in the stimuli packages and bail out plans, it will be a missed environmental opportunity. If the crisis will at the same time reduce or hinder development of energy alternatives in the long term, it will cancel out the environmental opportunities posed by the crisis.

The crisis therefore is both good and bad for the environment. It is difficult and almost impossible at this stage to clearly quantify the opportunities and challenges that the crisis pose on the environment.

Policy Implications

A number of policy implications emanate from this work. Among these include the need for the global community, individual countries, the corporate world, communities, households and indeed individuals to factor-in and mainstream environmental healthy and sustainability issues in the efforts to halt the crisis and mitigate its many and far-reaching impacts. The need for green stimuli packages and bail out plans cannot be over emphasized. Among other things, green research and development (R&D), green production, green storage, green transport, green consumption and green waste disposal practices are a must.

Environmental goals, promises and pledges should not be distracted by the crisis. Policy and decision makers as well as implementers need to be bolder and push through environmental agendas despite of the crisis.

Areas for further research

This work has been mainly limited by methodology due to resources constraints. In the future it can be taken to newer and higher heights by inter alia, involving field studies to identify specific and detailed actual impacts of the crisis on the environment. This work will need to be updated frequently as new realities of the crisis in general and its impacts on the environment in particular unfold on the ground rapidly.

References

Erica Schlaikjer (2009). Is the global economic meltdown good for the environment?

Ikome, F (2008). The Social and Economic Consequences of the Global Financial Crisis on the Developing Countries and Emerging Economies: A Focus on Africa. Paper presented at the

“InWent-DIE Dialogue on the Effects of the Global Financial Crisis on Developing Countries and Emerging Markets. Berlin, 11 December, 2008

Krugman, P. (2008). Bad anti-stimulus arguments, New York Times, December 22, 2008.

Michael Osuji (2008). Nigeria: Impact of the Global Economic Crisis on Earth Resources and the Environment

Mtango, E. (2008). African Growth, Financial Crisis and Implications for TICAD IV. Paper Presented at the GRIPS-ODI-JICA Joint seminar: African Growth in the Changing Global Economy

Ngowi, H. P (2009a). The Current Global Financial Crisis and its Implications in Tanzania: A Focus on Official Development Assistance (ODA). International Labour Office (ILO) Tanzania, Kenya, Uganda and Somalia Office Discussion Paper (16th January 2009) as a Contribution for the Ouagadougou, Burkina Faso Process

Ngowi, H. P (2009b). The Impacts of the Current Financial Crisis on Investments in Human Capital. Paper Prepared for the Commonwealth Association of Public Administration and Management (CAPAM) International Conference (1st – 5th March 2009, Arusha, Tanzania)

Ngowi, H. P (2009c). When Giants Stir Water, Business Partner Magazine (April 2009)

Osakwe, P. N. (2008). Sub-Saharan Africa and the Global Financial Crisis.

Stiglitz, J. (2008a), Let's throw away the rule book; Bretton Woods II must establish economic doctrines that work in emerging economies as well as in capitalism's heartland, The Guardian, November 6, 2008

Stiglitz, J. (2008b), A crisis of confidence, The Guardian, October 22, 2008. The Daily News, Friday November 28th, 2008.

The Guardian, Sunday January 4th, 2009. How the Global Crisis Will Affect You in 2009.

UNFCCC - United Nations Framework Convention on Climate Change (2008). Clean Development Mechanism in Brief

Walsh, B (2008). Going Green: Will the Environment Lose Out to the Economy?
Web sources

Akbar, T., E. (2008). "Global Financial Meltdown and the Demise of Neoliberalism", Global Research (Center for Research on Globalization), at <http://www.globalresearch.ca/index.php?context=va&aid=10549>. Visited on 14th January 2009).

Friedman, T. L. (2009). Climate, Financial Crises: Two Sides of One Coin: New York Times Apr 1, 2009 at <http://www.newser.com/archive-world-news/1G1-186488533/financial-crisis-crisis-impact-on-climate-change-package-as-seen-by-veolia.html> (Visited on 18th April, 2009)

Jaura, R. (2008). Environment: Climate Action Could Escape Financial Crisis: Enter the global financial crisis - exit action on climate change? At <http://ipsnews.net/news.asp?idnews=44158> (Visited on 18th April, 2009)

Klare, M. T. (2008). The Crisis and the Environment. At <http://www.commondreams.org/view/2008/10/17-6> (Visited on 18th April, 2009)

Sivakumar, P. V. (2008). Will financial crisis impact environmental issues? Business Line 12 December 2008. At http://www.nlsenlaw.org/copy_of_news/will-financial-crisis-impact-environmental-issues (Visited on 19th April, 2009)

United Nations (2008). Global Response to Financial Crisis: Doha Conference Response to financial crisis. At <http://cambridgeforecast.wordpress.com/2008/11/29/global-response-to-financial-crisis-doha-conference/>. Visited on 10th January 2009

An Evaluation of Community Based Information Communication and Technology for Development Projects: Case of Digital Villages in Kenya

Salome W. Mwangi and Muranga Njihia

Abstract

Dominant approaches to ICTs and development tend to be premised on the need to bridge a 'digital divide' presumed to exist between advantaged and disadvantaged groups, and is a contributing factor to poverty and low levels of development. We undertake an evaluation of Kenya's proposed Digital Villages (Pasha) project that aims at bringing ICTs to excluded poorer and rural communities, in the context of Vision 2030 that puts ICTs at the heart of Kenya's development strategy. Three pilot Digital Villages were evaluated in a contrasting case studies research design to tease out commonalities and differences within an interpretive research paradigm. We find that although the objectives are common at national level, users and owners give their own meanings and interpretations to their digital village. This raises questions as to whether digital villages will meet their planned objectives, or they will have mixed outcomes like telecenters in the recent past. The results are useful to ICT policy makers and government agencies, especially in view of the expected full roll-out of the project. The findings support a context sensitive approach to ICT for development programme design, rather than a universalistic one as epitomized in a national level project with similar expectations for all project units. They also support the stream of research that queries the usefulness of 'digital divide' as a construct in framing ICT for development initiatives.

Introduction: The Information Revolution and Economic development

Developing countries stand on the cusp of a global information revolution (IR) that presents many opportunities. New technologies such as the Internet and cellular phones have spread rapidly in these countries resulting in faster economic growth (Wilson & Wong, 2003). Since the World Summit on the Information Society in 2003 and 2005, African governments have been far more proactive in pursuing policies and public-private partnerships that will bring affordable connectivity to their countries (APC-SIDA., 2009). As a result, access to ICTs in Kenya and other African countries has resulted in significant societal changes over the last five years. Linking ICTs to development is however more complicated. Development is a complex process by which individual groups and societies move from one state to another (Walsham, 2005a). It is a planned, gradual change for a society's progress that involves social transformation. As a process it is characterized by political influence and the promise of economic development (Macueve, 2008). A highly influential perspective is Sen's (1999) that considers development as freedom, which implies freeing people from suffering and enhancing their freedom of choice. The interventionist school on the other hand has always viewed development from an economic perspective in terms of Gross Domestic Product (GDP). Its chief concern is taking action to make development happen through development projects administered by national and international agencies such as the World Bank and the United Nations (Escobar, 1995). Such an approach is intentional and imposed by global policies concerning providing aid to the 'poor' (Sumner & Lawo, 2010).

This approach to development has been criticized by many scholars for failing to meet specific needs of people and the resultant dependency of poor nations (Chakravarti, 2005). It has therefore been argued that development should be viewed from an entire people centered social

perspective. Sen's(1999) emphasis on the need to enhance individuals' capacity as a building block for development and Walsham's(2005a)proposal that development should incorporate the political and cultural aspects of a population may be understood in this sense. Development is therefore a complex phenomenon on its own, and which is today increasingly associated with the transformational potential of digital technology.

ICTs and Development in Kenya

Although Kenya had an early lead in the East African region in ICT, it lagged behind until a National ICT Policy was developed between 2003 and 2006, adopted and later published as the ICT Bill in 2008 (Etta & Elder, 2005). Kenya therefore lacked the necessary infrastructure and capacity to exploit ICTs for economic and social development for a significant period. Most ICT facilities in Kenya have been centered in urban areas resulting in glaring disparities between urban and rural areas (digital divide) in the distribution of ICT facilities. The mobile revolution did to a great extent improve the situation but with limited scope for greater digital inclusion.

To bridge this gap the Kenyan government came up with measures to bring services closer to the people. At the Kenya ICT Board, several Digital Inclusion (DI) initiatives are underway. Some of these include the Digital Villages Project (DVP), a branded "PASHA" which is a Swahili word that means to 'inform' (Drury, 2011). The DVP is an integral part of an innovative public private partnership (PPP) for taking ICTs to the rural communities in Kenya. DVP seeks to harness the vast untapped potential of the rural sector by making ICTs more accessible and affordable to the wider population through the development and utilization of ICT facilities in the rural areas.

Research Problem

The Government of Kenya has embarked on a series of initiatives to tap on the benefits of ICT by initiating measures to revive and transform the economy into a modern market-oriented one. The aim is to improve the economic well-being of Kenyans by establishing Kenya as a center of industrial and financial activities in the region (MOIC, 2006). Telecenters are such initiatives and early research showed great promise to bridging the gap between local/rural people and industrialized nations (Avgerou, 2008b).However, these hopes were not realized, instead we got widespread failures, closures, and frustrations for key stakeholders (Avgerou, 2010).

The Kenyan government is currently rolling out pilot DVPs in various parts of the country together with implementation partners and other stakeholders. It is not clear whether these initiatives shall facesimilar problems of widespread poverty, illiteracy and a wide disparity in development between rural and urban areas - dualism¹⁴ - as to hinder their success. As previously seen, the links between ICT and development are not clear; given the poor performance of telecenters, and the complex issues that underlie the notion of 'ICT and development', what are the prospects of digital villages in Kenya successfully meeting their stated objectives? This study therefore seeks to explore prospects of digital villages in Kenya in light of the performance of previous community ICT projects such as telecenters that did not live up to their promise. The specific objectives of the study are:

- i. To evaluate the prospects of digital villages in Kenya in meeting their stated objectives.

¹⁴ According Sen (1999), dualism refers to the disparity in development between the developed countries (in terms infrastructure, money market, capital market and infrastructure) and underdeveloped countries.

- ii. To evaluate the level of awareness of digital villages by users in Kenya.
- iii. To evaluate perceptions of digital villages by the all the stakeholders (stakeholders include: the government, the owners of the digital villages the supposed beneficiaries of the digital villages, among others).

We start with a brief review of ICT4D literature, Kenya's efforts in this regard and some theoretical perspectives on such initiatives.

ICT4D in global context

Information Communication and Technology (ICT) is the practical application of knowledge in the areas of information and communications (Heeks, 2002a). It is about information and communication, not just computers, internet and telephone lines (Raul Roman & Colle, 2003). ICTs can offer marginalized groups unexpected opportunities to innovation, though limited by their scope of knowledge (Schech, 2002). Additional benefits include helping bring about economic development, poverty reduction, and democratization (APC-SIDA, 2009), income generation and poverty reduction (DOI 2001), the growth of an economy through knowledge diffusion and new economic opportunities (Avgerou, 2008a), improve the well-being and governance of a population through knowledge sharing among institutions and government, and taking services closer to the people (Schech, 2002; UNDP, 2001).

However, despite the recent fast uptake of mobiles and the global crisis in the west, it is still true what Avgerou (2008a) argues that the pace and direction of ICT innovation and implementation is largely set and determined by developed nations. This has resulted in uneven distribution of ICT benefits between developed countries (DCs) and the less developed countries (LDCs). Furthermore the transfer of technology from one society to another involves the importing it into an 'alien' cultural context where its value may not be similarly perceived as in its original host culture (Walsham, 2001). Context therefore matters. As Qureshi (2009) argues, the gains from ICT are not always realized and are in most cases beyond the reach of those who need them most due to the fact that their implementation is influenced by social processes that are not without political interference. If these technologies are implemented with the expectation that they will produce results similar to those in their country of origin, it rarely works. A contextualized approach requires that ICT innovation and implementation transcend interventionist national programs and extend to individuals if development is to be achieved (Macueve, 2008).

Kenya's development and community based ICTs

Since independence in 1963 Kenya has had various long term policies and development plans with mixed results, starting with emphasis on development through industrialization in the 1960s. Later the government sought to decentralize and de-bureaucratize decision-making through the introduction of the District Focus for Rural Development strategy (DFRD) and address regional disparities that were seen as a barrier to poverty alleviation. It was argued that the only feasible way to reduce poverty was by assisting the poor become more productive' through greater opportunities for constructive participation (Omosa, 2006). The 1980s and 90s were characterized by poor economic performance and Structural Adjustment Programmes that saw growth slow drastically. The Economic Recovery Strategy for Wealth and Employment Creation (ERS) of 2003 was largely based on the Poverty Reduction Strategy Paper (PRSP) of 2001, the

various National Development Plans that had been developed over the years, and from various policies (MOPND, 2003). It is in the ERS the government recognized the potential of need for ICT in development when ICT was recognized as a critical sector to the development of a knowledge base economy and in reducing the cost of doing business. This was captured fully in the current development blueprint, the Kenya Vision 2030, the vehicle to accelerate and transform the country into a rapidly industrialized middle-income nation by the year 2030 (GOK, 2007). ICT takes center stage in Kenya's development strategy focused on becoming a Business Process Outsourcing hub, and the creation of a 'Silicon Savannah' at the proposed Konza ICT city.

Achieving them requires a broad-based transformation into an information economy, starting with individuals and local communities. Kenya is today recognized as a key hub in the use of ICTs for community and business related activities, primarily based on mobile telecommunications (Fengler, 2012). The benefits of implementing community based and rural ICT are well understood the LDCs where they are perceived as a way out of poverty. Information access and the other digital services are expected to improve standard of living in the rural areas (Govindaraju & Mabel, 2010). Some of Kenya's national ICT for development initiatives over the years have been telecenters and digital villages as explained ahead.

Tele-centers

Telecenters are community information centers equipped with computers, internet connectivity, fax and telephone (Avgerou, 2008a). They provide software applications of local interest such as information on health, agricultural products, educational materials and government matters. They have been successful such as in Kovalam village India where the major economic activity was fishing, the Village Knowledge Center provided fishermen with information on weather and prices of fish in different markets (Govindaraju & Mabel, 2010). The center's main objective was to develop the village as an integrated self-sufficient village that would help people gain education, employment skills and political awareness. To achieve these objectives, villagers were trained on how to use computers and mobile phones and provided with relevant content suitable to their local needs.

However the development of such ICT projects had been hampered by social, economic, and psychological factors. Many fail to deliver on their objectives while still in their initial stages and are not sustainable (Govindaraju & Mabel, 2010). Failures leading to closure and owner, user and donor frustrations are well documented in research (Avgerou, 2008a). Similarly in Kenya, telecenters failed after a short period possibly from lack of training, lack of awareness among local people, poverty, and illiteracy (R. Roman & Blattman, 2001). They also noted that community participation was necessary for telecenter sustainability.

Digital Villages

A digital village is similar to a telecenter with greater emphasis on broader internet based digital services. It provides a community access to ICT services via computers, internet, digital cameras, printers, fax machines and other communication facilities. These could be government services, banking and communication services, e-learning to contribute to economic and social development of local communities. Kenya started with pilot projects in 2008 as part of a digital inclusion initiative by the government. They had 3 objectives: to provide affordable access and

use of ICT resources to rural communities in a sustainable way, increase connectivity of the rural areas to other parts of the country, and create economic opportunities that will spur rural economic development. They were to be owned by individuals or organizations based in the communities and were classified into three types:

- i. Digital centers – development hubs with 10 to 20 PCs
- ii. Digital schools – educational facilities with 5 to 10 PCs.
- iii. Digital kiosks – commercial facilities with 1 to 5 PCs.

The Digital Villages were implemented under the umbrella of Digital Village Network (DVN), a mega-community that brings together individuals and organizations from amongst ordinary Kenyans and others in the government, public, private and civil society sectors under one umbrella. The DVN provided a platform for members to share and exchange resources, experiences, information and communication and activities that were to enable Kenyans transform their well-being. They were supported by World Bank through a Government of Kenya agency the Kenya ICT Board. A stakeholder forum ICTvillage.com proposed to create a franchise to ensure sustainability for the digital villages. The franchise provides structure, standards, support and statistics for comparison purposes.

Theoretical frameworks for ICT4D projects

Several theoretical frameworks have been proposed to frame ICT4D interventions within the broader goals of national development. Some illustrative examples with contrasting perspectives are presented below.

Following the interventionist approach to development, the Digital Opportunity Initiative (DOI) report of 2001 (Accenture, Markle-Foundation, & UNDP, 2001) argued that a number of interrelated factors should be addressed to maximize the benefits of ICT for development in any country. The framework consists of five critically interrelated areas for strategic intervention: building human capacity, creating incentives for enterprise, developing appropriate content and increasing competition, especially among telecommunications and internet-related businesses. The success of national ICT strategies depends on coordination and alignment of efforts undertaken by all actors involved, at global, local and national levels. This leads to the development of a model to guide stakeholders in investing in and implementing strategies which take advantage of the potential of ICT to accelerate social and economic development.

Orlikowski & Iacono (2001) proposed that the IT artifact can be seen as having five views; nominal view, tool view, proxy view, computational view, and ensemble view. Based on this conceptualization, Sein & Harindramath (2004) proposed the ICT artifact in the context of development comprises three different conceptualizations: how it is used, how it is viewed and how it impacts development. ICT may be used as a commodity to earn foreign exchange and to support general development activities and as a driver of the economy. Sein & Harindramath (2004) noted that the tool view of ICT tends to underestimate the cost and complexities of computerization, such that the failure of many public policy initiatives on ICT use ICT may be

attributed to the tool view. ICT impacts may thus be conceived as transition from simple technology substitution to high level use of ICT whose success requires effective policy frameworks from the government, to conceptualize ICT as knowledge enabler in the economy Sein & Harindramath (2004).

Heeks (2002b) ITPOSMO model has been adapted in developing countries to evaluate the success or failure of ICT projects, most of which have traditionally relied on technology imported from developed countries. He argues that a design-reality gap exists between the design and usage contexts, and that the aim should be to minimize those gaps through local improvisations. ICT implementation and use in LDCs led to an increased awareness of the importance of the social and cultural context of the beneficiaries in technology adoption.

While such frameworks are useful, we chose a wholly interpretive approach but draw insights in developing research issues and questions from these frameworks, but not to frame analysis. This follows Avgerou's (2005) caution on adherence to 'method' and instrumental reasoning when doing critical information systems research. In this way we expect to explore issues more freely for an initiative and context that has not yet been well documented or researched.

Research Design and Methodology

This study adopted an interpretive critical information systems approach in contrast to the positivism because the aim was evaluate the impact of ICTs on society and human beings. It was a qualitative case study which provides for an in-depth and comprehensive inquiry into research phenomena to understand people and the social and cultural contexts within which they live (Myers, 1997; Yin, 2003). We used a contrasting case study research design to obtain deeper insights as it allows us to investigate convergence for a richer understanding of the phenomena under investigation (Benbasat, Goldstein, & Mead, 1987). Case research is the most appropriate research methodology for areas where research and theory are at their early, formative stages and where the experiences of the actors and their context are critical to the study.

Three digital villages – Wanix Digital Center, Kagumo College in Tetu – Nyeri, Korogocho Slums, and Donholm Family Bank branch both in Nairobi were selected for the study. The three studied were in different social economic settings; Tetu was a predominantly rural area, Korogocho is a slum in Nairobi while Donholm is a middle income residential area in Nairobi.

Data Collection and analysis

Primary data was obtained from eleven (11) in-depth interviews with digital village owners, managers, and clients, and the persons responsible for DVP from the Kenya ICT Board as well as from Kenya Data Networks the private sector partner. In-depth interviews uncover and explore underlying motives, desires, needs and feelings of the respondents, 'unconscious' material relating to the subject under study (Kothari, 2007). Direct observation of digital villages in operation was also made. An interview guide with open-ended questions for each category of respondents (users, owners and ministry officials) was used to facilitate personal interviews to obtain in-depth and comprehensive information (See Appendix). Interview and observation data were recorded on notepads.

A systematic and detailed description of materials under study was required in order to determine factors that explained phenomena which in this case were the digital villages as a route to digital inclusion and development. Content analysis was therefore used for data analysis (Bryman & Bell, 2007). It involved reading through the interview notes and grouping the statements and meanings according to the following research themes: prospects of meeting their objectives, level of awareness and perception of digital villages by all the stakeholders. A comparative analysis of study findings and government expectations was then done to evaluate the prospects of digital villages in contributing to national development.

Research Findings

We first present the institutional context, case descriptions and then the discussion.

Institutional context for digital villages

Digital villages were an initiative of the government in collaboration with the World Bank. To undertake this mandate, the government established the Kenya ICT board as a state corporation under the Ministry of Information and Communications in 2007 to lead the integration of ICTs in all aspects of national development. The board invited interested entrepreneurs and trained them in basic computer and business management skills to implement digital villages. Four pilot projects were then undertaken a slum in Nairobi, and three other towns, with each receiving infrastructure, technical support, and bandwidth through a revolving fund. The board had a target of establishing 290 digital villages by the year 2010, however by 2011 only the pilot projects were in existence. The board may also have learnt valuable lessons from the failure of telecenters and established policy frameworks to enhance sustainability.

Kenya Data Networks (KDN) is East Africa's largest ICT infrastructure provider and was established in January 2003 as a public data network operator following the liberalization of the telecommunications market with the goal of developing a reliable broadband network. Together with ICTvillage.com, a business lobby for ICT innovation, they launched a new model for digital villages aimed at transforming the country by offering free local internet access to ordinary Kenyans. This would extend access and benefits of the new undersea and terrestrial fiber optic cables to millions of Kenyans countrywide. It started with pilot projects in Korogocho (Al - Tawoon), Wanix Digital Center in Nyeri and Nyeri Technical Institute. These benefitted from free infrastructure, bandwidth and technical support for a period of time after which they started paying subsidized costs.

The successful implementation of the pilot projects led to the launch of business cases where prospective entrepreneurs undergo training after which they pay a one-time fee of Ksh. 58,000. KDN then provides infrastructure for free, global Internet Connectivity at 10% discount, free Local Internet Connectivity (unlimited) and Digital Village Network (ICT Facility) Free Membership. Entrepreneurs can start a new business centre or upgrade an existing premise into a digital village. Investing in the villages would help 'bridge the digital divide' through easy access to data and information via internet, educating people on the benefits of ICT, decentralized ICT services, closer to the people, and increase KDN's business profile. It had a target of connecting 210 digital villages per constituency by the end of 2010. However, only 28 were up and running by late 2011.

According to KDN officials the digital villages future is bright, and they intend to create more portals with local content, provide an online banking service (mobi pay) and introduce e-learning in collaboration with local institutions of higher learning. The major challenges are illiteracy in the rural areas, lack of awareness of the initiative, vandalism of equipment in some areas, and poverty in most areas.

Case Descriptions

Case 1: Al- Tawoon, Korogocho

Al-Tawoon (an Arabic word meaning united) was established in 2007 as a community-based organization located in Korogocho, the third largest slum in Nairobi. Its goal is to unite the youth through self-help and development activities. The majority of the population in the neighborhood comprises of Muslims. Illiteracy levels are high with over 60% of inhabitants classified as being illiterate, with the remaining only marginally literate. Poverty levels are high with most families lacking adequate means of survival.

Al –Tawoon was established through funding from the community, UN Habitat and KDN. KDN laid down the infrastructure, provided technical support and bandwidth, and trained the directors on operating the digital village. The center runs an informal primary school, and is involved with slum upgrading programs alongside the digital village. The main objective of starting the digital village was to train young people in ICT skills and provide easy access to data and information. It has a mixed clientele with a majority being youths and school children.

The digital village has a capacity of eight computers. It provides internet services through two main portals provided by KDN. The local content portal is free for a period of time while the global portal is provided at a discounted rate. The local content provides government services for example Personal Identification Number (PIN) forms, KRA forms, police abstracts and P3 forms. The center also offers basic computer and entrepreneurial skills courses in collaboration with the Digital Opportunity Trust (DOT), a non-governmental organization.

Case 2: Donholm's Family Bank

Donholm is a middle class residential estate on the outskirts of Nairobi. Family Bank, an upcoming Kenyan bank, has a strategically situated branch at the estate's shopping center and entered into a partnership with KDN to provide internet services to their users living within a radius of 1km from the bank through its hotspot. Donholm was the pilot project with other branches to follow suit so as to have all its branches as hotspots.

By providing free internet services, the bank hopes to encourage consumption of internet services by the local community. This would in turn stimulate demand for laptops for which it provides loans for their purchase in collaboration with KDN; KDN appointed outlets provide the laptops at a subsidized cost. The collaboration initially attracted large numbers but with time interest in the loans has gone down dramatically. The bank manager attributes this to competition from mobile phones, people's attitudes and perceptions, and a lack of awareness of the initiative. While bank employees received training from KDN on the use of the internet, no training is given to those accessing the hotspot or who acquire loans to buy laptops. The bank does not monitor or control the content provided to the users through their hotspot.

Case 3: Wanix Digital Center, Nyeri

Wanix Digital Center is situated in Muthinga market in Tetu constituency in Nyeri County, a predominantly rural area. The main economic activity is farming with a few businesses. The digital village is strategically located at the heart of the market giving people easy access to its facilities. It was started in August 2007 as a private enterprise which was later upgraded to a digital village through support from KDN and the local Member of Parliament. The center provides both local content (government services) and global content. The center also trains youths on basic computer packages. To sustain itself, the center operates printing services, digital photo services, and video shooting and editing services.

The directors were trained in computer applications and business management through KDN and ICTvillage.com. The center serves a mixed clientele, the young, high school students and business persons. While the young are interested in email and Facebook services, the middle-aged frequent the center to search for jobs online, and business persons access government services such as VAT forms and PIN registration. Whenever there are government jobs, locals visit the center to access the online job application forms. However, most users are only interested in email services as it saves them the cost of travelling to Nyeri town to access the same service.

Discussion: whither the digital villages?

We shall now analyze the three cases in the light of official development objectives for the digital villages and our research objectives.

Meeting stated objectives

One of their main objectives was to provide affordable access and use of ICT resource to rural communities in a sustainable way. ICTs offer many opportunities to LDCs for knowledge transmission and economic opportunities to improve the well-being of the population, and governance, through knowledge sharing among institutions and government (Schech, 2002). The digital villages studied have improved access to the internet in the communities, members do not have to travel far to access government services or communicate with relatives abroad. However the services provided are not free which may hinder future growth. Govindaraju and Mabel (2010) study of the successful Village Knowledge Center in Kovalam village saw villagers responding positively as they voluntarily came forward to receive computer training which enabled them access free internet services including educational materials. The Kenyan digital villages have not generated similar enthusiasm from the rural poor; these appear to have more pressing needs of food security and means of livelihood than internet access. The objective of affordable access may therefore not be easily met.

The second objective of increased connectivity to rural areas and other parts of the country also faces significant obstacles. Internet connectivity is important even in remote areas for participation in the global market and increased interaction between citizens and the government (Avgerou, 2003). The ICT board's target of 290 digital villages by the year 2030 looks difficult to meet since two years down the line less than 10 pilot projects have been implemented; and only 28 of KDN's target of 210 digital villages per constituency per year have been implemented. A second problem is Kenya's rough terrain since some areas are far from the main connection

points and require vast investments to connect, for example was unable to connect Samburu. This objective though not insurmountable, will therefore prove difficult to meet.

Creation of economic opportunities to spur rural economic growth was another objective for the digital villages. The government of Kenya's Vision 2030 recognizes the role of technology in the modern economy and noting that a knowledge led economy is a critical factor for rapid economic growth. ICTs provide many economic opportunities only limited by an economy's ability to control and use the ICTs (Avgerou, 2008a; Schech, 2002). We notice mixed outcomes in this regard. While businessmen in Tetu are able to access government services locally without travelling to the district headquarters, Al-Tawoon users seem not to have fully appreciated the benefits provided by the digital villages in the face of poverty, illiteracy and ignorance. Community ICT investments should therefore give attention to competing priorities specific to the project's socio-economic context.

Levels of awareness

Many high profile initiatives have been established in Kenya to create awareness on the benefits of ICTs to promote policy measures and diffusion in all sectors (Etta & Elder, 2005). This study shows that awareness of digital villages in Kenya is still low. The local parish among other institutions was involved in creating awareness of the successful kiosk knowledge centers in Kovalam village (Govindaraju & Mabel, 2010). Involvement of local institutions in identifying the local needs may therefore increase success rates. Only two national bodies, the government through the ICT board, and KDN, a private organization are involved in their implementation in Kenya, which could explain the observed low awareness levels in most cases.

While many were aware of the digital village in Tetu, few were in Korogocho, similar to Donholm where not all of those living within a radius of 1km from the bank were aware of the available hotspot. The bank manager attributed this to insufficient campaigns by the government. The people in Korogocho and Tetu recognize the digital center as only a cyber cafe with additional facilities. In Korogocho the young people were well aware of global online content but not of the other opportunities provided by digital villages or of Vision 2030; those in middle age were aware of both local and global content. The director in Korogocho attributed the low level of awareness to high levels of illiteracy and poverty as well as lack of exposure.

Owners of the three digital villages were in agreement that more awareness campaigns ought to be undertaken by the government and KDN and not only during their launch as is the practice now. Ironically, the internet is the only media through which people can learn about digital villages, yet it is the very media that is to be promoted.

Stakeholder Perceptions

We also sought to explore the perceptions of digital villages amongst all the stakeholders because from an interpretive research perspective multiple meanings can co-exist (Avgerou, 2000; Heeks, 2000). Kenya's government defines a digital village as a computer facility located in rural area that provides access to ICT services to the public via computers, internet, digital cameras, printers, fax machines and other communication facilities; KDN's is similar. Even with this working definition, different stakeholders appear to have different understandings of the same.

A key finding from the collaboration between Family Bank and KDN was that different stakeholders have different perceptions. As earlier shown, the bank's interest was in the

possibility of increased lending for its hotspot users when they purchased laptops, while KDN would benefit by facilitating their supply through appointed outlets. Secondly, Family Bank's digital village concept does not fit the government's definition. It is not a facility with computers and other facilities but rather a hotspot with little or no control over users. Several different but concurrent understandings of the concept and purpose of digital villages are in existence across the partners, which would confound their effectiveness from the different expectations and conflicting interests. Orlikowski & Iacono (2001) and Sein & Harindramath's (2004) conceptualizations of the IT artifact from multiple perspectives helps us appreciate this possibility. Users appear to have a tool or computational view, the government an ensemble view for broad development objectives, while partners such as KDN and Family Bank have a proxy view with the villages as another possible revenue stream. Policy makers ought to be sensitive to these potentially contradictory perspectives for long-term sustainability.

Emergent Themes and Issues

From the discussion above, five issues were identified as underlying the concept of digital villages and their capacity to realize their intended purpose to impact positively on the society: illiteracy, poverty, the digital divide, content and public-private partnerships. Each is discussed below.

Illiteracy

UNESCO (United Nations Educational, Scientific and Cultural Organization) estimates that about 40% of Sub-Saharan Africans are illiterate. Not surprisingly Kenya's Ministry of Planning and National Development recognized the need to make education a platform for equipping the nation with ICT skills to support sustainable economic growth. Roman & Blattman(2001) study of telecenters development in India found that most semi-literate people who may not even have seen a computer are unlikely to identify other needs other than those suggested to them. They are therefore, unable to imagine the potential of ICT until they see and actually try them out. Kenya seems to be experiencing similar challenges. A large proportion of the communities around the villages were illiterate or semi-literate which has a direct impact on their comprehension of the capabilities of digital villages. Older users in particular are also not computer literate and depend on attendants at the centers to download forms and other services. This challenge is being met through intensive computer literacy training in to prospective entrepreneurs by both the government and KDN. Feedback from trainees led to the need to revise the curriculum which may be a good indicator of better chances of success for the digital villages.

Poverty

High poverty levels in Kenya seem to be a major hindrance to the success of digital villages. Doubtless ICTs can have profound impacts on the lives of slum dwellers and rural communities, but there are serious concerns as to whether ICT projects can improve the welfare of people living on minimal to zero basic necessities in food and healthcare (McNamara, 2003). In such circumstances many slum dwelling families cannot envision the capabilities of a computer and will not consider the digital village a necessity. Rural digital villages have to contend with elderly farmers some of whom may never have seen a computer, let alone envision its capabilities. Our findings confirm Govindaraju & Mabel (2010) finding that that development of ICT projects is hampered by social, economic, and psychological factors.

According to Krishna & Walsham (2005) the benefits of ICT come at a high price and take long to be realized. Costs may be difficult to justify in developing nations due to the many needs and limited resources as observed in our study. Realizing benefits for Kenya therefore calls for increased focus on local needs, and an increase in education levels in both technical and organizational aspects.

The Digital Divide

The digital divide denies less developed countries (LDCs) opportunities for economic development as well as opportunities to enjoy life provided by internet connectivity (Avgerou, 2003). However, we found a more complicated scenario. The digital-divide is a complex construct that Walsham (2005a) finds difficult to define. His concern was the rapid development of ICT, which can widen the rich-poor divide in terms of ICT access and utilization. Contrary to this, poor slum dwellers around Al-Tawoon use the digital village to communicate with relatives abroad, apply for visas, so despite their poverty and semi-literacy they are socially connected. Children in the area visit the center to play computer games after school, which may be viewed as using it for purposes other than those intended by the government. However it plays an important role in the children's lives as they get early exposure to computers, and are kept away from the indulging in social vices prevalent in slums. This implies that digital villages can lead to unintended positive (and also negative) social impacts.

A phenomenological approach drawing concepts such as Ciborra's (2002) bricolage and hospitality to the policy, design and operation of digital villages would be a useful addition to capture the essential non-predictability of uses and outcomes. For instance Walsham (2005) argues that the digital-divide may be addressed by providing wider access to the internet for the disadvantaged. But it is possible that Kenyan digital-village owners and initiators will continue to reap economic benefits from the centers while poor users spend the little they have on the centers' services. What matters is the long-term value of whatever services they access, hence the need for user training on effective use of digital services.

Content

The government provides local content such as filing tax returns online and other government forms. All three study communities felt that more local content relevant to day to day activities was required, as was also found in the Kovalam village study, and that may be related to Heek's (2002b) proposal for local improvisations to improve the success rate for information systems in developing countries. The Tetu community wanted information relating to land issues, application for identity cards and passports, and tracking of the same documents. Young people were more content with the content provided as their main concern was email and Facebook, available as global content. Development of local content is one of the ICT Board's strategic initiatives and should address this problem in time.

Infrastructure

Infrastructure seems to be a major challenge to the attainment of set rollout targets for the ICT Board and KDN. In addition, complementary infrastructure service providers especially electricity must be drawn in for success. A visit to Kangundo's Blossom Enterprises, a digital village under the ICT Board, revealed that the center's operations had been interrupted by power outages leading to a temporary closure. These concerns are being addressed through targeted

infrastructure projects to stimulate demand in neglected areas for increased connectivity, reduced transport, and other infrastructure costs (MOIC, 2006).

Public Private Partnership

Cooperation between public and private sector is made appropriate through organizational arrangements and had been characteristic of Kenya's ICT landscape for over a decade (Eldon, 2005; Etta & Elder, 2005; Krishna & Walsham, 2005; Munyua, 2005). Roman & Blattman (2001) argued that there exist "opposing forces in ICT projects which tend to push expectations beyond reality". We noted a divergence of expectations amongst the government, KDN, and Family Bank from different conceptualizations of the digital village and its purpose. Public-private partnership agreements need careful drafting and management to ensure fairness and long-term sustainability of such collaboration. It is here that implicit differences in IT artifact conceptualizations could be addressed contractually.

Conclusion

The study set out to find out the prospects of Kenya's digital villages in meeting their stated objectives, levels of awareness and their alternative perceptions amongst stakeholders through an interpretive study of three contrasting case studies, government and other stakeholders. Our findings imply that the digital villages are yet to realize their stated objectives, levels of connectivity remain low, and easy affordable access remains a challenge. The centers have contributed to spurring economic growth in some regions through direct investment in the centers, and from computer and entrepreneurship training.

The level of awareness was found to be low despite the hype about digital-villages created over the media and internet. Participation of local institutions would play a major role in creating acceptable levels of awareness. Success for the digital villages will also depend on a better shared understanding of what exactly a digital village is, and a fair well-crafted and managed public-private partnership agreement. Ongoing efforts by the government through the ICT Board to revise the training curricula, develop local content and extend infrastructure point to a level of commitment that is more likely than not, adequate to overcome the constraints identified in this study. This gives us a basis for confidence to expect that the digital villages shall contribute positively to Kenya's development in the long run even if not directly or exactly as planned.

Our findings point to the need to further study the role of government in the success or failure of ICT projects, and technology transfer and adoption in relation to cultural, structural, tribal and socio-cultural conditions (Musa, Meso & Mbarika 2005). Researchers and policy makers would benefit from giving attention to conception of the IT artifact by different stakeholders and the use of phenomenological approaches to better capture the richness and complexity of digital villages as a phenomenon. The current state driven top-down approach fails to attend to lived reality and would impact negatively on the digital villages' overall development potential, and sustainability. Finally, as has been stated elsewhere, critical information systems research would benefit from a better understanding of the relationship between poverty, illiteracy and ICT projects (Walsham, 2005b). The study revealed these as major issues underlying the prospects of community based IC4D projects.

References

Accenture, Markle-Foundation, & UNDP. (2001). Creating a Development Dynamic: Final Report of the Digital Opportunity Initiative. Washington, D.C.: Digital Opportunity Initiative.

APC-SIDA. (2009). ICTs for Democracy: Information and Communications Technologies for the enhancement of Democracy - With a Focus on Empowerment: Swedish International Development Agency.

APC-SIDA. (2009). ICTs for Democracy: Information and Communications Technologies for the enhancement of Democracy - With a Focus on Empowerment: Swedish International Development Agency.

Avgerou, C. (2000). Recognising Alternative Rationalities in the Deployment of Information Systems. *The Electronic Journal on Information Systems in Developing Countries*, 3(7), 1-15.

Avgerou, C. (2003). The link between ICT and Economic Growth in the Discourse of Development. In M. Korpela, R. Momtealegre & A. Poulymenakou (Eds.), *Organizational Information Systems in the Context of Globalization* (pp. 373-386). Boston: Kluwer.

Avgerou, C. (2008a). Information systems in developing countries: a critical research review. *Journal of Information Technology* 133–146.

Avgerou, C. (2010). Discourses on ICT and Development. *Information Technologies & International Development*, 6(3, Fall), 1-18.

Avgerou, C. (2008b). Information systems in developing countries: a critical research review. *Journal of Information Technology* 133–146.

Benbasat, I., Goldstein, D. K., & Mead, M. (1987). The case research strategy in studies of information systems. *MIS Quarterly*(September), 369-386.

Bryman, A., & Bell, E. (2007). *Business Research Methods*. Oxford, UK: Oxford University Press.

Chakravarti, A. (2005). *Aid, institutions and development: new approaches to growth, governance and poverty*. Cheltenham: Edward Elgar.

Ciborra, C. (2002). *The labyrinths of information : challenging the wisdom of systems*. Oxford, UK: Oxford University Press.

Drury, P. (2011). *Kenya's Pasha Centres: Development Ground for Digital Villages*: CISCO

Eldon, M. (2005). Mainstreaming ICTs: Private Sector Sway. In F. E. Etta & L. Elder (Eds.), *At the crossroads: ICT policy making in East Africa*. Nairobi: IDRC & EAEP.

Escobar, A. (1995). *Encountering development : the making and unmaking of the Third World*: Princeton University Press.

Etta, F. E., & Elder, L. (Eds.). (2005). *At the crossroads: ICT policy making in East Africa*. Nairobi: IDRC & EAEP.

Fengler, W. (2012). How Kenya became a world leader for mobile money. [blogs.worldbank.org, http://blogs.worldbank.org/africacan/how-kenya-became-a-world-leader-for-mobile-money](http://blogs.worldbank.org/africacan/how-kenya-became-a-world-leader-for-mobile-money).
GOK. (2007). Kenya Vision 2030: A Globally Competitive and Prosperous Kenya. Nairobi: Government of Kenya.

Govindaraju, P., & Mabel, M. M. (2010). The status of information and communication technology in a coastal village: A case study. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 6(1), 128-135.

Heeks, R. (2000). The approach of senior public officials to information technology related reform: lessons from India. *Public Administration and Development*, 20, 197-205.

Heeks, R. (2002a). eGovernment in Africa: Promise and Practice. iGovernment Working Paper Series No. 13.

Heeks, R. (2002b). Information systems and developing countries: failure, success, and local improvisations. *The Information Society*, 18, 101-112.

Kothari, C. R. (2007). *Research Methodology: Methods and Techniques*. Delhi: New Age International.

Krishna, S., & Walsham, G. (2005). Implementing Public Information Systems in Developing Countries: Learning From a Success Story. *Information Technology for Development*, 11(2), 123-140.

Macueve, G. (2008). e-Government for Development: A Case Study from Mozambique. *African Journal of Information Systems*, 1(1), 1-17.

McNamara, K. S. (2003). Information and Communication Technologies, Poverty and Development: Learning from Experience. Paper presented at the infoDev Annual Symposium, December 9-10, 2003.

MOIC. (2006). Ministry of Information and Communication: Strategic Plan 2006-2010: Government of Kenya.

MOPND. (2003). Economic Recovery Strategy for Wealth and Employment Creation 2003-2007: Ministry of Planning and National Development, Government of Kenya.

Munyua, A. W. (2005). New Generation of Policy development: The case of multi-stakeholder ICT policy process in Kenya. *Information Technology in Developing Countries*, 15(1), 2-9.

Myers, M. D. (1997). Qualitative Research in Information Systems. *MIS Quarterly*, 21(2), 241-242.

Omosa, M. (2006). Research utility and national development goals: the interplay between poverty alleviation strategies and social science research in Kenya. Paper presented at the UNESCO Forum on Higher Education, Research and Knowledge, November 29 - December 1.

- Orlikowski, W. J., & Iacono, C. S. (2001). Research Commentary: Desperately Seeking the "IT" in IT Research-A Call to Theorizing the IT Artifact. *Information Systems Research*, 12 (2), 121-134.
- Qureshi, S. (2009). Assessment of the Social Factors in Information and Communication Technology Access and Use. *Information Technology for Development*, 15(4), 235-236.
- Roman, R., & Blattman, C. (2001). Telecentre Research for Telecentre Development: Obstacles and Opportunities. *Journal of Development Communication*, 12(12).
- Roman, R., & Colle, R. D. (2003). Content creation for ICT development projects: Integrating normative approaches and community demand. *Information Technology for Development*, 10, 85-94.
- Schech, S. (2002). Wired for Change: The links between ICTs and development discourses. *Journal of International Development*, 14, 13-23.
- Sein, M. K., & Harindramath, G. (2004). Conceptualizing the ICT Artifact: Towards Understanding the Role of ICT in National Development. *The Information Society*, 20, 15-24.
- Sen, A. K. (1999). *Development as freedom*. Oxford: Oxford University Press.
- Sumner, A., & Lawo, T. (2010). *The MDGS and Beyond: Pro-Poor Policy in a Changing World* EADI Policy Paper Series(March).
- UNDP. (2001). *Human Development Report 2001: Making New Technologies Work for Human Development: United Nations Development Programme*.
- Walsham, G. (2005a). Development, global futures and IS research: a polemic. *Journal of Strategic Information Systems*, 14, 5-15.
- Walsham, G. (2005b). Learning about being critical. *Information Systems Journal*, 15, 111-117.
- Wilson, E. J., & Wong, K. (2003). African information revolution: a balance sheet *Telecommunications Policy*, 27, 155-177.
- Yin, R. K. (2003). *Case study research : design and methods* (3 ed.). Thousand Oaks, Calif.: Sage Publications.