

New Product Development Practices and Growth of Small and Medium Enterprises in Greater Kampala Metropolitan Area, Uganda

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Abstract: Small and medium enterprises play an important role in the economies of developed and developing countries across the globe. SMEs contribute approximately 20% of GDP in most developing countries. Thus, their growth and survival has become of great concern for most developing countries. Previous studies have indicated that new product development practices have been identified as a successful tool for small and medium enterprises towards satisfying the changing needs of the market and to remain competitive. Apparently, due to a weak link between new product development and Growth of SMEs in Uganda, it appears that there is need for a greater emphasis on studies that link new product development and growth of SMEs. In this study mixed methods approach and cross-sectional research designs were used to establish the effect of new product development on growth of small and medium enterprises in greater Kampala metropolitan area on a sample of 226 top administrators of SMEs. Findings revealed approximately a large correlation between new product development practices and growth of SMEs. Linear regression results revealed that 31.92% of growth of SMEs according to this study was explained by variations in new product development practices.

Keywords: New Product Development, Growth of Small and Medium and Enterprises.

I. INTRODUCTION

The concept of small and medium enterprises (SMEs) dates back 4000 years ago, during the ancient cultures when business flourished among Arabs, Egyptians, romans, Jews, Greeks among many others. During that time, the cottage industries thrived and the workman in craft produced goods at his home and would sell the finished products by himself to the market. As time passed, there was a major resurgence in small scale industries throughout the world(1–3). Globally, countries are facing the challenge of low growth, weak trade and investment, and persistent rise in inequality among small and medium enterprises. Small and medium enterprises are key players in the economies, enabling small and medium enterprises to adapt and thrive in a more open environment is essential in boosting economic growth and development(4). According to Olughor(5), growth of SMEs strongly relies on their innovativeness and the ultimate goal of innovation is to improve business growth. Given the continually changing environment, new product development practices have become a competitive advantage for firms, this means that SMEs policies should be designed in a way which generates

better and viable inducement for new product development practices. Firms hoping to compete on the basis of innovation must clearly be proficient in all stages involved in new product development practices. However, most significant benefits can be achieved by improving the performance of the activities in the new product development practices (6). Yet, key research work has been concentrated in understanding of the process in industrialized countries and reason ably not much has been done for the developing countries(7). Small and medium enterprises largely contribute to economies of most or all developed countries. They act as a basis of employment, provider of survival, ensuing reasonable income distribution, increase in monetary capital gains and importantly contribute to Gross Domestic Product (GDP) of emerging economies like India, Brazil, China and Malaysia. Government of developing countries are obliged to spend significantly to the growth and sustainability of SMEs through the provision of vital infrastructures, human resources, finance, adequate policies and security(8). In china where the economy is facing transformation of the economy, firms still lack adequate new product development capability yet such capability is important for business innovation (9). Determinants of productivity and growth have been documented for industrialized countries with innovation regarded as the key to growth(10). New product development is vital for growth of businesses. Adapting to new and systematic new product development procedures incorporated with suitable procedure decision tools provide key benefits in the quality of the product, cost of production and supply chain. Most new products are developed based on specific practices by small and medium enterprises which form the biggest proportion of most economies. This highlights the need for further novel new product development practices research in SMEs (11). There are various variables which may symbolize the growth of commercial enterprises. They include sales, employment, net profit, number of customers or market share, asset size, business expansion, market and product diversification and physical output(12).

In Uganda, “Small and medium enterprises are faced with a number of challenges that lead to business failure. These causes of failure are quite diverse in nature. They have resulted in more than fifty percent of businesses failing in the first five years of their existence and fighting a difficult battle

from the start”(13). Furthermore, the World Bank in its survey (2015) identified impediments for small and medium enterprises growth and competitiveness which included the informal sector with many enterprises only lasting five years or less. In line with vision 2040, small and medium enterprises were identified as main basis of new product development practices since they constitute a significant sector in manufacturing, services and agribusiness engaged in local, regional and international business. Businesses use new product development practices to gain local and international competitive advantage. Government of Uganda, development associates and the private sector have come up with a number of creativities to encourage the small and medium enterprises sector but this has to-date not yielded to their expectations and still perform poorly(14,15). In line with the above, this study sought to establish the effect that new product development practices have on the growth of SMEs since several research studies have continued to recommend it as a main tool for growth and survival of SMEs in developed and developing economies.

Small and Medium Enterprises in Uganda

Uganda Bureau of Statistics (UBOS) has embraced the classification of enterprises based on the realization of minimum necessities; these include number of employees, capital investment, and annual sales turnover among others. “Small enterprises employ 5 – 49 and have total assets between 10 million but not exceeding 100 million; medium enterprises employ between 50 – 100 with total assets between 100 million but not exceeding 360 million” (UBOS 2010/2011).

According to Uganda MSME Policy(15), in Uganda SMEs contribute above 20% of GDP which is sizable. Vision 2040 has emphasized setting up a national institution for coordinating SMEs development. The World Bank (2015) identified impediments for small and medium enterprises growth and competitiveness which included the informal sector with many enterprises only lasting five years or less, despite the number of initiatives like the youth fund, “entandikwa” scheme, operation wealth creation program and many others by Ugandan government, development associates and the private sector to promote the small and medium enterprises sector (14,15). The government of Uganda through the Ministry of Trade, Industry and cooperatives recognizes the contribution of SMEs through its MSME policy framework for 2015 – 2025 towards the attainment of the national objective of vision 2040. SMEs have been identified as the major source of technological innovation and new products; however, there is inadequate framework to enable SMEs realize full growth potential.

New Product Development and Growth of SMEs

In business and engineering, new product development (NPD) refers to the complete process of bringing a new product or service to market. There are two parallel paths involved in the NPD process: one involves the idea generation, product

design and detail engineering; the other involves market research and marketing analysis. In today’s dynamic business environment, the critical factor which holds the key to your market success is your ability to launch and develop new products and services in a faster and cost-efficient manner, while facing the multiple challenges of increased complexity, dynamics of globalization, reduced cost and reduced cycle times(16). All businesses are faced with a challenge of innovation. Most companies do not have clearly and communicated product innovations which are essential to growth variations(17,18).The survival and growth of these firms depend on their ability to renew what they can offer to the world in terms of product and service innovation and the means through which they create and deliver that offering. New products are important in the success and growth for most small and medium enterprises. SMEs which play and win innovation games tend to sustain themselves in the industry as market leaders. Businesses especially SMEs depend on funds from new products which drive their growth and their existence in the market. SMEs need a roadmap for new product development on where they can base their decisions to reduce new product development cost and risks associated if they are to be successful(19).

Contrary to Ref. (17,19)findings, several cross-sectional studies had been conducted on new product development in 1968 and 1982 concerning the performance of new product development practices norms. Results of then and results of several studies since that time have revealed that notable improvements in the practices had not yielded substantial improvement in the overall performance of businesses(20). Equally, in relation to Ref. (19), Companies operate in complex and uncertain environments characterized by changes in customer preference and increase in technological changes. Companies have adopted the open innovation model as one of the strategies to adapt in the changing environments. Most international studies show that new product development has been identified as a successful tool for small and medium enterprises towards satisfying the changing needs of the market and to remain competitive.

New product development and Open Innovation are key aspects that firms need to remain competitive. Managers are encouraged to open their new product development process by implementing joint development practices since it is the only opportunity to increase their trust in their customers and suppliers which subsequently leads to the growth of small and medium enterprises(21). New product innovation transforms the minds of the business community because of its ability to increase their productivity. Apart from increasing their productivity, new product development allows businesses to extend a wide range of products and services to the customers and lowering the price to be paid. Due to limited business management skills, small and medium enterprises may sometimes fail to manage new product development, but if well managed, it can lead to technological development within the organizational processes. Organizations which started

small have grown with time as the needs of their customers continuously changed and companies would also see that in the number of employees employed from time to time(22).

In a study to examine the effect of new product development strategies on consumer brand adoption in small and medium enterprises in Nigeria, study findings recommended that SMEs should periodically review the techniques which they employ in product development to enhance consumer expectations which guarantees consumer loyalty in highly competitive market coupled with several technological changes(23). Contrary, Steven and David(24)assert that regular mutual engagement and sharing of expertise with colleagues, customers and suppliers lead to and emergence of trust based communities of practice in science based small and medium enterprises which improves their ability to acquire new knowledge which influences innovation and new product development.

Available literature indicates a high failure rate on new product development. It is believed that this is due to the way new product development has been managed. This may include ignoring the needs of the customers and their requirements, poor communication and knowledge transfer within the organization amongst the employees and focusing more on the internal procedures and processes, yet paying more attention to new products development would put the firm in a better position to prosper, survive and grow in the current business environment (Chaochotechuang, Daneshgar, & Sindakis, 2015).

II. METHODOLOGY

Research Approach

This study adopted a mixed methods approach where both quantitative and qualitative approaches were involved in the study. Quantitative methods were used to measure reality or the views with emphasis on determination of relationships between new product development and growth of small and medium enterprises to build models which predict the outcomes. Qualitative methods in this study were used to make sense and meanings from the problem that people attribute to them by gathering data and interpreting it (14, 15).

Research Design

For research to be considered worth, a researcher is expected to start by defining the scope of the research study to come up with a strategy or plan which is to be followed in the entire research process. This always made up the methods which will be used by the study, the concepts which will be measured and how they will be measured and how adequately they will perform the tasks in achieving the goal of the research (25). For this study, mixed research designs were used to direct the study by adopting both quantitative and qualitative designs. Descriptive, Correlational, survey and cross-sectional Designs were adopted. Descriptive designs involved the use of means, frequencies, standard deviation and percentages to describe and get meaningful interpretation

of the study variables (new product development and growth of SMEs); Correlational designs were used to collect data on the two variables in order to establish the relationship between the two variables and later carry out regression analysis for hypothesis testing; Survey design was also used to collect data from a large number of respondents at a given point on time thus making it a Cross-sectional design as well.

Target Population and Sample Size

This study's target population was registered small and medium enterprises in Greater Kampala Metropolitan Area, Kampala Uganda. For each of the SMEs, the research targeted one of the top administrators who included either the owner, manager and any other high level administration staff who seemed knowledgeable about the enterprise's affairs relating to this study. These enterprises should have been in operation for a duration of not less than three years. The researcher chose to carry out this study on SMEs in GKMA because over a third of SMEs are located in central region with most businesses in Kampala, Mukono and Wakiso (17,18). A total of 226 SMEs were involved in the study, this was reached at by using Krejcie & Morgan table(26) to determine the sample of enterprises and respondents to be involved in the study.

Data Collection Instruments

According to Amin(27), in a survey research design exists main procedures for collecting data from the respondents. This study adopted survey research design and thus used self-administered questionnaires to collect data from the respondents of the study. The questionnaire used a five point likert scale as cited by Wade(28). The researcher opted to include a 0 "Zero" in a five point likert scale because he was interested in the absence or presence of the attribute to which the scale pertains, that is growth of SMEs in this study. This study choice is supported by the findings of Schwarz et al.,("spss - Is 0 a valid value in a Likert scale? - Cross Validated," n.d.)(29,30). This study notices that most studies have been based on likert scales without a 0 "zero", and this justifies the reason as to why this study's likert scale included a zero in order to be able come up with new knowledge.

Reliability of the Instrument

The reliability of an instrument can be achieved if it can consistently and with no bias measure the concepts it is supposed to measure. This can be achieved through test-re-test reliability which is referred to as the measure of reliability that can be obtained by administering the same test twice over a period of time to a group of individuals but you obtain same or parallel results(25). Reliability of the instrument was also tested by using Cronbach's Alpha (α) test to test for the consistency of the instrument. According to Amin, (27), Cronbach's Alpha (α) test is one of the most commonly used measures of reliability of data collected because it is based on the internal consistence of the test. This is done to minimize the errors and biases in data. A reliability of at least 0.70 is acceptable(31). This study used SPSS (Statistical Package for

Social Scientist), Cronbach alpha (α) test was conducted on constructs to see if the benchmark of 0.70 was adhered to as per the results in Table 1.

Table 1: Cronbach's Alpha (α)

Reliability Statistics	
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
.886	.887

Source: Primary Data

Results in table 1 indicated that Cronbach's Alpha value was 0.886 which was way above the benchmark of 0.70. These results indicated that the instrument was reliable and consistent.

Data Analysis

Quantitative data was analyzed using the statistical package for social scientists (SPSS Version 22). Data was cleaned prior to analysis by checking for omitted values, checking outliers, common method variance, testing for normality, linearity, sampling adequacy and Multicollinearity. Thereafter correlation matrix to examine the indexes to ensure its suitability, confirmatory factor analysis was also performed to explain the variance of the variables by identifying the underlying factors which determine the effect of new product development on the growth of SMEs variable observed, and the component factor analysis to ensure that the loadings were acceptable. Pearson linear correlation and simple linear regression analysis was conducted on each of the variables to establish the relationship between variables and the effect of new product development practices on the growth of small and medium enterprises in GKMA.

III. RESULTS

Test for Linearity

Tests for linearity on either dependent or independent are also an important assumption where the relationship between the variable should be linear if one wants to use parametric tests. This study employed scatter plots to test linearity as indicated in the figures 1.

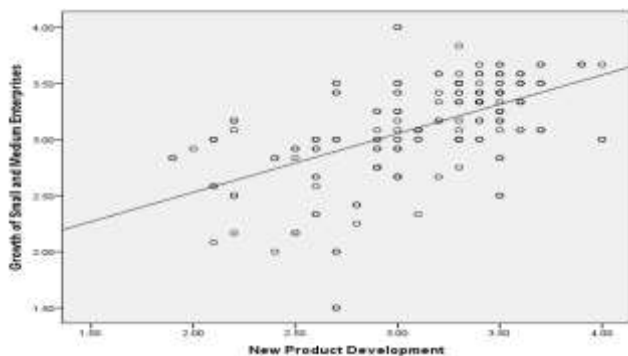


Figure 1: Scatter plot for Growth of small and medium enterprises and New Product Development

Source: Primary Data

Results from the test for linearity in Figure 1, new product development revealed a straight line relationship with the growth of small and medium enterprises in greater Kampala metropolitan area, Uganda. This means that the data met the assumptions of linearity where its assumptions were not violated.

Results of Pearson's linear correlation

For this study to achieve its ultimate goal which was to establish the effect of new product development on growth of SMEs, the researcher started by carrying out a Pearson linear coefficient correlation on new product development and growth of small and medium enterprises and the corresponding results are presented in table 2.

Table 2: Pearson's linear correlation on new product development and growth of SMEs in greater Kampala metropolitan area

Correlations			
		New Product Development	Growth of SMEs
New Product Development	Pearson Correlation	1	.565**
	Sig. (2-tailed)		.000
	N	189	189
Growth of SMEs	Pearson Correlation	.565**	1
	Sig. (2-tailed)	.000	
	N	189	189

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

Source: Primary Data

Preliminary analyses of normality and linearity to ensure that there were no violations of the assumptions of normality and linearity were done revealing a normally distributed data. Before a regression analysis could be done to establish the effect of new product development and growth of SMES, Pearson's linear correlation coefficient was carried out to ascertain whether the data was suitable for parametric tests and here the researcher was interested in determining whether there was a relationship between new product development and growth of small and medium enterprises in greater Kampala metropolitan area. Pearson's linear coefficient correlation results as indicated in Table 2 revealed that there was positive and significant relationship between new product development and growth of small and medium enterprises in GKMA ($r=.565$, $p=.000$). Accordingly, this suggests an approximately large correlation between new product development and growth of SMEs, this is as suggested by Cohen (32) in determining the strength of relationship between variables. These results therefore, show that an improvement in new product development practices would lead to an improvement in the growth of SMEs in greater Kampala metropolitan area, Uganda. And since the correlation results indicated that the data can be used for parametric tests, the researcher went ahead to do regression analysis in order to achieve this studies objective.

Results of Linear Regression Analysis

Linear regression analysis was done to establish the effect of new product development on growth of SMEs in GKMA. This was achieved by regressing new product development with growth of SMEs in greater Kampala metropolitan area as per the results in table 3.

Table 3: Linear Regression Analysis Results

Model Summary ^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.565 ^a	.319	.315	.35718		
a. Predictors: (Constant), New Product Development						
b. Dependent Variable: Growth of Small and Medium Enterprises						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.164	1	11.164	87.504	.000 ^b
	Residual	23.857	187	.128		
	Total	35.021	188			
a. Dependent Variable: Growth of Small and Medium Enterprises						
b. Predictors: (Constant), New Product Development						
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.	
		B	Std. Error	Beta		
1	(Constant)	1.483	.176		.000	
	New Product Development	.523	.056	.565	.000	
a. Dependent Variable: Growth of Small and Medium Enterprises						

Source: Primary Data

In Table 3, Model summary results show that 31.9% (R Square = .319) of the growth of small and medium enterprises is due to variations in new product development practices. Under coefficients, results revealed that new product development practices contribute significantly and positively to the growth of SMEs (p=0.00, β=.565). Beta value of .565 indicates that an increase in new product development by one unit will lead to 0.565 improvement in the growth of small and medium enterprises, the constant value of 1.483 means that when new product development is zero, growth of small and medium enterprises is equal to 1.483 and significant at .000. Results in Table 3 revealed that new product development positively and significantly affects the growth of small and medium enterprises in greater Kampala metropolitan area, Uganda.

IV. DISCUSSIONS

This study’s findings revealed that New Product Development positively and statistically affects the growth of small and

medium enterprises in greater Kampala metropolitan area (p=.000, β=.523). Simple linear regression results revealed that 31.9% (R Square=.319) of growth of small and medium enterprises was explained by new product development.

This study’s findings are in agreement with Isabel & José(21) where it was revealed that new product development was identified as a successful tool for growth of small and medium enterprises. InnoSuTra(19), had also discovered that new products are important in the success and growth of most SMEs as it was revealed that businesses especially SMEs depend on funds from new products which drive their growth, the study advised small and medium enterprises to have a roadmap for the new product development where they can base their decisions if they were to be successful;also in the same study, it was revealed that the survival and growth of firms depend on their ability to renew what they can offer to the world in terms of products and service.

V. CONCLUSIONS

In line with this study’s findings and the literature that has been published on the subject of new product development and growth of small and medium enterprises, this study concludes that; there is a significant relationship between new product development and growth of small and medium enterprises, and consequently new product development affects the growth SMEs in greater Kampala metropolitan area, Uganda. This implies that when SMEs adopt the new product development practices, they will be able to earn high from the new products and services developed and this will have an impact to the ultimate goal of SMEs which is growth. SME growth is in terms of size, profits, sales, customer base, employees, capital base and many other corresponding variable that are used to measure growth. In light of the above improvements resulting from new product development, SMEs will probably be able to grow into larger enterprises in the long run.

VI. RECOMMENDATIONS

Since it was revealed from this study that new product development practices are significantly correlated to the growth of small and medium enterprises and by the fact that 31.9% of growth of SMEs in greater Kampala metropolitan area, this study recommends to SME managers and all the key stakeholders to adopt new product development practices, for example by having a pool of ideas about products to be produced, screening of all ideas concerning products ensure feasibility, regularly bringing new products to the market, encouraging new ideas on new product development, regularly getting feedback from customers, using feedback to develop and improve products, having a special team in charge of developing new products, allocating funds for developing new products, supporting the production unit to develop new products and encouraging clients to always ask about new markets from the firm.

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