Received 28 October 2013
Revised 23 March 2014
Accepted 31 March 2014

Financial service outreach correlates

Managerial competence and risk-taking behaviour

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Abstract

Purpose – The purpose of this paper is to establish the relationship between managerial competence, managerial risk-taking behaviour and financial service outreach of microfinance institutions (MFIs).

Design/methodology/approach – In this cross-sectional and correlational study, the authors surveyed 52 branches of MFIs from a population of 60 branches of 20 MFIs in eastern Uganda. Two respondents, a branch manager and a senior loan officer, were the units of enquiry for each branch. The authors put forward and tested four hypotheses relating to the significance of the relationship between perceived managerial competence, risk-taking behaviour and financial service outreach using SPSS version 20. The authors established the hypothesized relationships using Pearson correlation coefficients and obtain a mediating effect of risk-taking behaviour using partial corrections and regression analysis.

Findings – The results suggest positive and significant relationships between perceived managerial competence, risk-taking behaviour and financial service outreach. However, while the direct relationship between managerial competence and financial service outreach without the mediation effect of risk-taking behaviour of managers was found to be significant, its magnitude reduces when mediation of risk-taking behaviour is allowed. Thus the entire effect does not only go through managerial competence but majorly also, through risk-taking behaviour of managers.

Research limitations/implications – This study did not control for environmental factors such as laws and regulations. As such the model may have been under fitted. Nevertheless, the study has introduced a clearer understanding that outreach performance in MFIs rests with competent managers in strategic positions operating in synergy with their risk-taking behaviour. The study informs policy makers that outreach performance of the MFIs depends on the quality of the competence managers have in addition to their risk-taking propensities.

Practical implications – Efforts by the stakeholders to improve financial service outreach must be matched with appropriate competences and risk-taking behaviour of managers.

Originality/value – The results contribute to extant literature by investigating two explanatory variables for financial service outreach and provide initial evidence of the mediating effect of intrinsic high risk-taking behaviour of managers. Results add to the conceptual improvement in risk-taking behaviour and lend considerable support for the behavioural perspective in the study of financial service outreach of MFIs.

Keywords Microfinance, Uganda, Managerial competence, Outreach, Risk-taking

Paper type Research paper

International Journal of Social Economics
Vol. 42 No. 4, 2015
pp. 404-420

0306-8293
DOI 10.1108/IJSE-10-2013-0241

Background to the study

The aim of this study is to establish the relationship between managerial competence, managerial risk-taking behaviour and financial service outreach of microfinance institutions (MFIs). Over the past few years, there has been a growing interest in MFIs,

having been identified critical for easing accessibility to financial services by poor and excluded clients (World Bank, 2012). However, Cull *et al.* (2009) observe that while there is impressive growth and financial sustainability of MFIs, this is at variance with their outreach. As a result the majority of borrowers have resorted to informal groups. In Uganda, for instance, 30 per cent of the population is unserved with financial services, 58 per cent is served by the informal groups, 7 per cent commercial banks, 3 per cent microfinance deposit-taking institutions and 2 per cent savings and credit cooperative organizations (SACCOs) (Finscope, 2010). The fact that only 5 per cent of borrowers access MFIs' services is, arguably, a worrying situation for social economic development of a country. This worry is because development theory accentuates the importance of access to finance in overcoming income inequality and achievement of growth (Pande *et al.*, 2012). According to Pande *et al.* (2012) the inability to access financial services prevents consumption and investments thus limiting growth opportunities. The financial inclusion of the poor will ultimately lead to higher incomes hence removing inequalities (Nkundabanyanga *et al.*, 2014). Prior studies also indicate a positive relationship between availability of finance and economic growth. For example, Butkiewicz and Yanikkaya (2005) in a study of the effects of IMF and World Bank lending on long-run economic growth indicate that World Bank lending stimulates growth by increasing investment. The positive growth prospects through lending hypothesis is also substantiated in a study by Mallick and Moore (2005) who investigate the impact of World Bank lending in an adjustment-led growth model and post significant positive effects of the rate of growth in World Bank lending on economic growth of developing countries. In addition, economic models by Bencivenga and Smith (1991) and Greenwood and Jovanovic (1990) also suggest a positive relationship between financial intermediation and economic growth.

Two of the constructs that may explain the financial service outreach are managerial competence and risk-taking behaviour. Managerial competence is the ability of managers to direct work streams and define outcomes clearly while leading staff as a team (Jay, 2010). These competencies might be necessary in extending financial literacy/training to clients. Surprisingly, anecdotal evidence suggests that many MFIs report inefficiencies of managers as a key obstacle to their daily business operations. Typically, firms that are managerially constrained may not design loan products that meet the needs of poor borrowers, generate enough savings and investments. Rosenberg *et al.* (2009) attribute poor outreach to a trade-off between returns and risk-taking behaviour. Risk-taking behaviour is individual's behaviour in risky situations which is characterized by the degree of risks involved in decision making (Sitkin and Weingart, 1995). Managers prefer to risk with rich as opposed to poor borrowers because it is costly to administer and monitor small loans (Cull *et al.*, 2009). This preference accentuates poor outreach. This risk-taking behaviour of managers coupled with their inefficiencies to meet the borrowers' financial needs including failure to train them so as to mitigate the default could reduce financial service outreach. In this paper we argue that financial service outreach will be high if managers have the relevant skills, knowledge and experience of training clients to achieve targets set. Moreover, Kereta (2009) states that regulated microfinance employ skilled managers who work by listening to borrower's complaints and preferences as well as training them on a range of loan products.

The potential for managerial competence and their risk-taking behaviour to explain financial service outreach has, however, remained inadequately examined. Previous studies that explain variances in access to formal credit by SMEs use financial literacy

(Beck *et al.*, 2007) and lending terms (Stiglitz and Weiss, 1981; Schmidt and Kropp, 1987). Moreover, while factors related to the participation of credit users in the credits market can be divided into borrowers' characteristics, and the loan terms and conditions imposed by lenders (Zeller, 1994), the role of competence and risk-taking behaviour of MFIs' managers has remained non-conspicuous in the explanation of financial service outreach. Indeed, although recent studies have attempted to analyse the effect of microfinance performance (Kaboski and Townsend, 2012), financial sustainability and profitability (Baguma, 2008), sustainability and outreach (Cull *et al.*, 2007), little is known about the relationship between managerial competence, risk-taking behaviour and outreach in an African context. Our study therefore contributes to extant literature by investigating two explanatory factors for financial service outreach in a single study.

The rest of the paper proceeds as follows: next section is literature review and hypotheses development, followed by methodology, the penultimate section is results and discussion and finally, conclusion and implications.

Literature review and hypotheses development

Managerial competencies

Discussions of successful managers are frequently associated with the term managerial competence (Raelin and Cooledge, 1995). Boyatzis (2008) defined managerial competence as the individual characteristics that are casually related to effective and superior job performance of managers. Thus, managerial competences are characteristics that an individual manager needs in order to perform effectively such as planning, organizing, staffing, leading, controlling and directing. They are commonly conceptualized as a measurable pattern of knowledge, skills, abilities, behaviour and other characteristics that differentiate high from average performance (Lee, 2009).

Risk-taking behaviour

Broadly, risk-taking behaviour mean individual's behaviour in risky situations which is characterized by the degree of risks involved in making a decision (Sitkin and Weingart, 1995). Miller and Fagley (1991) argue that the social factors act to modify individuals' risk preferences or habitual patterns of dealing with risk. Similarly most managers in the Ugandan context seem to consider the size and probabilities of gains and losses; the amount of information presented about the decision in order to decide on a particular borrower (AMFIU, 2011). Many studies find mixed results for the effect of risk-taking behaviour (Zhao *et al.*, 2010) in firms.

Financial service outreach

The provision of access to microfinance services to those unable to access it from the formal financial sector is classified as outreach (World Bank, 2012). Financial service outreach therefore refers to the number of clients served (Kereta, 2009). Outreach is an important aspect of microfinance in view of the fact that the fundamental aim of microfinance is to reach the largest number of unserved poor borrowers who do not have access to financial services. Outreach performance to the poor borrowers is commonly understood as the number of clients served but can have an extended view in four aspects: the number of persons now served but previously had no access to formal financial services (Kereta, 2009), the depth of outreach which can be measured in terms of breadth, scope and length.

Managerial competence and financial service outreach

Recently, managers of MFI's have been faulted on account of lack of appropriate skills which may lead to poor quality services hence affecting outreach. Studies (Day, 2007; Rhyne and Otero, 2006; Dittmar and Mahrt-Smith, 2007; Kereta, 2009; Lorber and Savič, 2011), suggest that there is a relationship between managerial competence and microfinance services outreach. Day (2007) suggests that MFI firms can actively utilize job assignment to groom their managers with high potential for advancement for leadership role which will be helpful in designing heterogeneous products that target poor borrowers. Consequently, managers play a big role in setting up organization structures and leadership styles which will be necessary in meeting the borrower's financial needs thus financial service outreach. Indeed, Kereta (2009) observe that regulated micro finances employ skilled manpower that listen to borrower's complaints and preferences as well as training them on a range of products and services. Therefore competent managers are likely to foster good financial outreach of the MFIs that they manage. This presumption is likely to be true as Dittmar and Mahrt-Smith (2007) show that good governance is able to double the value of cash holdings of MFIs as compared to poorly governed MFIs; also revealing that the market values of excess cash for well-governed firms are about one half times of the market value of excess cash of poorly governed firms which ultimately determines the extent to which MFIs can reach the poor.

Rhyne and Otero (2006) argue that in order to achieve significant outreach, sustainability of MFIs is necessary. This argument can be towered to include the commercialization and transformation of microfinance. This potentially attracts commercial funds that may contribute to supporting the outreach goal of MFIs by enlarging the amount of loans to the poor and/or ensuring the provision of such loans for a longer period of time, thus, the absolute number of poor people that have access to MFIs may be increased. This is likely to impact on the borrower's lives if managers working in these MFIs can provide a plethora of financial services such as savings, payments and credit (World Bank, 2012). Indeed dimensions of service quality from the borrowers' perspective when followed by managers may lead to the acquisition of potential customers which increases financial service outreach to the clients. Following borrowers' service quality perspectives (which include employee customer care, knowing customers by name and positive attitudes to clients) by managers requires appropriate competences. Lorber and Savic (2011) note that the ability of managers in providing quality services, positive attitude towards clients, facilitates outreach and repayment of loans advanced to borrowers. Moreover, the ability of managers to organize borrowers into groups reduces costs of screening, monitoring and enforcement thus increasing financial service outreach (Aghion and Morduch, 2005). Cull *et al.* (2007) also suggests that managers who design proposals for subsidies and are able to decide on appropriate sources of funding can increase the scale of microfinance services in terms of its depth to borrowers. On the contrary, it can be argued that managers who do not have skills of managing staff may not achieve financial service outreach despite staff training. Milfred (2010) contests this view arguing that staff training and development in aspects like best practice lending methodologies, delinquency prevention and management, risk reduction and loan management systems are important aspects of building a quality portfolio that can improve access rate of microfinance services by the borrowers. The foregoing review

indicates the debate on the relationship between managerial competence and outreach of MFIs is ambivalent. It is therefore reasonable to hypothesize as follows:

H1. Managerial competence positively relates with financial service outreach in MFIs.

Managerial competence and risk-taking behaviour in MFIs

The personality of an individual manager influences performance of an organization since the more an individual has a particular trait, the more he/she exhibits certain type of behaviour that influences his/her performance and depending on the job demands and the work situation, these competencies then combine and interact to influence the overall performance of the firm (Korzaan and Boswell, 2008). Hogan and Kaiser (2005) views leadership skills as a tool that relates to building and motivating high-performing teams. Good leadership is crucial to the organizational effectiveness because managers are able to display a high level of confidence and self-esteem to inspire subordinates to share a common vision (Blais and Weber, 2006). Thus managers who are able to meet targets with subordinates on a sustained basis are regarded as competent and are willing to take on risk. Several studies (Adams *et al.*, 2005; Fishman and Hubbard, 2005; Brhlíkova and Ortmann, 2006; Li and Tang, 2010) suggest that there is a relationship between managerial competence and risk-taking behaviour. Adams *et al.* (2005), show that the impact of managers' power on performance variability is more pronounced in MFIs firms with fewer environmental constraints but more managerial discretion. Especially in firms and organizations with high managerial discretion, manager's power will lead to risk-taking. Fishman and Hubbard (2005) note that lack of regulation and weak oversight within the MFIs mean that managers get tempted to invest in risky borrowers thus increasing the outreach of microfinance services. They argue that in general, the impact of the managers' power will be greater in MFs with minimal regulatory constraints than in those with severe regulatory constraints. In the case of Ugandan MFIs, regulations are in two forms, those regulated by Bank of Uganda and regulations within the MFI itself affects outreach. Those MFIs that are regulated tend to follow the laid down policies, guidelines when providing financial services to the poor borrowers as opposed to unregulated. For example, some SACCOs do not follow strict procedures of screening clients hence impacting on outreach (AMFIU, 2010). Brhlikova and Ortmann (2006) also note that MFIs that get financial support from donors without strings and not fully regulated may tempt their managers to invest in risky borrowers because they act at their own discretion. MFIs that experience high portfolio growth on their own, reinforced by past successes may result in overconfidence and overly ambitious goals. This presumed managers' overconfidence increases their risk-taking because an overconfident manager overestimates his or her own problem-solving capabilities but underestimates the required resources and organizational uncertainties (Li and Tang, 2010). The foregoing review indicates that risk-taking behaviour of managers is influenced by environmental factors such as regulations. The possibility of taking on calculated risks by managers that mirror their individual competences appear to be largely unstudied especially within the context of MFIs. Since microfinance activities involve some degree of risk especially in view of poor borrowers and since relationships have been established in a number of studies on managerial competence in various occupations and in various

organizations in assessing the behaviours of manager (Kamaria and Lewis, 2009), the following hypothesis will be stated:

H2. Managerial competence positively relates with risk-taking behaviour in MFIs.

Risk-taking behaviour and financial service outreach

Several studies (Hartarska and Nadolnyak, 2007; Rosenberg *et al.*, 2009; Cull *et al.*, 2007; Fernando, 2006; Kraus *et al.*, 2011) suggest an inverse relationship between low risk-taking behaviour and financial service outreach. Studies by Hartarska and Nadolnyak (2007) and Rosenberg *et al.* (2009) argue that the increased competitions among MFIs are likely to affect financial service outreach as the behaviours of managers tend to follow this trend in deciding on whom to serve. Similarly, Hartarska and Nadolnyak (2007), observe that regulation in MFIs influences the manager's decision in taking risk in financial matters. Cull *et al.* (2007) find that managers of MFIs in Pakistan who take risk in providing financial services to individuals than group lending are more profitable but hurt outreach. They suggest that MFIs that focus on providing loans to individuals perform better in terms of profitability. Fernando (2006) observes that credit does not reach the poorest of the poor due to the self-selection of credit-worthy borrowers, determined according to their ability to pay. Additionally (Kraus *et al.*, 2011), find low risk-taking behaviour and outreach of microfinance services in risky environment since the interest rates will be too high. They argue that risky environment of developing countries (including Uganda) is marked by greater uncertainty as the market place is less well institutionalized, leading to investment decisions based on imperfect information thus affecting outreach. The high-risk environment also leads to high interest rates, due to the cost of getting loans repaid (Dehejia *et al.*, 2012). Wagner and Winkler's (2013) results suggest that microfinance has become vulnerable to financial turmoil, finding that with global financial crisis credit growth has dropped sharply.

Finance theory characterizes credit markets with high-asymmetric information, especially, the existence of moral hazard and adverse selection problems, both leading to severe distortion and sometimes complete collapse of the formal credit market (Akerlof, 1970; Daripa, 2000). Proponents of this theory such as Dusuki (2008) believe that financial contracts will not be written under this condition and as such the contracts between borrower and lender will only be honoured if the element of trust exists in such transactions. So, finance theory suggests that the founders of MFIs are faced with adverse selection which deals with their ability to select the most capable managers (Kyereboah-Coleman and Osei, 2008). The theory also suggests that the moral hazard problem occurs when one party who is shielded from risk acts differently to it if it were fully exposed to risk (Abdul Rahman and Dean, 2013). A micro entrepreneur's lack of collateral due to poverty can increase the moral hazard problem. El-Komi and Croson (2005) advocate that this problem is more severe for the microfinance industry because of the lack of collateral and the high cost of monitoring with respect to the loan size provided, with the loss being borne only by the MFIs. Those authors aver that such barriers make assessment of projects and monitoring the use of loans very costly. Abdul Rahman and Dean (2013) note that MFIs have been successful in solving the problem of credit risk by introducing social collateral by forming groups and weekly repayments, thereby lessening the asymmetric information problem although they have not successfully resolved the problems of moral hazard and economic viability. This means that for outreach to increase, managers of MFIs need to assume away the risk that MFIs

activities may not be economically viable. Some studies indicate that one-off, one-year credit has been less effective in poverty alleviation than multiple loans over a longer period of time. In the Grameen bank villages, for example, Farooq (2009) finds that 76 per cent of participants who take no loans or only one loan are below the poverty line, compared to only 57 per cent of those who take a minimum of five loans. If the reason for existence of MFIs is to increase outreach and lift a number of people from poverty, it is thus more critical for managers of MFIs to take on greater risk in their lending propensities to the poor. Thus, since there is sufficient theoretical assertions that confirm that low risk-taking behaviour of managers is negatively related to outreach and since the position of this paper is to explain positive variances in financial service outreach, the following hypothesis will be stated:

H3. There is a significant positive relationship between intrinsic high risk-taking behaviour of managers and financial service outreach.

According to Bennet (2000), the study that fails to consider the possibility of a mediator effect in the data may miss more explanations for an outcome. Friedrich (1982) further asserts that exploring the mediating effect of variables in a relationship spells out the nature of the relationship and the extent to which the connection between the two variables are influenced by the mediating variable. However, there are not enough empirical research investing the practical role of risk-taking behaviour of managers in the relationship between managerial competence and financial service outreach. Most previous literature addressing managerial competence has ignored the significance of risk-taking behaviour in the relationship between managerial competence and financial service outreach (Rhyne and Otero, 2006). Thus, the mediating effect of risk-taking behaviour on the association between managerial competence and financial service outreach in a microfinance industry is not a clear matter. It needs to be addressed. Thus, we put forward the following hypothesis:

H4. Risk-taking behaviour mediates the relationship between managerial competence and outreach.

Methodology

Design, population and sample

Across sectional survey design was used in the study. We chose this design as it facilitates the precise actions the researcher aims to achieve such as identifying outreach coverage of financial services at a point in time. The unit of analysis for the study was the microfinance branches while the unit of inquiry was microfinance senior branch manager and senior loan officer. The target population for this study was 60 branches of 20 MFIs in eastern Uganda. A sample size of 52 branches was arrived at according to Krejcie and Morgan (1970). A total of two officers; one senior branch manager, one senior loan officer were selected purposively from each selected branch office in eastern Uganda who had served the MFI for more than two years. The average age of respondents was 35 years and 86.2 per cent had a first degree. Besides 59.8 per cent were branch managers and 40.2 per cent were senior loan officers. Given these categorizations, it is evident that the majority of key informants were better-placed to respond to technical questions which addressed the studied predictor and criterion variables. In addition, there were 45 (51.7 per cent) female and 42 (48.3 per cent) male in this study, demonstrating a fair gender distribution.

Data collection and management

Data were collected from respondents using a self-administered questionnaire which was delivered to the selected officers physically in their branch offices on appointment. A survey was adopted as the most appropriate method of data collection and previous research supports the reliability and validity of the self-report measures (Brush and Vanderwerf, 1992; Lechner *et al.* (2006). The questionnaire was developed in harmony with the guidelines specified by scholars such as Sekaran (2000). Reliability (internal consistency and stability) of the instrument was tested using Cronbach's α coefficient (Cronbach, 1951). The questionnaire consisted of four sections; section A of the instrument aimed at examining the demographic characteristics of the respondents and firms, the other sections of the questionnaire established managerial competence (section B), risk-taking behaviour of managers (section C) and financial service outreach (section D). The questionnaire consisted of both open and closed-ended and scale questions and adopted established items and scale. Five-point Likert type scale questions (ranging from "strongly disagree = 1" to "strongly agree = 5") were designed to enlist the opinion of the respondents. For example, managerial competence; the rating of assessment here measured knowledge, skills and experience and the scores on managerial competence were computed by averaging these three items. The Cronbach's α for these was 0.81. Risk-taking behaviour of managers included four items, measured by asking managers on their choices basing on "risk propensity", "risk preference", "outcome history" and "inertia on risk" (Pablo, 1997). Financial service outreach was measured by asking managers the extent to which clients are served with financial products specifically the breadth, scope and length of services. The Cronbach α on risk-taking behaviour and financial service outreach of 0.72 and 0.76 were returned, respectively, for each. Before this, data were checked for completeness, recorded, cleaned and aggregated to a firm level using the name of MFIs as a variable. Simple frequency runs were performed to screen the data so as to identify missing values. The identified missing values were a result of omissions made by respondents and constituted < 1 per cent of the data; and thus, considered too trivial (Little, 1988) and could not suppress the standard deviation (Field, 2006). Thereafter-descriptive statistics involving frequency distribution were generated. Data were analysed using SPSS version 20, Pearson correlation coefficient was used to establish the hypothesized relationships, partial correlation and regression analysis were carried out to examine the mediation effect of risk-taking behaviour on managerial competence and financial service outreach.

Results and discussion

Descriptive statistics

The purpose of examining descriptive statistics (means, standard deviations, minimum and maximum values) is to check whether the calculated means represent the observed data, that is, whether the mean is a good replica of reality (Field, 2006; Saunders *et al.*, 2006). The means and standard deviations of all the constructs are summarized in Table AI.

Table AI reveals that all mean scores of the constructs in question range between 3.31 and 3.92, with the standard deviations in the range of 0.33-0.48. Because of small standard deviations compared to mean values, it is clear that the calculated means are a good replica of reality (Field, 2006; Saunders *et al.*, 2006). For example, basing on the mean values of managerial competence, it is evident that respondents opine that financial service outreach could be enhanced if much attention is put on manager's capacity building.

Correlation analysis

Pearson's correlation coefficient analysis was conducted to establish the relationships between the study variables. In effect, bivariate-correlation analyses were performed and Pearson correlation coefficients were generated to measure the magnitude of the relationship between the study variables (Field, 2006). It examines if and in what way the two variables are related to each other. We performed the correlation analysis to establish the association of one variable based on what we know about the other variable. The results of the test are presented in Table AII.

Results reveal that the relationship between managerial competence and financial service outreach is strong, positive and significant ($r = 0.554$, $p < 0.05$). Thus, *H1* which states that managerial competence positively relates with financial service outreach in MFIs is substantiated. That is the appropriate competence of managers is associated with improvement in financial service outreach of MFIs. Similarly the relationship between managerial competence and risk-taking behaviours in the MFIs is also strong, positive and significant ($r = 0.528$ $p < 0.05$); meaning that managerial competence is associated with appropriate risk-taking behaviour of managers. This finding provides support for our *H2* which states that managerial competence positively relates with risk-taking behaviour in MFIs. Furthermore, results show a significant positive relationship between risk-taking behaviour of managers and financial service outreach of MFIs ($r = 0.371$ $p < 0.05$). Therefore, the result supports *H3* as originally hypothesized. This implies that appropriate high risk-taking behaviour of managers, is associated with financial service outreach in MFIs.

Regression analysis

The regression model was used to determine the degree to which managerial competence, risk-taking behaviour explain variances in financial service outreach. The results are presented in the Table AIII.

The results show that managerial competence and risk-taking behaviour predicts 28.8 per cent of the variance in financial service outreach. Also, managerial competence is the strongest predictor of financial service outreach ($\beta = 0.446, p < 0.05$). To establish that there is no multicollinearity problem in the model, we used the variance inflation factors (VIFs) and tolerance values. Results suggest that there is no problem of multicollinearity in the model. The statistical standard is that the grater the values of the variables to 1, the better. Multicollinearity becomes an issue if the tolerance value is $\leqslant 0.01$ (Tabachnick and Fidell, 2001). This result is further supported by the VIF figures, which are far $<$ ten for all the variables considered. The $F = 11.302$ is significant at the 0.000 level and it is unlikely that the F, this large, would occur by chance. Table AII reveals that there were two independent variables (managerial competence and risk-taking behaviour) explaining 28.8 per cent of the variance (R^2) in financial services outreach. This validates the purpose of this study (establishing a relationship between managerial competence, risk-taking behaviour and financial service outreach of MFIs).

However, a closer scrutiny of previous studies explaining financial service outreach indicates that most of them overlooked the issue of mediation. As argued elsewhere in this paper, drawing insights from such studies can prove futile because to have a meaningful interpretation of the results showing relationships between study variables, assessing the role of a third variable in the relationship is always

fundamental (Kamukama *et al.* 2011). Majorly, a relationship study that does not address the mediating mechanism ends up with facts but with incomplete understanding (Rosenberg, 1968) and that which fails to consider the possibility of a mediator effect in the data may miss more explanation for an outcome (Bennet, 2000). As such since the risk-taking behaviour of managers can be shaped by environment in which the manager operates, it was possible to assume mediation by risk-taking behaviour in the relationship between managerial competence and service outreach.

The mediation test (results in Table AIV) revealed that managerial competence potential in financial service outreach is mediated by risk-taking behaviour ($p = 0.001$), i.e. managerial competence can determine risk-taking behaviour of managers which in turn affect the financial service outreach. Our *H4* which states that risk-taking behaviour mediates the relationship between managerial competence and outreach is therefore supported. In addition, the relationship between managerial competence and financial service outreach was $r = 0.498$, $p = 0.000$ but when we control for risk-taking behaviour, this relationship reduces to $r = 0.446$, $p = 0.001$. This proves that risk-taking behaviour mediates the relationship between managerial competence and financial service outreach but partially. Mediation assumes a causal chain in which one variable affects a second variable that, in turn, affects a third variable. According to Jose (2008), four conditions must exist for mediation influence to be established. These are:

(1) there must be a significant correlation between the predictor variable and the dependent variable;

(2) the predictor variable must account for a significant proportion of the variance in the mediating variable;

(3) the mediating variable must account for a significant proportion of the variance in the dependent variable; and

(4) the effect of independent variable on the dependent variable must be less in the second regression model or equation.

In an attempt to assess whether the four conditions above had been met, a regression models were ran in trying to satisfy the set conditions. Indeed Table AIV indicates that the four conditions are met. First, there is a significant correlation between the predictive variable and the dependent variable ($B = 0.554$, $p < 0.01$). Second, the predictor variable accounts for a significant proportion of variance in the mediating variable ($B = 0.528$, $p < 0.01$) accounting for 26.4 per cent of variance in the mediating variable. Third, the mediating variable (risk-taking behaviour) accounts for a significant proportion of variance in the dependent variable ($B = 0.371$, $p < 0.01$) accounting for 12.1 per cent variance in the dependent variable. Notice that the statistical significance of mediating variable in the dependent variable range from 1 to 3 per cent (McClelland and Judd, 1993; Fairchild, 2008) and since the actual test result is above the threshold, then this shows that mediating variable accounts for a significant proportion in the dependent variable. This significance is low because of the smaller sample size, the bigger the sample size, the better (Aiken and West, 1991). Finally, the absolute effect of managerial competence on financial service outreach is less in regression two (unstandardized $\beta = 0.446$) (see Table AV) than in regression one (unstandardized $\beta = 0.498$). Thus controlling for risk-taking behaviour reduces the relationship from $r = 0.498$ to

$r = 446$, $p = 0.001$. As all mediation conditions have been satisfied, risk-taking behaviour mediates the relationship between managerial competence and financial service outreach, further providing support for *H4*.

The results of this study support those studies that concluded that managerial competence positively influences the financial service outreach. Therefore enhancements of financial service outreach rests significantly on managers in key strategic positions of MFIs. As the results show a positive and significant relation between managerial competence and risk-taking behaviour in the MFIs, these two variables may operate in a synergic way to affect outreach performance in MFIs, much as managerial competence is the most important predictor of financial service outreach variance. These findings are in agreement with the earlier scholars (e.g. Li and Tang, 2010) who concluded in their various studies that managerial competence positively influences the risk-taking behaviour. Our results also suggest that outreach of financial services to the poor borrowers is determined so much by behaviours of managers in extending loan facilities and other services to the clients. However, these findings does not collaborate with earlier scholars such as Rosenberg *et al.* (2009), who in their study, found out that wealthier borrowers are likely to benefit from increasing competition among MF, but that it leads to lower levels of welfare for the poorer borrowers because the costs of making very small loans involves high transaction costs, in terms of screening, monitoring and administration costs, per loan. We believe our results are at variance with previous ones those studies hypothesized that risk-taking behaviour of managers is largely shaped by the operating environment. For instance, Hartarska and Nadolnyak (2007) argue that outreach is hurt by regulations especially if regulatory requirements and Fernando (2006) observation that implied that outreach is influenced by, partly, other environmental factors. The significant departure of this study is that we have assumed that risk-taking behaviour of managers is intrinsically determined. Moreover, most extant studies (e.g. Fernando, 2006; Rosenberg *et al.*, 2009) have been carried out in developed countries where the financial institutions are well streamlined, poverty levels are low and the objectives of MFIs are more of commercialization rather than the social mission contrary to the African settings. Those studies also did not consider the issue of mediation which this study uncovers. Our study therefore reveals that on the African context, endogenous risk-taking behaviours of managers is a significant predictor of financial service outreach. Implying those managers who see opportunity and rush to exploit it could deliver more outreach in Africa and Uganda in particular. Therefore, the reason for the relationship between managerial competence and financial service outreach has been established – the mediation by risk-taking behaviour of managers.

Conclusions and implications

Managerial competence and risk-taking behaviour are true drivers of outreach performance in MFIs. However, while the direct relationship between managerial competence and financial service outreach without the mediation effect of risk-taking behaviour of managers was found to be significant, its magnitude reduces when mediation of risk-taking behaviour is allowed. This concludes that the entire effect does not only go through the main hypothesized predictor variable (managerial competence) but majorly also, through risk-taking behaviour of managers. This signifies that the connection between managerial competence and

financial service outreach is weakened by the presence of risk-taking behaviour in the model – confirming that the presence of risk-taking behaviour of managers significantly acts as a conduit in the association between managerial competence and financial service outreach. Accordingly, the specific mechanism or pathway by which a relationship occurs between managerial competence and financial service outreach is significant but partially direct. It concludes too that managerial competence and high risk-taking behaviour of managers boosts the association with financial service outreach. Our findings help in the establishment of the contribution of predictor variable to outreach performance. The ability to enhance financial service outreach rests in the hands of managers in key strategic positions mediated by their risk-taking behaviour. Our study has introduced a clearer understanding that outreach performance in MFIs rests with competent managers in strategic positions operating in synergy with their risk-taking behaviour. However, the study concentrated on MFIs' senior managers further studies need to consider the beneficiaries of the financial services, i.e. to find out their views on the outreach performance. More so, this study did not control for environmental factors such as laws and regulations. As such our model may have been under fitted. Further studies could employ a similar design but control for environmental factors. The study also relied on quantitative data which sometimes misses certain information than in-depth interviews which is qualitative in nature. Similarly, the study focused on MFIs in determining the outreach performance, there is need to look at it on the side of the beneficiary to see its impact on the borrowers. Nevertheless, the study informs policy makers that outreach performance of the MFIs depends on the quality of competence managers have in addition to their calculated risk-taking propensities.

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Appendix

	n	Minimum	Maximum	Mean	SD
Managerial competence	52	2.61	4.23	3.9203	0.37599
Risk-taking behaviour	52	1.82	4.00	3.3059	0.48592
Financial service outreach	52	2.67	4.30	3.5224	0.33797
Valid *n* (listwise)	**52**				

Note: Primary data

Table AI. Showing the mean, standard deviation, minimum and maximum

	1	2	3
Managerial competence (1)	1.000		
Risk-taking behaviour (2)	0.528**	1.000	
Financial service outreach (3)	0.554**	0.371**	1.000

Notes: Primary data. 1, Managerial competence; 2 risk taking behavior; 3 financial service outreach. **Correlation is significant at the 0.01 level (two-tailed)

Table AII. Showing the correlation analysis

Model		Unstandardized coefficients		Standardized coefficients			Collinearity statistics	
		B	SE	*β*	*t*	Sig.	Tolerance	VIF
1	(Constant)	1.803	0.366		4.920	0.000		
	Managerial competence	0.446	0.125	0.496	3.568	0.001	0.721	1.386

Notes: $R = 0.562$; $R^2 = 0.316$; adj. $R^2 = 0.288$; $F = 11.302$; Sig = 0.000; $e = 0.28523$. Dependent variable: financial service outreach

Table AIII. Showing the regression analysis of variables

Regression	Coeff.	SE	*t*	Sig.	Adjusted R^2
(XY)	0.554	0.106	4.707	0.000	0.293
(MY)	0.371	0.091	2.829	0.007	0.121
(XM)	0.528	0.155	4.396	0.000	0.264
(XMY)	0.496	0.125	3.568	0.001	0.288

Notes: Y, financial service outreach; X, managerial competence; M, risk-taking behaviour. Indirect effect = 0.125; direct effect = 0.496

Table AIV. Showing partial regressions

Table AV.
Partial correlation controlling for risk-taking behaviour in MFIs

	MC					FSO
	Coefficient	df	*p* (two-tailed) significance	Coefficience	df	*p* (two-tailed) significance
MC	1.000					
FSO	0.498	51	0.000			
RTB	0.446	51	0.001	1.000	0	

Note: Primary data

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