

ROLE OF INNOVATION ON THE GROWTH OF MFIs TOWARDS THE REALIZATION OF VISION 2030

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ABSTRACT

More than ever there is a global concern to entrench financial deepening and access to previously ignored areas considered economically unviable where majority of the micro and small enterprises operate through provision of technology based financial products and services. Financial literacy has been appreciated as a means to an end by offering skills and knowledge to change attitude and attract more potential users of agent banking. Kenya, like the majority of African countries, has been lacking an institutionalized national science, technology and innovation system of indicators to support evidence-based policy formulation, implementation and maintenance to support national development. The purpose of this study was to examine role of innovation on the growth of MFIs in Nairobi towards the realization of vision 2030. The study employed desk top research. The overall objective of the study was to build MFI's capacity to develop and use innovation indicators in designing and implementing innovation policies and strategies for national development. The study was an attempt to probe the activity of innovation through the collection of data on various aspects of innovation in order to develop relevant innovation indicators and specific innovation policies for firm growth. This study established that most firms in MFIs have embraced innovation as a key driver of their competitiveness hence realization of vision 2030. The results of this study will contribute to increased knowledge about innovation in firms in order to devise appropriate innovation policies. The need for evidence-based policy processes is now gaining ground.

Key Words: *Innovation activity, firm growth, core indicators, evidence-based policy, vision 2030*

Introduction

Rogers and Shoemaker (1971) defined innovativeness as “the degree to which an individual is relatively earlier in adopting new ideas than other members of his social system”. Innovativeness can also be used to classify people into adopter categories because it is a continuous variable that can be partitioned into discrete categories that are inclusive (include all respondents of the sample), that are mutually exclusive to exclude respondents from other categories, and can be derived from one classification principle (Rogers, 1962).

Innovation adoption process concerns a sequence of stages that an organisation passes through before initiating a new technology within itself. In this respect, Rogers (1995) defines adoption as the process through which an individual or other decision making association passes from first knowledge of innovation, to forming an attitude towards innovation, to a decision to adopt or reject, to implementation of new idea, and to confirmation of this decision.

The key question that needs to be addressed is how Kenya should effectively facilitate and promote innovation. This is a challenge in itself, and is even made greater by the need for the innovation to result in sustainable productive growth. The promotion should be done while taking into consideration that innovation does not happen in isolation but in a global, complex and dynamic system, that is non-linear in its response to policy intervention. Non-linearity in this case implies that a new policy intervention may not result in an expected outcome because of the feedback loops in the system that link it to other policy interventions, and framework conditions, in ways that are difficult to predict. Nevertheless, a reliable set of indicators generated in a sustainable and predictable manner will help alleviate the levels of uncertainty in the innovation ecosystem.

It is imperative to define and develop a set of core innovation indicators to provide the required ST&I performance metrics. ST&I indicators will be used in a broader way to support policy learning. Some of the specific uses of these indicators include: monitoring, benchmarking, evaluation, foresight, provision of information about firm growth and as a basis for further analysis that may lead to policy development.

Following a review of the current national system of innovation (NSI), the new ST&I policy and Bill, seeks to effectively entrench ST&I into the national production system by putting in place measures for strengthening the NSI. Reliable indicators will therefore further assist the country to configure and shape the pathway of the NSI and hence ensure competitiveness of the outcomes anticipated from the system. This can be achieved through various approaches such as, a country deciding upon a set of indicators which are relevant top policy objectives and once agreed, targets can be set supported by relevant policies and programmes to attain them (Gault, 2010).

The study is an attempt to probe the activity of innovation through the collection of data on various aspects of innovation in order to develop relevant innovation indicators and specific innovation policies for Kenya. These indicators will then enable key stakeholders to understand the state of the national innovation system and its capacity to deliver the intended results so as to address the components that need attention. Specifically, the study is designed to: develop and cause the adoption of internationally comparable innovation indicators; build human and institutional capacities to collect innovation indicators; inform the country on the state of innovation; and provide both qualitative and quantitative data on innovation at firm level.

The concepts and definitions presented in this study have been adopted from guidelines developed by the OECD and documented in the Oslo Manual (OECD, 2005) in the Kenya innovation survey report (2012). The statistical unit for the study is the enterprise which refers to a business, company or firm and can range from a very small concern with only one or two employees to a much larger and more formal business or firm. Innovation according to the Oslo Manual is “the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations”. The minimum requirement for an innovation is that it must be new or significantly improved to the firm.

A common feature of an innovation is that it must be implemented, which implies that it must be brought into actual use in the firm’s operations, and further connect to the market for wealth creation. Innovation is a concept with varying definitions depending on the field of study and social theories (Goldsmith & Foxall, 2003). However, according to most definitions, innovation refers to the creation of new, better or more effective products, processes, technologies, or ideas that are accepted by markets, governments and society. Innovation encompasses two basic ideas: novelty and commercialization or diffusion to varying degrees depending on who is defining it. The aspect of novelty or improvement is crucial to the concept, as well as acceptance by the affected subsystems of society for example consumers, users and government among others.

Statement of the Problem

Considering their numbers and spread across business lines, small and medium enterprises substantially contribute to the economic growth of third world nations. The small and medium sector has become an area of focus in third world economies in pursuit of employment and alternative vehicles of growth. The MFI sector has been recognized as a tool for socio-economic development not only in third world countries but also in developed countries. It was against this background that most countries are now implementing policies that are centered on creating a vibrant business environment for the MFIs sector to flourish (Narula, 2004).

Statistical measures regarding research and development (R&D) and innovation are required to generate policy-relevant indicators to monitor progress of specific interventions and to support evaluation based on evidence provided by the indicators within the context of a national system of innovation (NSI). It is through proper monitoring and evaluation that relevant policy learning

experiences will be achieved, which will lead to improvement of interventions and measures aimed at producing desired outcomes for the attainment of both the millennium development goals (MDGs) and the Kenya vision 2030 objectives. Comprehensive ST&I indicators are of paramount importance for continuously informing ST&I policy development in key sectors of the economy and hence support Kenya vision 2030 implementation.

There are a number of theoretical frameworks on factors promoting the adoption of innovation in business settings with few being validated in non-western business environment. Reported studies on innovation adoption have been mostly in economics (Farrel and Saloner, 1986), management (Barnett, 1990), and new product development (Redmond, 1991). There is no study that has focused on the role of innovation on the growth MFIs in Nairobi towards the realization of vision 2030 in Kenya. This study aimed at filling this gap by extending the study on role of innovation on the growth MFIs in Nairobi towards the realization of vision 2030.

General Objectives

To investigate” the role of innovation on the growth of MFIs towards the realization of vision 2030.”

Specific Objectives

1. To establish the effects of education on innovation adoption by MFIs in Nairobi Kenya.
2. To investigate the effects of capital resource impact on innovation adoption by MFIs in Nairobi Kenya.
3. To find out the effects of government legislation and regulation on innovation adoption by MFIs in Nairobi Kenya.

Literature review

Education

One reason why the more educated are more likely to adopt a new innovation is that they are better informed. But differences in access to information alone are not the only reason why one might expect differences in innovation adoption across education categories. Conditional on equal information, different subjective evaluations of the risk and benefits of new technologies would also have a bearing. In 1966, Nelson and Phelps suggested that “educated people make good innovators” and that “education is especially important to those functions requiring adaptation to change”. Using a panel of manufacturing industries in the U.S., Bartel and Lichtenberg (1986) showed that more educated individuals also had an advantage in implementing new technologies (i.e. in learning how to use those technologies more effectively), given adoption. Innovation adoption is classified into technological, administrative, human-

resources, and product/service innovation categories. Innovation provided the competitive advantage, according to Utterback (1994), who drew a parallel between innovation and long-term market advantage.

There was some evidence that the evaluation of new technologies differs by education levels. In 1999, 71% of those with a college degree or higher thought that the benefits of new technologies strongly outweigh the harmful results, whereas only 25% of those with less than a high school degree thought so. The question of why such evaluation is different across education categories might be related to the understanding of science. For example, the National Science Foundation estimates that 53% of those with more than a college degree understand the nature of scientific inquiry, whereas only 4% of those with less than a high school degree do. This type of knowledge did not directly relate to any particular innovation but more generally helps individuals' process information about all innovations better. Presumably this knowledge is acquired in school.

Capital Resource

The capital resource input cannot be over emphasized in any venture and much more in the small and medium enterprises of any country. Capital was a pre-requisite component in any initial undertaking as an important element in setting up the business and refinancing the recurrent operations. There were noticeable symptoms of capital resource scarcity within small and medium enterprises in developing countries. Alhassa (1994) contended that commercialization of research results (invention) was highly hindered by lack of financial resources. Most undertakings in this category of business are characterized by low capital base either due to ownership structure, size or narrow operations

In spite of the perceived profitability of innovations, it was necessary also to consider the capital required to adopt it. Many innovations required considerable capital outlay in machinery, seeds, agrichemicals and recurrent resources to support the invention in new innovation process. Often, adoption of new techniques may require the farmer to forego income until the new system was established. In this situation, the entrepreneurs must have had the resources not only to adopt the new technology but also to survive the period until the new innovation produces income (Chern and Miller, 1994). In other words, small and medium enterprises just did not have efficient capital resources to adopt and experiment new technology that requires huge capital outlay.

In addition to the lack of capital, most enterprises are unwilling to take any risk because failure might have disastrous financial consequences. Risk-taking behavior was more likely when the investor could afford the consequences of failure. Gibb (2000) calls this involution. This is the situation in which marginal entrepreneurs shy away from innovation because of their inability to deal with the consequences of failure, even where there may have been clear economic reasons to adopt a new technology. The cost of failure combined with the associated cost of new

technology in form of patents, trademarks, copyright and general intellectual property tend to hinder the adoption of new innovation.

Government Legislation and Regulatory Framework

The innovation process of commercializing new ideas and inventions takes place within a framework of economic and political setup that is enabling and deliberately supportive. Structures and general policies that foster an enabling environment are therefore necessary in growing and sustaining small and medium undertakings in a country. There were very little or no government policy support towards the small and medium sub-sector in Kenya before the 1972 (ILO) International Labour Organization study on the urban informal sub-sector. Since this report, there have been various supportive general and sub-sector specific policy initiative and intervention among them the 1973 Sessional Paper through which the Government introduced the investment vehicle of Kenya Industrial Estate (KIE). This institution provided machinery and credit to small traders in the form of new technological innovation. Making of building bricks improved from hand held timber frames lasting 14 days to electrical blocks machines that compacted blocks in matter of hours to two days. Availability of credit made it possible for these traders to afford revolutionary innovation in form of advanced machinery and working capital to undertake profitable contracts in construction and building industry. Credit guarantee scheme by government via Kenya Commercial Bank reduced prohibitive interest rates and improved the volume of contract work undertaken by African traders.

William (1988) underscored the importance of regulatory framework particularly in support of MFIs growth and adoption of new inventions. These framework can include fiscal incentives, preferential financing like the youth and women fund targeting specific groups disadvantaged by Commercial Banks policies and legal legislative mechanism in business registration and grouping in support of potential number in terms of resource mobilization.

Research Methodology

Research design denoted the methodology that the study was to take in order to accomplish its intended objectives (Mugenda and Mugenda, 2001). In this study exploratory research design was used because there was evidence and perception that those factors had significant influence on the dependent variable. With the help of appropriate survey tools, the study was to test the extent to which the research questions holds true.

The target population under study was the registered MFIs in Nairobi. Of the registered MFIs in Kenya, an estimated 33 registered MFIS are located in Nairobi (Strategic Business Advisors (Africa) Ltd. MFIs Banking Sector Report, 2013). The commonly used methods of classifying MFIs are number of employees, capital amount, sales turnover or specific business line of operation.

The structured questions used in an effort to conserve time and money as well as to facilitate in easier analysis as they were in immediate usable form; while the unstructured questions used so as to encourage the respondent to give an in-depth and felt response without feeling held back in revealing of any information. Each questionnaire was coded and only the primary researcher knew which firms responded. The coding technique only used for the purpose of matching returned, completed surveys with those delivered to the business organizations.

Before processing the responses, the completed questionnaires were edited for completeness and consistency. The data was then coded to enable the responses to be grouped into various categories. A descriptive analysis employed. Descriptive statistics used to summarize the data. This included percentages and frequencies. Multiple regressions used to measure the quantitative data which analyzed using the SPSS. Tables and other graphical presentations as appropriate were used to present the data collected for ease of understanding and analysis. Tables were used to summarize responses for further analysis and facilitate comparison. This generated quantitative reports through tabulations, percentages, and measure of central tendency. Cooper and Schindler (2000) notes that the use of percentages is important for two reasons; first they simplified data by reducing all the numbers to range between 0 and 100. Second, they translate the data into standard form with a base of 100 for relative comparisons.

Multiple Regression Analysis

Multiple regressions is a flexible method of data analysis that may be appropriate whenever quantitative variables (the dependent) is to be examined in relationship to any other factors (expressed as independent or predictor variable). Relationship may be non-linear, independent variables may be quantitative or qualitative and one can examine the effects of a single variable or multiple variables with or without the effects of other variables taken into account.

For this study, the researcher was interested in measuring the innovation adoption by the MFIs in urban centers in Kenya. The factors of innovation adoption were X (independent variables) and dependent variable is Y. The regression equation is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where Y the dependent variable (innovation adoption), β_0 is the regression coefficient, β_1 , β_2 , and β_3 were the slopes of the regression equation, X1 the effects of education independent variable, X2 the capital resource independent variable, X3 government legislation and regulation independent variable, while e is an error term normally distributed about a mean of 0 and for purposes of this computation, the e is assumed to be 0.

The equation was solved by the use of statistical model SPSS (Statistical Postage for Social Sciences).

Research Results

Regression Analysis

In addition, the researcher conducted a multiple regression analysis so as to test relationship among variables (independent) on implementation of management strategies. The researcher applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study.

Table 1: Coefficient of Determination (R²)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.670	.449	.610	.80139

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (implementation of management strategies) that is explained by all the five independent variables (managers responsibilities, top management support and commitment, involvement of middle managers and employees, technological changes and organizational structure).

The three independent variables that were studied, explain only 67.0% of the factors influencing innovation adoption of MFIS s in Kenya as represented by the R². This therefore means that other factors not studied in this research contribute 33.0% of the role of innovation on the growth MFIS in Nairobi towards the realization of vision 2030. Therefore, further research should be conducted to investigate the other factors (33.0%) role of innovation on the growth MFIS in Nairobi towards the realization of vision 2030.

Table 2: Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.679	.577		4.643	.000
	Level of education	.191	.098	.297	1.950	.059
	Capital resource	.081	.109	.114	.742	.463
	Government regulations	.178	.130	.208	1.363	.181

The researcher conducted a multiple regression analysis so as to determine the relationship between the innovation adoption of MFIs and the three variable factors. As per the SPSS generated table 4.15, the equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \epsilon$) becomes:

$$Y = 0.191 X_1 + 0.081X_2 + 0.178 X_3$$

Where Y is the dependent variable (innovation adoption of MFIs in Kenya), X₁ is the level of education independent variable, X₂ is the capital resource towards change independent variable, X₃ is government regulations variable.

According to the regression equation established, taking all factors (level of education, capital resource and government regulations) constant at zero, the innovation adoption of MFIs will be 2.679. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in level of education will lead to a 0.191 increase in the innovation adoption of MFIs. A unit increase in capital resources will lead to a 0.081 increase in innovation adoption of MFIs; a unit increase in government regulations will lead to a 0.178 success in innovation adoption of MFIs. This infers that level of education contribute more to the innovation adoption of MFIs followed by influence by the government regulations.

At 5% level of significance and 95% level of confidence, level of education had a 0.059 level of significance, capital resource had a 0.463 level of significance, and government regulations showed a 0.181 level of significance hence the most significant factor is level of education.

Research Summary

From the findings, 53.7% of the respondents operated with two workers and 65.9% of the respondents had attended college. Education, capital resource and government legislation and regulation to a little extent affected innovation adoption in MFIs. 36.6% of the respondents said to a great extent the level of education affected the level of innovation adoption in business enterprises. Growth of knowledge to little extent affected the level of innovation adoption in MFIs.

The businesses engaged to technological innovations to a little extent. To little extent the staff pursued proficiency in trade skills, proficiency in new tool and equipment and IT-internet while still at work. To little extent the staffs learned from business magazines, business seminars, and internet and trade association as sources of information. 31.7% of the respondents said capital resource affected innovation adoptions in the business enterprises to a great extent. Sources of capital like self generated, self generated and loan to little extent influenced adoption of new improved methods of doing business.

The respondents agreed that adoption of new techniques may require the owner to forego income until the new system is well established influenced of capital resource in businesses. 68% of the

respondents said that government regulations were conducive to their businesses. Policies to a little extent influenced innovation adoptions in enterprise. Zero rating of computer and its accessories-VAT to a little extent had been supportive and attractive for the respondents' business improvement and innovation adoptions. Knowledge of new method to little extent improved the work method and new business inputs.

Conclusions

MFIs in Kenya contribute a lot to the economy of Kenya. Education, capital resource and government legislation and regulation affect innovation adaption in MFIs. According to the findings it was concluded that growth of knowledge, ability to act proficiently and requirement for certain skills affected the level of innovation adoption in MFIs to moderate extents. The businesses also engaged in technological innovations and administrative innovations. The owners of MFIs should be encouraged to be educated so as to be able to manage. This will make them in return to encourage their staff to take formal education while still working for example IT-internet use. Staff and owners of MFIs should be encouraged to learn new business methods, products and tools from different sources for example business magazines.

In addition, cheaper and reliable sources of capital should be provided by the government and financial institutions since they influence adoption of new improved methods of doing business. Government regulatory measures should act as a protection to MFIs. The businesses engaged in technological innovations and administrative innovations. Loans and self generated income influenced adoption of new improved methods of doing business. Improving methods and equipments and purchase of recent merchandize were applied for new financial support in their businesses.

Moreover, government regulations were not conducive to businesses. Contracting with government agencies had been supportive and attractive for the MFIs' business improvement and innovation adoptions. The results of this study have highlighted important trends in regard to the innovation capacity of Kenya. This study established that most MFIs in Kenya have embraced innovation as a key driver of their competitiveness. The culture of innovation is taking root in the country. The linkages within the system are weak. Knowledge-based institutions are not actively involved as a key information source for innovation. This has a significant impact on the country's effort to become a knowledge-based economy. The actors in the national system of innovation should take advantage of the enthusiasm among firms to enhance co-operation for mutual benefits. The stakeholders of the innovation process – research institutions and producers, as well as regulatory government agencies – have to establish links and collaborate, enabling the process of innovation and commercialization to function. There is need to create awareness among innovation actors to work in a systemic manner because innovation is a continuous process.

Recommendations

From the study, growth of knowledge, ability to act proficiently and requirement for certain skills affected the level of innovation adoption in MFIs. This study therefore recommends that the government and financial institutions should provide seminars and education to staff and owners of MFIs. New ideas and inventions should also be encouraged by appreciating and supporting the new ideas.

The study found that capital resource affects innovation adoptions in the business enterprises. This study therefore recommends that credit guarantee scheme should be provided by government which will reduce prohibitive interest rates and improve the volume of contract work undertaken by African traders. The study also suggests that machinery and credit to small traders in the form of new technological innovation should be offered.

Government regulatory measures were also found to influence innovation adoptions in enterprises. This study recommends that the government should provide policies and regulations which protect MFIs by reducing the tax charged.

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