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EFFECT OF ADOPTION OF FINANCIAL INNOVATION ON PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN KENYA

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ABSTRACT

Small and Medium Enterprises (SMEs) are the main drivers of economic and social development in emerging economies. They represent a large number of businesses in a country that generate wealth and employment. They are widely considered vital to a country's competitiveness. SMEs are hailed for their pivotal role in promoting grassroots economic and equitable sustainable development (Pelham, 2010). According to Tufano (2013), innovation entails firms developing new products or new production processes to better perform their operations, in which case the new products could be based on the new processes. Adoption of financial innovation has been necessitated by the rapid change in technology. The SMEs have adopted new strategies of sustaining their growth due to stiff competition. Most SMEs have adopted innovation resulting in better performance, new products, growth and profitability (Lehtimaki, 1991). The objective of the study was to determine the effect of adoption of financial innovation on performance of small and medium enterprises in Kenya. The study adopted Schumpeter theory of innovation, Diffusion of Innovation and Technology acceptance theory to explain the relationship between financial innovation adoption and performance of SMEs in Kenya. The population of the study was the registered SMEs in Nairobi County. Primary data was collected using self-administered semi-structured questionnaires. Secondary data was collected from finance journals and

periodicals. Data analysis was done using Statistical Package for Social Sciences (SPSS) version 21 where inferential statistics were applied and multiple regressions employed to test the relationship between innovation and the financial performance of SMEs in Nairobi County. The findings revealed a positive relationship between adoption of financial innovation and performance of SMEs in Kenya. The study concluded that innovation has a positive effect on financial performance. The study also concluded that innovation increased profits for the company; innovation increases the company's market share, increases savings for the company and reduces operating cost of the small and medium manufacturing enterprises. The study recommends that it is vital for businesses to take up innovation to raise the level of quality of the products they produce which would in the end raise the level of sales and increase the profit margins of the business.

Key Words: Financial Innovation, Performance, SMEs

INTRODUCTION

The driving force behind the quick transformation of any industry is influential changes in the economic environment. The challenges posed by new market entrants, increased standards requirements and technological developments require SMEs to increase efficiency levels, strengthen inter-firm linkages and respond in a timely fashion to market changes. At the same time, greater integration into the global economy provides opportunities for SMEs to participate in the national and international value chain and supply chains networks (Engel *et al.,* 2009). Firms are developing new and innovative products in order to remain relevant within the industry and to be able to maintain their existing market share while attracting new customers.

Financial Innovation

Financial innovation is the act of creating and then popularizing new financial instruments as well as new financial technologies, institutions and markets. Financial innovations enable institutions to raise their competitive strengths, improve their risk management skills and satisfy the needs of their customers and market requirements. Laeven and Levin (2010) argue that growth is driven not just by profit maximizing entrepreneurs who spring up to commercialize new technologies but also by financial entrepreneurs who develop new ways to screen and fund the technologists. Financial innovations enable institutions to raise their competitive strengths,

improve their risk management skills and satisfy the needs of their customers and market requirements. Financial innovations can be product, process or institutional in nature. Product innovations include introduction of new deposit accounts, new credit arrangement and new financial products that are introduced to respond to changes in market demand or to improve efficiency (Mosoti & Masheka, 2010). Process innovations include the introduction of new business processes leading to increased efficiency and market expansion. Institutional innovations include changes in business structure, establishment of new types of financial intermediaries or changes in supervisory framework. SMEs have adopted process, product and institutional innovation which included use of unsecured loans, mobile banking, internet banking, insurance services, credit reference bureaus and Islamic banking. Adoption of these innovation strategies resulted in more efficient and effective performance of duties hence made commercial banks more competitive.

There is need to innovate because as many organizations grow to become more competitive, they quickly adapt to their environment to meet new business demands and for survival. Those organizations that work as if their environment is still stable are not only losing competitive advantage but are also facing huge financial losses (Mosoti & Masheka, 2010). Innovation is an essential element for economic progress of a country and competitiveness of an industry. Innovation has a considerable impact on corporate performance by producing an improved market position that conveys competitive advantage and superior performance (Coad & Rao, 2008).

Financial Performance

Every organization exists to achieve a particular goal. Organizational performance is the final achievement of an organization and contains a few things, such as the existence of certain targets, has a period of time in achieving these targets and the realization of efficiency and effectiveness (Blowfield and Dolan, 2010). Thus, organizational performance refers to ability of an enterprise to achieve such objectives as high profit, quality product, large market share, good financial results, and survival at pre-determined time using relevant strategy for action (Koontz and Donnell, 2003). Performance provides the basis for an organization to assess how well it is progressing towards predetermined objectives, identify areas of strength and weakness and

decide on the future initiatives with the goal of how to initiate performance improvement (Vanweele, 2006).

Financial performance is a subjective measure of how well an organization can use assets from its primary mode of business and generate revenues (Greenwood and Jovanovich, 1990). This term is also used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. There are many different ways to measure financial performance, but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash flow from operations can be used, as well as total unit sales (Jayawardhera and Foley, 2000).

Profit is the ultimate goal of most firms. To measure the profitability, there are varieties of ratios used of which Return on Asset, Return on Equity and Net Interest Margin are the major ones (Murthy and Sree, 2003). ROA is a major ratio that indicates the profitability of a bank. It is a ratio of Income to its total asset (Khrawish, 2011). It measures the ability of an organization's management to generate income by utilizing company assets at their disposal. Net Interest Margin (NIM) is a measure of the difference between the interest income generated by banks and the amount of interest paid out to their lenders, relative to the amount of their assets. It is usually expressed as a percentage of what the financial institution earns on loans in a specific time period and other assets minus the interest paid on borrowed funds divided by the average amount of the assets on which it earned income in that time period (the average earning assets). ROE is a financial ratio that refers to how much profit a company earned compared to the total amount of shareholder equity invested or found on the balance sheet. ROE is what the shareholders look in return for their investment.

According to (Koech 2011)), business owners often view sales as the key performance indicator. Sales growth as an indicator of business performance is usually easier as compared to other indices and its recording is easier too. Sales also give a good indicator of size and performance thus a good growth indicator. According to Sudhir and Subrahmanya (2009) and Dalrymple (2004), growth over a period of time can be used for performance measurements of SMEs since this, rather than short term performance, will reflect the long-term strategy of the firm

Innovation and Financial Performance

Elements of production or operations performance which include speed, quality, flexibility, and cost efficiency seem to be highly related to the firm performance in administrative, process, and product innovations according to the past literature (Edwards et al., 2001). According to Coad & Rao (2008), continuing efforts and higher performance in innovations foster organizational learning and increases the speed and quality of the operations. Thus, innovation advancements can easily be incorporated and any design or quality deficiencies are overcome faster resulting in better performance.

Customers while using the Direct Banking system spends a lot of time lining up for services. Bank's products and services are expensive for the customers in form of bank charges, while some take a lot of time for customers. On the other hand, while using electronic banking, customers have experienced problems like unauthorized access, credit card fraud or theft, network problems and they need computers connected to the internet of which they must have the knowledge of using the internet. When using Automated Teller Machines, there is a maximum and minimum amount of money one can withdraw at ago.

Companies must offer customers new products and services that meet the customers' needs in a more efficient and effective manner than the ones that they currently sell. With innovation, quality of products could be enhanced, which in turn contributes to firm performance and ultimately to a firm's competitive advantage (Tufano, 2003). According to Becheikh et al. (2006), product innovation offers a potential protection to a firm from market threats and competitors. Susman et al. (2006) proved that product innovation had positive and significant link with financial performance.

Small and Medium Enterprises in Kenya

Promotion of SME sector is a viable and dynamic strategy for attaining the national goals which includes employment creation, balanced development between sector and sub sectors and poverty alleviation. Therefore, Medium and Small Enterprises are generally the driving force of economic growth through job creation and poverty eradication. This sector has been the means through which accelerated growth and rapid industrialization have been achieved. Koech(2011) Medium and Small Enterprises largely contribute to the economic development of any country (European Journal of Business Management, 2014). Promotion of Micro and Small Enterprises (MSE) sector in Kenya is a

viable and dynamic strategy for attaining the national goals which includes employment creation, balanced development between sectors and poverty alleviation. All these form the foundation of strong national industrial base and domestic production structure that are very central to our government‘s vision to achieving newly industrialized country status by the year 2020 (sessional paper No.2, 1996).

MSEs absorb a large number of unemployed people who are largely concentrated in trade and services. This is because they are a major source of entrepreneurial skills, innovation and employment. Given an enabling policy environment, technical assistance and support, promotion of MSEs can play a very critical role by providing opportunities which are likely to stimulate sustainable growth. The development of competitive and resilient SMEs forms an integral component of Kenya's initiatives to be globally competitive and a prosperous nation with a high quality of life by 2030 (Republic of Kenya, 2015). This will enable SMEs to move up the value chain and adopt new technologies, particularly information and communication technology (ICT).

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includes employment creation, balanced development between sectors and poverty alleviation. All these form the foundation of strong national industrial base and domestic production structure that are very central to our government‘s vision to achieving newly industrialized country status by the year 2020 (sessional paper No.2 (1996).

Research Problem

Financial innovation is the act of creating and then popularizing new financial instruments as well as new financial technologies and markets. It enables institutions to raise their competitive strengths, improve their risk management skills and satisfy the needs of their customers and market requirements (Laeven & Levin, 2010). It has positive effects in raising financial performance of SMEs. However, these financial innovations have a dark side too that has led to the occurrence of numerous disadvantages (Nasri, 2007). For instance, while using electronic banking, customers have experienced problems like unauthorized access, credit card fraud or theft, network problems and they need connection to the internet of which they must have the knowledge of using the internet. When using Automated Teller Machines, there is a maximum and minimum amount of money one can withdraw at ago. This cast doubt on whether this innovation lead to improved performance of SMEs.

Even though SMEs tend to be creative and innovative, they generally lag behind larger firms when it] comes to adoption of financial innovation (Oyelaran & McCormick, 2007). Mugure (2008) observed that many SMEs use inappropriate technologies as they lack collateral to access credit to advance their technology. This lead to decreases in speed of services and quality of the operations. Adoption of financial innovation by small businesses has been minimal hence poor performance of SMEs (Edwards *et al.,* 2011). The result of poor adoption of financial innovation is decreasing rate of globalization, poor economic development and growth, unemployment and loss of livelihood, weak industry co-operation, increasing and exposure to neglected operational risks which affects the general performance of SMEs (Edwards *et al.,* 2011).

Different scholars have done studies related to business innovation and financial performance. Hult *et al*., (2003) did a research on effects of innovation on productivity of hospitality industries. Klomp and Van Leeuwen (2001) carried out a research on relationship between innovation output and employment growth. Susman, *et al.,* (2006). Studied product and service innovation in small and medium-sized enterprises. Coad & Rao (2008) studied the relationship

between innovation and firm growth. Engel *et al,.* (2009) did a study on innovation and their impact on growth of SMEs in Germany. Mwangi, M. (2007) investigated the relationship between information technology (IT) conceptualization and bank performance in Kenya. While Reid, G. C. (2003) carried a study on growth, innovation and competitive advantage in small and medium-sized firms in Europe. It is evident that there is hardly any empirical literature that discusses the effect of adoption of financial innovation on performance of small and medium enterprises in Kenya. This study therefore intended to fill this pertinent gap.

General Objective

The overall objective of the study was to determine the effect of adoption of financial innovation on performance of small and medium enterprises in Kenya.

LITERATURE REVIEW

Innovation is one of the most important competitive weapons and generally seen as a firm's core value capability (Lumiste & Kilvits, 2004). Organizations that adopt first mover initiative in innovation result in improved profitability. Lehtimaki (1991) describe the importance of innovation as a means of measuring financial performance of an organization. Advancing technology has made adaptive flexibility another characteristic of successful organizations. Business today requires better information across a wider scope than the traditional and often linear, financial measures, to achieve understanding of the factors that create the foundation of future success. Crepon et al. (2008) used a four-equation model to relate the innovation decision of firms to their performance. Their findings confirm the positive relationship between innovation activities and productivity at the firm level and provide further evidence on the relationship between size and innovation activities.

Tufano (2002) assert that innovation is an essential element for economic progress of a country as well as the competitiveness of an industry. Shirley and Sushanta (2006) studied the impact of innovation on the banking industry and analyzed both theoretically and empirically how information technology related spending can affect bank profits via competition in financial services that are offered by the banks. Mwangi (2007) carried out a study on factors influencing innovation of companies listed of the Nairobi Securities Exchange. The findings concluded that the laws protecting investors was the major factor influencing financial innovation. Innovation

adoption by SMEs gives them advantages such as lower cost quality improvements, higher productivity and less working capital tied up in inventory (Coad & Rao, 2008).

Innovation plays an important role not only for large firms, but also for SMEs (Edwards et al., 2011). Innovative performance can exert positive effects on firms' production, market, and financial performances in the long-term; however, in the short run, initiated investments and internal resource usages might cause possible losses at first. Adoption of new technologies for innovations involves initial high expenses. Shavinina *et al*. (2012), emphasized that generally a serious time period may pass to observe positive impacts of innovations on firm performance. For this reason, impacts of innovative performance are firstly associated to the non-financial aspects of corporate performance, such as increased customer satisfaction or production speed, which will lead to higher financial returns later on.

Conceptual Framework

A conceptual framework is a diagrammatical representation that shows the relationship between dependent and independent variables (Young, 2009). Mugenda (2008) defines conceptual framework as a concise description of the phenomenon under study by a graphical or visual description of the major variables of the study. The study seeks to explain the dependent variables (Kothari, 2004).

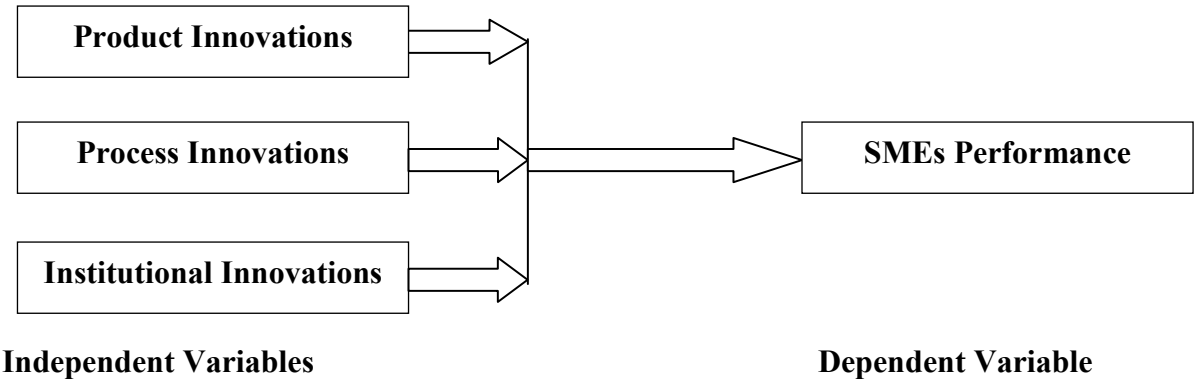

Fig 2.1: Conceptual Framework for Financial innovation and SMEs performance

RESEARCH METHODOLOGY

Research Design

Research design used in this study was descriptive design. The descriptive design leads to the discovery of associations among the different variables. According to Cozby (2005), descriptive design is used to obtain information concerning the status of the phenomena to describe what exists with respect to variables in a situation, by asking individuals about their perceptions, attitudes, behavior or values. This approach was appropriate for this study since the researcher intended to collect detailed information through descriptions making it useful to identify variables under the study. The design was appropriate for carrying out a holistic, in depth and comprehensive investigation where much emphasis was placed on the full analysis of the effect of financial innovation on financial performance of SMEs in Kenya.

Target Population

The target population for this study was list of all SMEs in Kenya registered with KRA**.** The accessible population for this study was 4863 which file tax returns to KRA in Nairobi. Manion and Morrison (2000) all agree that 10 percent of the accessible population is large enough so long as it allow for reliable data analysis and testing of significance. Therefore a proportionate sample size of 487 respondents was selected. Simple random sampling technique was therefore used to identify the respondents for inclusion in the study.

Data Collecting Instruments

Primary data was collected from owners of SMEs in Nairobi using self-administered questionnaire (Creswell, 2003). This technique involves interviewer meeting the respondents physically and asking questions face to face as either the respondents or the interviewer fills in the questionnaire (Creswell, 2003). Self-administered questionnaire has a higher response rate (Creswell, 2003). The secondary data was obtained from various finance journals, internet, published financial statements and finance text books (Cooper and Schindler, 2011).

Pilot Study

A pilot test was done before embarking on actual data collection activity (Eriksson and Kovalainen, 2008. The purpose of a pilot test was to enable validity and reliability of research instruments to be determined (Cooper and Schilder, 2011).

Data Processing and Analysis

Qualitative data were analysed using descriptive statistics (Mugenda, 2011). SPSS was used to conduct descriptive data analysis of each variable and the same was presented in form of percentages, tables and graphs. Quantitative approach involved collecting numerical data through counting of attributes or quantities. The counts were used to report the findings as numbers. Inferential statistics were applied and multiple regressions employed to test the relationship between innovation and the financial performance of SMEs in Nairobi County. The hypothesized relationships was tested using the following regression equations.

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

Where; Y = Financial performance of SMEs

β_0 = Is the constant or coefficient of intercept

X_1 = Product innovations

X_2 = Process innovations

X_3 = Institutional innovations

$\beta_1 \ldots \beta_3$ = The corresponding coefficients for the respective independent variables

ε = Error term (Disturbance factors) which represents residual or values that are not captured within the regression model.

DESCRIPTIVE STATISTICS FOR FINANCIAL INNOVATION

The study focused particularly on the following aspects of financial innovation; Product innovations, Process innovations and Institutional innovations. Descriptive statistics for financial innovation is as given below.

i) Product Innovations

The findings of the study as presented in Table 1 indicates that majority (57%) of the respondents agreed with the statement that there is high adoption of product innovation including introduction of new deposit accounts, new credit arrangement and new financial products that are introduced to respond to changes in market demand or to improve efficiency. A few (12%) strongly agreed with the statement giving a total of 69% of the respondents who

agreed with the statement. It was found that 18% disagreed with the statement while 10% strongly disagreed with the statement. Thus a total of 28% of the respondents disagreed with the statement. Few 3% of the respondents neither agreed nor disagreed with the statement. The findings of descriptive statistics imply there is high adoption of product innovation in response to changes in market demand or to improve efficiency.

ii) Process innovations

Table 1 indicates that majority (52%) of the respondents agreed with the statement that process innovations including the introduction of new business processes leading to increased efficiency and market expansion have been adopted by SMEs. Few (8%) strongly agreed with the statement. A total of 60% of the respondents therefore agreed with the statement. A lesser proportion of 21% disagreed with the statement while 14% strongly disagreed with the statement. Thus a total of 35% of the respondents disagreed with the statement. The number of respondents who neither agreed nor disagreed with the statement accounted for 5%. This finding implies that process innovations including the introduction of new business processes leading to increased efficiency and market expansion have been adopted by SMEs.

iii) Institutional innovations

The results in Table 1 indicates that majority 48% of the respondents disagreed with the statement that SMEs have highly adopted Institutional innovations which include changes in business structure, establishment of new types of financial intermediaries or changes in supervisory framework. The number of respondents who strongly disagreed with the statement accounted for 11%, giving a total of 59% of those who disagreed with the statement. A few 22% agreed with the statement while 14% strongly agreed with the statement. Thus a total of 36% of the respondents agreed with the statement. Those who neither agreed nor disagreed with the statement accounted for 5%. The finding implies that adoption of Institutional innovations is relatively low compared to other form of financial innovations.

Table 1 Forms of Financial Innovation

Financial Innovation Statements N = 487	Strongly agree %	Agree %	Neither agree or disagree %	Disagree %	Strongly Disagree %
1. Product Innovation:					
There is high adoption of product innovation including introduction of new deposit accounts, new credit arrangement and new financial products that are introduced to respond to changes in market demand or to improve efficiency	12	57	3	18	10
2. Process Innovations:					
Process innovations including the introduction of new business processes leading to increased efficiency and market expansion have been adopted by SMEs.	8	52	5	21	14
3. Institutional Innovations					
SMEs have highly adopted Institutional innovations which include changes in business structure, establishment of new types of financial intermediaries or changes in supervisory framework.	14	22	5	48	11

Inferential Statistics For Financial Innovation and Performance of SMEs

Relationship between Financial Innovation and Performance of SMEs in Kenya

Table 2 shows a strong relationship between financial innovation and performance of SMEs in Kenya ($R = .777$, $R^2 = .603$) and [$F(1,131) = 199.229$, $P = .000$]. R^2 was used to show the

proportion of variation in dependent variable explained by the model. The value of R^2 of .603 indicates that 60.3 percent of the variations in performance of SMEs in Kenya can be accounted for by financial innovation scores.

Table 2 Regression Weights for Financial Innovation

				Std. Error	Change Statistics				
Model	R	R^2	Adjusted R Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.777	.603	.600	.34060	.603	199.229	1	131	.000

Table 3 indicate that relationship between financial innovation and performance of SMEs in Kenya is positive and significant (b1 = .453, P = .000; Beta .777). Equation 2 shows that for every 1 unit increase in financial innovation, performance of SMEs is predicted to increase by .453. Therefore the null hypothesis that there is no significant relationship financial innovation and performance of SMEs in Kenya is rejected at 95 percent significant level. The study therefore fails to reject alternative hypothesis and conclude that financial innovation influences performance of SMEs in Kenya.

SMEs Performance = 3.148 + .453 Financial Innovation

Table 4.55 Significant Test Results for Financial Innovation

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.148	.095		33.037	.000
	FI	.453	.032	.777	14.115	.000

SUMMARY OF FINDINGS

From the results, it was established that innovation has positive effects on financial performance. As evident from this study, innovation increased profits for the company; innovation increases the company's market share, increases savings for the company and reduces operating cost of the small and medium enterprises. They also agreed that innovation leads to income and sales volume increase, acquisition of new equipment and machines, positively influence income generating potential of the company and stabilizes the business and increases competitive advantage. Hence, SMES should invest more on innovation practices as it improves financial performance. In general, innovations influence financial performance of the SME positively. This has a significant effect on the profitability of the SMEs which also influence their competitive advantage. Results from the data collected discovered that innovativeness of SMEs had a positive and significant effect on financial performance.

RECOMMENDATIONS

From the findings, the study recommends that SMEs should adopt innovation as it increases financial performance. For businesses to realize growth, investment in technology should be made in order to reduce costs and increase the level of sales. SMEs also need to keep designing and redesigning their products to meet changing user needs and product innovation is very crucial in the achievement of this goal. It is also vital for businesses to take process innovation to raise the level of quality of the products they produce as this research has revealed that process innovation can greatly enhance the production of quality products which would in the end raise the level of sales and increase the profit margins of the business. The study also recommends that government should make the adoption of innovation easy for the small and medium enterprises by reducing cost of acquiring new innovations.

SMEs in Kenya need access to government centers for research and development as this can be a crucial strategy for the growth and development of businesses. Access to technologies depends largely on government policy and a strong will to implement those policies. Moreover, inputs to innovation processes in SMEs are increasingly perceived to be coordinated with external parties, such as universities and customers which enable them to reduce R&D costs. It is also

recommended that companies must offer customers new products and services to allow for a more efficient and effective use of products that they currently sell.

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