

**EFFECT OF FINANCIAL INNOVATION ON FINANCIAL PERFORMANCE: A CASE
STUDY OF DEPOSIT-TAKING SAVINGS AND CREDIT COOPERATIVE SOCIETIES
IN KAJIADO COUNTY**

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ABSTRACT

This study's main objective was to investigate the effects of financial innovation on financial performance of deposit-taking SACCOs in Kajiado County. Past studies give an insight into what has already been done in the field of financial innovation and how it impacts financial performance. The researcher pinpoints the strength and weaknesses in the reviewed literature. The resultant information, however, guided this study in addressing the identified gaps in scholarship. The study adopted a descriptive research design. Forty employees of the deposit-taking SACCOs in Kajiado County formed the research sample. Stratified sampling was used to obtain a sample of respondents from whom data was collected. Primary data was collected and analyzed using quantitative and qualitative techniques and then presented using graphs and tables. A self-administered questionnaire was delivered to the respondents and collected after completion. Secondary data was obtained from annual reports, libraries and the SACCO databases. Data was analyzed by use of SPSS. It was established that product, process and organizational innovations are the critical factors that influence the performance of the financial status of deposit-taking SACCOs in Kajiado County. The study recommends that SACCOs require qualified and experienced employees who are capable of meeting new challenges of competition particularly from banks and the government should enact legislations which will protect members' savings and promote prudential supervision of the industry.

Keywords: Product innovation, Process innovation, Organization innovation and Financial performance

1.1 Introduction

The term “co-operation” is derived from the word “co-operate”. Its origin is Latin where “co” means “together” and “operation” refers to “to work”. Therefore, the term “co-operation” simply put means, “working together”. Minishi (2012) defines a co-operative society as an institution within whose framework co-operation or joint activities by people take place in a formalized, long-term, deliberate and specific form in the social and economic spheres of human endeavor. Roy in Minishi (ibid) argues that a co-operative society is a “business voluntarily organized, operating at a cost, which is owned, capitalized and controlled by member-patrons as

users sharing risks and benefits proportional to their participation. Co-operatives are organized on employment, trade, small-scale industries (jua-kali), transport and community basis.

From the 1970s, SACCOs have expanded tremendously. The greatest impetus for their rapid growth, argues Nyaga, came in the 1990s when commercial banks closed their operations in rural areas through merging of branches, centralized services and automation leaving small depositors mainly in rural settings without banking services. Furthermore, banks increased their minimum deposits for opening and operating bank accounts. This led to the introduction of quasi-banking services by SACCOs through the Front Office Service Activities (FOSA). Teachers, civil servants, farmers and other low and middle income individuals opted to get their salaries and crop proceeds paid through SACCOs. The number of deposit taking SACCOs in Kenya has continued to grow. A report by the SACCO Society Regulation Authority (SASRA) evaluates the performance of the sub sector based on the financial data and information extracted from audited financial statements and reports for the period 2014. According to the report, the total assets for the subsector stood at Ksh.301.537 billion in December 2014 a growth of 17.2% from the 257.368 billion recorded in 2013. The growth in assets was funded mainly by members' deposits, capital reserves, loans and advances portfolio which had increased reserve by 12.7%, 30.6% and 15.5% respectively. There was also an increase in the deposit taking SACCOs by 15.3% over the same period (SASRA report 2014). As of December 2015, the SACCO sub-sector had mobilized savings to the tune of Sh.593 billion and accumulated an asset base to the tune of Sh.814 billion (Ngugi 2016).

Predictions are that in the 21st century, many people than ever before will meet their needs and achieve their aspirations through Co-operative societies (Minishi, 2012:1). In fact, argues Ngugi (ibid), SACCOs in Kenya provide the country's unbanked segment with an opportunity to save and borrow for personal growth and business development. This makes financial innovations in SACCOs even more significant. Frame and white (2002) define financial innovation as "something new that reduces costs, reduces risk or provides an improved product/service/instrument that better satisfies participants' demands within a financial system." Some of the financial innovations include the use of paper money instead of cash. Beaver(2002) believes that innovation is an essential element for economic progress of country and competitiveness of an industry. According to Akhtar (1984), financial innovations lower the transaction cost of transferring funds from lower yielding money balances to higher yielding alternatives.

Therefore, with financial innovation, market participants attempt to minimize risk and to maximize returns. Financial innovation is further promoted when the financial authorities recognize the obsolescence of the existing statutory framework. Agosin (1999) citing work by McGuire and Conroy, distinguishes three levels of financial innovation: - System or organizational innovation where new institutions tailored to deal with unmet needs are created or allowed to emerge, process innovation which is the creation of new technologies for providing financial services, and product innovation, the supply of new financial products. An important distinction made by Agosin is that governments must concentrate on the first type of innovation because of the likelihood that the private sector will under-produce these innovations. Systemic innovation may arise but this may take time; the process may be lengthy and tedious, hence, there is a role for government to foster it. Cheques are the most paper based mode of payment accounting for 48% of non-cash payments. The Central Bank of Kenya came up with the real time gross settlement (RTGS) system known as the Kenya Electronic Payments and Settlement Systems (KEPSS) in July 2005 in an effort to modernize the country's payment system in line with global trends (Oloo, 2007). Other financial innovations include mobile banking and internet banking. There are three broad forms of financial innovation

According to Boot and Thakor (2007), product innovation involves products or services that are created to meet market needs. According to Mosongo(2013) organizational innovation are innovation in the financial system as an overall, such as changes in the structure of the financial sector, changes in business structure , financial intermediation and changes in the supervisory framework. Sum *et al*(2016) observed that organizational innovation includes restructuring and agency banking. Norleyet *al*(2008) defines restructuring as the re-organizing the legal, ownership , operational or other structures of a company for the purpose of making it more profitable and better organized for its present needs. Ndun'gu and Wako(2015) describe agency banking as the use of third party licensed agents to provide the banks customers with certain services on behalf of the bank. However this study will focus on operational restructuring of SACCOs in Kajiado county. On the other hand, financial performance which in this case is a consequence of financial innovation, measures how well a firm is able to generate value to its shareholders. It is, therefore, a measure of profitability of a business enterprise. Traditionally, financial performance of SACCOs has been measured using a combination of conventional accounting measures and risk and return measures, further analysis of financial performance has used methodologies such as financial ratio analysis, bench marking, measuring performance against budget or combination of these. In spite of difficulties in obtaining such information we used profitability ratios in measuring financial performance of SACCOs in Kajiado County. Profitability ratio measures the ability to generate earnings relative to sales, assets and equity. They assess the ability of the SACCOs to generate earnings, profits and cash flows relative to some metric, often the amount invested. Common examples of profitability ratios include return on sales, return on equity, return on assets, and gross profit margin among others. However this study will use return on assets and return on equity as a measure of performance in the SACCOs. The consequences of financial innovation are usually in terms of the payoffs to the innovators.

Innovation generally does seem to have positive effects in raising the financial performance of innovators (Boot, A. & Thakor,2007).Organizational innovation has also been adopted by firms as a strategy to improve their financial performance. It has been described as the creation or adoption of an idea or behavior new to the organization (Daft 1978; Daman pour and Evan 1984;Damanpour 1996). It encompasses new institutions or organizational structures within institutions where the production process is held. This kind of institutional innovation can influence the financial system as a whole, spawning new types of intermediaries.

Generally, common indicators such as profitability ratio, asset management ratio, debt ratio, and market value ratio are used to measure the financial performance of SACCOs (Tivitiyaman et.al 2012). However, this study restricted itself to return on equity and return on assets as measures of financial performance in the SACCOs studied.

SACCOs in Kenya have become innovative in order to overcome the many problems they face. The challenges they encounter are caused by economic and macro-economic factors such as stiff competition from competitors, economic liberalization, deficiency in contemporary skills and regulation of business by the government. SACCOs for instance have reacted to the threat posed by commercial banks by opening Front Office Service Activities (FOSAs) for the provision of a wide range of products and services to their members (Noyer cited in Tsuma et al., 2015).Several researches have been done regarding the impact of financial innovation on financial institutions outside Africa and in Africa. Hernando and Nieto (2007) investigated the consequences of financial innovations on banks in Spain. Similarly researches have also been done in Kenya. For example, Tsuma et al., (2015), Maina (2011) and Kimata (2013) studied the effects of financial innovation on financial performance of SACCOs. However, they restricted their scope to process innovation. Nyathira (2012) discusses the effects of financial innovation on the financial performance of commercial banks in

Kenya. In this particular study, focus is on a combination of product, process and organization innovation and their effect on the financial performance of SACCOs in Kajiado County.

1.2 Statement of the problem

Performance is the ability of an organization to gain and manage the resources in several ways so as to gain competitive advantage (Iswatia&Anshoria 2007). A firm's performance is a multidimensional construct that consists of several elements (Alam *et al.*, 2011). Customer focused performance includes customer satisfaction, product and service excellence, financial and market performance that focuses on revenue, profits, organizational effectiveness, time to market, level of innovation, production and supply chain flexibility.

More than 81% of Kenyans rely on SACCOs to access financial services (FinAccess, 2012). However, the use of SACCOs by Kenyans as a financial service provider has been declining over the last five years (ibid, 2013). The decline has been from a high of 13.5% in 2009 to a low of 9.1% by the end of the year 2013. During the same period, customers accessing commercial banks for financial services grew from a low of 13.5% in 2006 to 29.2% in 2013 (ibid, 2013). This trend in loss of customers is attributed to sustained competition from banks through proactive outreach, offering of easy access transactions accounts as well as consumer loans and other forms of financial innovations (FinAccess, 2009). SACCOs have been losing their market share in spite of their geographical spread in the country compared to other financial providers (Nyaga, 2012).

Global competition which became particularly tough after the 1980s, forced companies to focus on their business strategies, especially on innovations (Kuratko and Hodgetts, 1998). Due to the tough global competition, both individuals and companies began to evaluate and to apply their innovation strategies and entrepreneurial abilities with the purpose of gaining competitive advantage (Drucker, 1985). According to Walker (2004), innovation has a considerable impact on corporate performance by producing an improved market position that conveys competitive advantage and superior performance. Metcalfe (1998) states that when the flow of newness and innovations desiccates, firms' economic structure settles down in an inactive state with little growth. Therefore, innovation plays a significant role in creating the differences of performance and competition among firms, regions and even countries.

Although scholars such as Mosongo (2013), Brown (1997), Nyathira (2012), Weldeghiorgis (2004), Mbaabu (2004), Dempsey *et al.*, (2002) and Kihumba (2008) have carried out studies on the effect of innovation on the financial performance of financial institutions, there is a clear gap in scholarship as far as the study of the impact of financial innovation on the financial performance of SACCOs is concerned. Most of the studies that have been conducted concentrated on commercial banks. Those that focused on SACCOs are, however, limited in scope. They isolate aspects of innovation for investigation. They thus do not discuss the three facets of innovation namely product, process and organizational innovations. It is therefore imperative that the three types of financial innovation, i.e., product, process and organizational innovations are compared, contrasted and their impact on financial performance in a SACCO setting critically analyzed.

1.3 General objective

The general objective of this study is to determine the effect of financial innovation on financial performance of deposit-taking SACCOs in Kajiado County.

1.3.1 Specific Objectives

1. To analyze the effect of product innovation on the financial performance of deposit-taking SACCOs in Kajiado County.

2. To determine the effect of process innovation on financial performance of deposit-taking SACCOs in Kajiado County.
3. To establish the effect of organizational innovation on financial performance of deposit-taking SACCOs in Kajiado County.

2.0 LITERATURE REVIEW

2.1 Theoretical review

2.1.1 Constraint Induced Financial Innovation Theory

This theory was advanced by an American Economist Silber. He defines a constraint as something that limits or restricts progress. According to Silber (1975, 1983), the main reason for financial innovation is profit maximization. However, in the process of pursuing profit maximization, financial institutions tend to face some restrictions which are either external or internal. These constraints can either be self-imposed, market imposed or government imposed. Silber (ibid) provides a framework for discussing financial innovation as a way of reducing the cost imposed by regulation. He, however, recognizes regulation as a frequent motivation to innovate. He views a financial firm as a utility maximize which operates in a given environment constrained by some set of internal rules, set of macroeconomic conditions in a given regulatory environment, set of tax laws and given levels of technology and knowledge.

The constraint induced financial innovation theory is relevant to the current study because this study sought to determine innovations put in place by SACCOs as a means of achieving profit maximization while appreciating that in the process, the SACCO may have faced some constraints. This research also identified the various constraints that are faced by the SACCOs and analyzed them to establish whether they have prompted the organizations to be innovative. There was also the need to find out whether indeed the firms with the ability to access external funds displayed a higher growth rate.

2.1.2 Transaction cost innovation theory

The main proponents of this theory are Hicks and Niehans (1983). The theory looks at the relationship between reduction in transaction costs and technological advancement. A transaction cost is a cost that is incurred in the exchange of a good or service. According to Hicks and Niehans, transaction costs are varied. They include quality of service or good, durability, communication charges, legal fees, informational cost of finding the price and transportation costs. This theory holds that the dominant factor in financial innovation is the response to advancement in technology. This causes the transaction cost to reduce. Consequently, the cost reductions stimulate financial innovation as well as efficiency in service delivery.

Juhakam (2003) describes the theory of cost reduction as a driver of financial innovation. He cites examples as reduction from improvements in payments, processing or reduction resulting from new ways meant to deliver services electronically to customers. However, regulatory restrictions and requirements are also a cost and some innovations are aimed at avoiding or reducing that cost.

Transaction costs innovation theory is relevant in this context. For instance, the use of internet-connected Information Technology (IT) can substantially reduce a firm's transaction costs as it enables efficient coordination, management and use of information. Mobile, Internet-connected IT may further lower transaction costs as it provides also offsite access to the firm's internal database and other relevant sources of information. Consequently, reduction of operation costs through agency banking, internet banking and mobile banking may influence growth in profitability for a SACCO. The theory discusses financial innovation from

the perspective of microscopic economic structure change. However, this theory has some weaknesses. According to Colombo (2003), the theory overemphasizes individual party’s minimization of transaction costs while holding other factors constant.

2.1.3 Regulation Innovation Theory

This theory was put forward by Scylla et.al., (1977,1982). They believe that it is very difficult to have space for financial innovation in a planned economy with strict regulatory controls. As such any change instigated by regulation reform in the financial system can be regarded as financial innovation. These Omni- directional financial innovative activities can only appear in the market economy controlled by the government. The regulation innovation theory also regards government activity as the origin of financial innovation. In particular, it regards rules and regulations which are used to control firms as financial innovation. Financial control is the obstructive force of financial innovation. So rules and regulations which are regarded as the symbol of financial control should be the direction of financial reform and innovation.

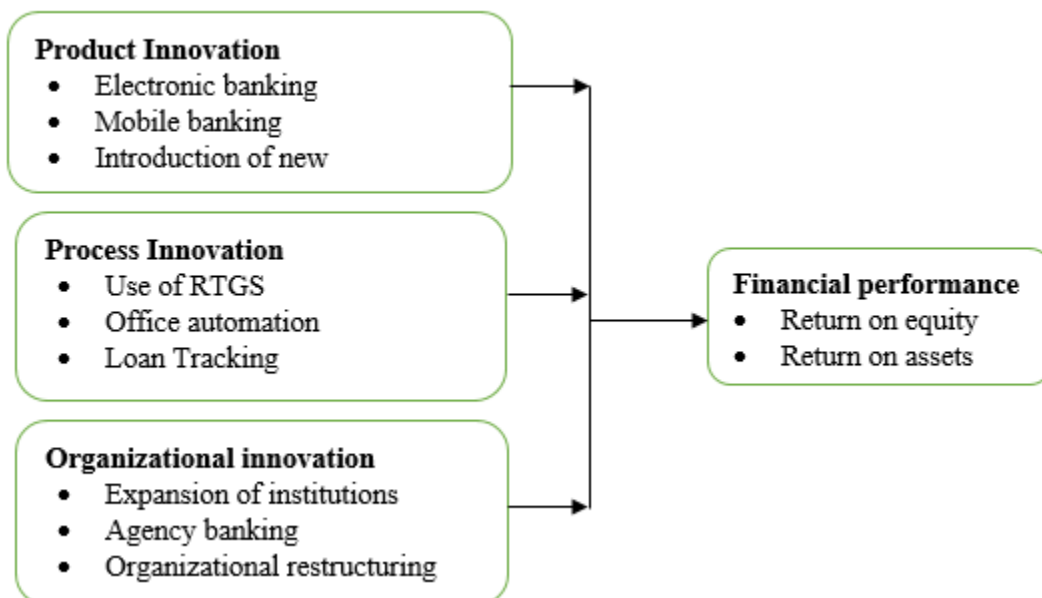
Ben Horim and Silber (1972) tested the preposition that regulation constraint induces innovation. They did this by constructing a linear programming model to estimate the opportunity costs (shadow prices) of deposits, debentures and capital (net worth) for large banks from 1952-1972. They found out that the rising shadow prices of these items as they approached regulatory constraints were associated with some of the major innovations of the 1960s.

This theory is relevant in this research because SACCOs in Kenya are regulated by the government .SASRA(Sacco Society Regulation Authority) is a government agency which has the mandate to license SACCOs that have been duly registered under the Cooperative Societies Act CAP 490.We applied this theory in our analysis of regulations in Kenya and their impact on financial innovation in deposit-taking SACCOs in Kajiado County. We used the theory to determine whether the regulations are a two edged sword that encourages and at the same time discourages financial innovation in these SACCOs.

1.2 Conceptual framework

Independent Variables

Dependent variable



2.3 Empirical Literature

2.3.1 product innovation on financial performance

Product innovation is the introduction of a new good or service, or one that is substantially improved. This includes, but is not limited to, improvements in functional characteristics, technical abilities, or ease of use. It is not supposed to include minor customization and superficial/aesthetic design characteristics, though there have been some calls for such activities to be included, perhaps as “soft” innovations. Successful product innovation is vital to many firms. The commercial success of a new product typically depends on how well the product's design meets customers' needs (Rothwell *et al.*, 1974).

Tabas *et al.*, (2012) carried out a study on the influence of product innovation on financial performance of small and medium sized enterprises in the Czech Republic. Using a statistical sample of 100 companies he found out that the performance of all these companies had increased above the industry average and contrary to service and trade companies it had stabilized above the industry average hence the need for continuous innovation. The findings of this study served as a backdrop from which we identified the product innovations that have been in place in deposit-taking SACCOs in Kajiado County and which are meant to promote service delivery to their clients and attract more customers.

Omwenga (2010) studied the relationship between financial innovations and financial performance of commercial banks in Kenya. Descriptive research design was used to study a sample of 45 licensed commercial banks that were dully registered with CBK. The study recommended that the banks should introduce products that are relatively simple and standard and that offer value addition. Since this investigation sought to determine the significance of innovation to value addition in terms of financial performance of deposit-taking SACCOs, Omwenga's views became of great importance to the current study.

Githakwa (2011) investigated the relationship between financial innovation and profitability of commercial banks in Kenya. Using causal research design on a sample of 44 registered commercial banks in Kenya in the period of 2005-2010, he found out that many commercial banks have embraced financial innovation as a way of increasing efficiency and improving bank performance. These innovations have included massive branch network expansion, development of unique products and automation of banking services that have enabled customers to carry out banking transactions outside the confines of the banking premise, on their phone and over the internet. Although Githakwa's study was on banks, his findings were useful to us because we intended to determine how product innovation impacts financial performance in deposit-taking SACCOs.

2.3.2 Effect of process innovation on financial performance

Process innovation is the implementation of a new or significantly improved production or delivery method. This includes significant changes in the techniques, equipment and/or software used to make or deliver the product. Process innovations can be intended to decrease unit costs of production or delivery, to increase quality, or to produce or deliver new or significantly improved products (OECD, 2005). Process innovation covers the introduction of new business processes leading to increased efficiency, market expansion, etc. Examples include office automation and use of computers with accounting and client data management software. (Schrieder and Heidhues 1995)

Gunday *et al.*, (2011) studied the effects of financial innovations on firms' performance. They sought to explore the effect of the organizational, process, product and marketing innovations on the different aspects of firms' performance including innovative, production, market and financial performances based on an empirical study covering 184 manufacturing companies in Turkey. They found out that there is a positive relationship between

the various forms of innovation that ultimately impact a firm's performance. This study enabled us to identify the innovations put in place by deposit-taking SACCOs in Kajiado County and how they have affected the financial performance of the SACCOs.

Hafferman et al., (2008) carried out a study on 1100 British financial institutions and he contends that the likelihood of financial innovation to occur is dependent on the size of the financial firm, employee education, greater expenditure on research and development, availability of finance and the extent to which the firm co-operates with similar institutions. Although this study was on financial innovation in the context of British financial firms, this research applied its findings in determining whether the size of SACCOs in Kajiado County, their investment in staff education, research and development and their co-operation with other financial institutions have resulted in their embracing financial innovation hence the betterment of the financial performance of the SACCOs.

2.3.3 Effect of organizational innovation on financial performance

Institutional innovations relate to changes in business structures, to the establishment of new types of financial intermediaries, or to changes in the legal and supervisory framework. Important examples include the use of the group mechanism to retail financial services, formalizing informal finance systems, reducing the access barriers for women, or setting up a completely new service structure (Schrieder and Heidhues, 1995).

Kwaning *et al.*, (2014) studied the impact of organizational restructuring on the financial performance of public banks a case of agricultural development banks in Ghana. Using a case study sample of banks, they found out that organization restructuring is beneficial in a number of ways that are not limited to lowering operational cost and assisting in formulation and implementation of strategies. This study will therefore analyze the restructuring put in place by SACCOs meant to reduce operational cost and any challenges that they are facing in their obligation to increase their financial performance.

Farok *et al.*, (2007) studied on the nature of the relationship between international expansion and performance: The case of emerging market on 269 Indian firms composed of both manufacturing firms and service firms over a period covering five years covering between 1997-2001. The study found that, service sector firms tend to get the gains of international expansion sooner than manufacturing firms. This study therefore relied on Farok's findings to isolate the expansions put in place by deposit taking SACCOs in Kajiado County.

Watiri (2013) sought to establish the contribution of agency banking in financial performance of commercial banks in Kenya. The study adopted a descriptive survey. It found out that low transaction cost through agency banking had a positive impact on financial performance of Kenya commercial banks. We used Watiri's conclusion to analyze whether agency banking had a positive effect on organizational innovation and if there is a reduction in transaction cost in the deposit taking SACCOs that will lead to a positive effect on financial performance.

2.4 Summary and research gaps

Previous studies on financial performance on SACCOs have restricted their views on only product, process and organization. Thus limited single researches have been done on product, process and organization innovation as factors that affect the financial performance of deposit-taking SACCOs. It is this research gap that motivated this particular study. Thus it sought to fill the gap by establishing the effects of product innovation, process innovation and organizational innovation on the financial performance of deposit-taking SACCOs in Kajiado County.

3.0 RESEARCH METHODOLOGY

This study adopted a descriptive design that aimed at establishing the effect of financial innovation on financial performance. The descriptive research design is unobtrusive and the act of research does not affect the results of the study and it is also a description of affairs as they exist. This is well suited for cross sectional analysis and in this study, it involved comparison of the financial results of the subject SACCOs with the innovation parameters. The target population of this study comprised of the employees on deposit-taking SACCOs in Kajiado County. They included administrators, accountants, auditors, marketers, ICT officers, operation managers and creditors. This is because these are people who are well conversant with the daily operations of the SACCOs as well as custodians of financial information. The sampling frame for this study consisted of the employees of the two deposit-taking SACCOs in the area of study. This was achieved by using the multi-stage sampling method where the financial institutions were first selected.

The sample for this study was arrived at using stratified random sampling. The population was divided into groups which are homogenous and contain elements which are alike. This method awards everyone in the target population an unbiased and equal chance to participate in the research (Mugenda, 2003). The Slovin's formula was used to calculate the sample size. The sample size comprised of employees from all levels, that is: top management, middle management and support staff. The Slovin's formula is as shown below (Mariola, 2006);

$$n = \frac{N}{[1 + N(e^2)]}$$

Where:

n = the desired sample size

N=the estimate of the target population (in this research the target population was 40 employees from two major SACCOs in Kajiado County)

e = margin of error (this research used, 95% confidence level which gave a 0.05 margin of error).

The sample size for this population was 36 respondents as derived below:

$$n = \frac{N}{[1 + N(e^2)]}$$

$$n = \frac{40}{[1 + 40(0.05^2)]}$$

$$= 36.36 \approx 36 \text{ respondents}$$

Both primary and secondary data was collected from the deposit taking SACCOs in Kajiado County. Primary data was collected through the questionnaire. Schwab (2005) defines a questionnaire as a measuring instrument that asks individuals to answer a set of questions or respond to a set of statements. On the other hand, secondary data was collected from the annual reports and financial statements of the SACCOs.

The primary data obtained from the questionnaires was summarized and analyzed by use of descriptive and inferential statistical techniques. Further quantitative data was fed in the computer and analyzed using Statistical Package for Social sciences (SPSS version 23.0).

4.0 RESEARCH FINDINGS AND DISCUSSION

4.1 Descriptive Analysis

4.1.1 Effect of Product Innovation on Financial Performance

The first objective of the study was to analyse the effect of product innovation on financial performance of deposit-taking SACCOs. Product innovation was done using electronic banking, mobile banking and introduction of new loans. The objective was assessed by use of the responses which were captured in the questionnaires filled by respondents. Their answers indicated their degree of agreement with the measures of product innovation.

Table 4.1: Product Innovation

Product Innovation	Not at all	Low extent	Moderate extent	Great extent	Very great extent	Mean	Standard Deviation
Electronic banking	-	3%	29%	45%	23%	3.96	0.783
Mobile banking	-	3%	35%	52%	10%	4.21	0.845
Introduction of new loans	3%	10%	45%	42%	-	3.31	0.942

Data in table 4.1 above shows responses on statements regarding the effects of product innovation on financial performance. From the analysis of the findings majority agreed that product innovation affected financial performance as reflected by statements on Electronic banking as shown by a mean of 3.96 and a standard deviation of 0.783 while Mobile banking had a mean of 4.21 and a standard deviation 0.845. However, the respondents indicated to a moderate extent on introduction of new loans with a mean of 3.31 and a standard deviation of 0.942. This findings of the study is in line with that of Kimani *et al.*, (2017) who assert that when there is an increased issuance of loans by SACCOs, the interest charged on such loans improves the financial performance of the SACCOs. Examples of new loan packages in the SACCOs under study include development loans, school fees loans, emergency loans, supa loan and biz Loan. The interpretation from these findings is that majority of the respondents agreed that the product innovation strategies by the SACCOs had a great effect on financial performance of SACCOs in Kajiado county. These findings support those of Mosongo (2013), Githakwa (2011) and Tabas *et al.*, (2012).

4.1.2 Effect of Process Innovation on Financial Performance

The second objective of the study was to determine the effect of process innovation on financial performance. Process innovation was measured by office automation, loan tracking systems and the real time gross settlement systems (RTGS). The objective was verified from the respondents by use of likert scaled statements on a questionnaire.

Table 4.2: Process Innovation

Process Innovation	Not at all	Low extent	Moderate extent	Great extent	Very great extent	Mean	Standard Deviation
Use of RTGS	-	3%	39%	39%	19%	3.57	0.684
Office automation	-	-	45%	55%	-	3.93	0.569
Loan Tracking Systems	10%	-	29%	61%	-	4.16	0.853

Table 4.2 shows the analysis of the findings on the effects of process innovation on financial performance. Most of the respondents indicated that process innovation affected financial performance to a great extent. This is shown on statements that Use of RTGS with a mean of 3.57 and a standard deviation of 0.684, office Automation (the use of computers in the office) had a mean of 3.93 and a standard deviation 0.569, and loan tracking systems had a mean of 4.16 and a standard deviation 0.853. The findings of this study concurs with Gitau(2011) and Nyathira(2012) who studied the effect of innovation on financial performance of banks in Kenya and concluded that the use of RTGS and the internet leads to an increase in the financial performance of the concerned firms.

4.1.3 Effect of Organizational Innovation on Financial Performance

The third objective of the study was to establish the effect of organizational innovation on financial performance of deposit-taking SACCOs in Kajiado County. Data for this objective was gathered using likert scale questions which were issued to the respondents in the SACCOs under study

Table 4.3: Organizational Innovation

Organizational Innovation	Not at all	Low extent	Moderate extent	Great extent	Very great extent	Mean	Standard Deviation
Agency banking	-	-	29%	45%	26%	3.59	0.683
Organizational restructuring	-	-	39%	48%	13%	3.72	0.742
Expansion of institutions	-	16%	39%	29%	16%	3.63	0.629

Further, Table 4.3 shows the effects of organizational innovation on financial performance. From the analysis of the findings majority of the respondents indicated that organisational innovation affected financial performance to great extent. This is revealed by agency banking with a mean of 3.59 and a standard deviation of 0.683, organizational restructuring with a mean of 3.72 and a standard deviation of 0.742 and on institutional expansion with a mean of 3.63 and a standard deviation of 0.629. The analysis of the findings is in tandem with that one of Mimano (2013) who studied the effect of agency banking on the performance of commercial banks. From the findings, it was found that agent banking resulted in greater uptake of financial services which resulted in more revenue.

4.1.4 Extent to which the three types of Financial innovation affected financial performance of the SACCOs in the last five years

Table 4.4: Extent the three types of innovation affected financial performance of the SACCOs in the last five years

Innovation	Not at all	Low extent	Moderate extent	Great extent	Very great extent	Mean	Standard Deviation
Product	-	-	29%	45%	26%	3.72	0.732
Process	-	-	39%	48%	13%	3.95	0.694
Organization	-	16%	39%	29%	16%	3.14	0.633

Further, Table 4.4 shows the extent the three types of innovation affected financial performance of the SACCOs in the last five years. From the analysis of the findings it was revealed that product, process and organization affected financial performance as shown by means of 3.72, 3.95, 3.14 respectively.

4.2 Inferential Statistics

The study further applied general Linear Model to determine the predictive power of the relationship between financial innovation on financial performance of deposit-taking savings and credit cooperative societies in Kajiado County. This included regression analysis, the Model, Analysis of Variance and coefficient of determination.

4.2.1 Regression Analysis

In addition, the researcher conducted a multiple regression analysis so as to test relationship among variables (independent) on the relationship between financial innovation on financial performance of deposit-taking savings and credit cooperative societies in Kajiado County. The researcher applied the statistical package for social sciences (SPSS V 22.0) to code, enter and compute the measurements of the multiple regressions for the study. 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 (ROA and ROE) that is explained by all the three independent variables (Product innovation, Process innovation and organizational innovation)

Model Summary

Table 4.5: Model Summary-ROA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.866	0.749	0.731	0.116

The three independent variables that were studied, explain only 74.9% on the relationship between financial innovation and ROA represented by the R^2 . This therefore means that other factors not studied in this research contribute 19.3% of the relationship between FI and ROA. Therefore, further research should be conducted to investigate the other factors (25.1 %) that affect ROA.

Table 4.6: Model Summary-ROE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.925 ^a	.856	.801	.04131

Table 4.6 illustrates that the strength of the relationship between financial performance and independent variables. From the determination coefficients, it can be noted that there is a strong relationship between dependent and independent variables given an R^2 values of 0.856 and adjusted to 0.801. This shows that the independent variables (Product innovation, Process innovation and organizational innovation) accounts for 80.1% of the variations in financial performance as measured by ROE.

ANOVA Results

Table 4.7: ANOVA of the Regression-ROA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	80.375	4	20.094	8.635	.002 ^a
	Residual	11.635	5	2.327		
	Total	92.01	9			

The significance value is 0.002 which is less than 0.05 thus the model is statistically significant in predicting how (Product innovation, Process innovation and organizational innovation) affect ROA. The F critical at 5% level of significance was 2.25. Since F calculated is greater than the F critical (value = 8.635), this shows that the overall model was significant.

Table 4.8: ANOVA of the Regression-ROE

	Sum of Squares	df	Mean Square	F	Sig.
Regression	74.553	4	18.638	6.731	.008 ^b
Residual	13.845	5	2.769		
Total	88.398	9			

a. Dependent Variable: ROE

b. Predictors: (Constant), Product innovation, Process innovation and organizational innovation

The ANOVA results presented in the Table 4.8 shows that the regression model has a margin of error of p = .008. This indicates that the model has a probability of 0.8% of giving false prediction. This point to the significance of the model.

Table 4.9: Regression Coefficients

	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	1.103	4.653		5.132	.000
Product innovation	0.852	7.710	0.1032	6.569	.001
Process innovation	0.463	17.177	0.1178	3.968	.002
Organizational innovation	0.654	6.295	0.1425	4.117	.004

a. **Dependent Variable: ROA**

Multiple regression analysis was conducted as to determine the relationship between ROA and the three variables. As per the SPSS generated table 4.9, regression equation

($ROA = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + C$) becomes:

$$ROA = 1.103 + 0.852 X_1 + 0.463 X_2 + 0.654 X_3$$

According to the regression equation established, taking all factors into account (Product innovation, Process innovation and organizational innovation) constant at zero, ROA will be 1.103. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in product innovation will lead to a 0.852 increase in ROA; a unit increase in process innovation will lead to a 0.463 increase in ROA, unit increase in organizational innovation will lead to a 0.654 increase in ROA. It is also evident that product innovation is statistically significant because the p value of 0.001 is less than 0.05 (level of significance), process innovation and organizational innovation is also significant because of their p value which are 0.002 and 0.004 respectively. They are less than 0.05 (level of significance). This means that they predict the independent variable more than the intercept only model one.

This implies that product innovation contributes most to the ROA followed by organizational innovation and then process innovation. At 5% level of significance and 95% level of confidence, product innovation, organizational innovation and process innovation, were all significant in ROA. This mean that SACCOs should be very keen in product innovation so as attract more customers and increase their financial activities.

Table 4.10: Coefficient of Regression-ROE

	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	4.478	.826		3.61	.000
Product innovation	0.802	.864	0.359	8.41	.0008
Process innovation	0.493	.0312	0.218	.181	.022
Organizational innovation	0.715	.238	0.044	3.34	0.003

a. Dependent Variable: ROE

Multiple regression analysis was conducted as to determine the relationship between the relationship between ROE and the three variables. As per the SPSS generated table above, regression equation

($ROE = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + C$) becomes:

$$ROE = 4.478 + 0.802 X_1 + 0.493 X_2 + 0.715 X_3$$

According to the regression equation established, taking all factors into account (Product innovation, Process innovation and organizational innovation) constant at zero, ROE will be 4.478. The data findings analyzed also shows that taking all other independent variables at zero, a unit increase in product innovation will lead to a 0.802 increase in ROE; a unit increase in process innovation will lead to a 0.493 increase in ROE, unit increase in organizational innovation will lead to a 0.715 increase in ROE. It is also evident that product innovation is statistically significant because the p value of 0.0008 is less than 0.05 (level of significance), process innovation and organizational innovation is also significant because of their p value which are 0.022 and 0.003 respectively. They are less than 0.05 (level of significance). This means that they predict the independent variable more than the intercept only model one.

This infers that product innovation contributes most to the ROE followed by organizational innovation and then process innovation. At 5% level of significance and 95% level of confidence, product innovation, organizational innovation and process innovation, were all significant in ROE. This implies that product innovation contributes to a large extent in financial performance of SACCOS. Therefore, these SACCOS need to embrace product innovation in their daily financial activities to increase their performances.

4.4 Interpretation of Research Findings

The study objective was to establish the effect of financial innovation on financial performance: a case study of deposit-taking savings and credit cooperative societies in Kajiado County. The assessment of the objective was conducted both through primary and secondary data and the ensuing analysis based on the variables of the study.

From the regression coefficient in Table 4.9 above, holding product innovation, process innovation and organizational innovation constant ROA will be 1.103. All the explanatory variables are statistically significant at 5% level of significant in explaining the variation in financial performance of deposit-taking savings and credit cooperative societies. Process innovation is statistically significant and positively related to the financial performance of deposit-taking savings and credit cooperative societies. A unit increase in process innovation will lead to a 0.463 increase in ROA. Also a unit increase in organizational innovation will lead to a 0.654 increase in ROA. Moreover, a unit increase in product innovation will lead to a 0.852.

Further, Table 4.10 shows the regression coefficients on ROE. Holding product innovation, process innovation and organizational innovation constant ROA will be 4.478. All the explanatory variables are statistically significant at 5% level of significance in explaining the variation in financial performance of deposit-taking savings and credit cooperative societies. Product innovation is statistically significant and positively related to the financial performance of deposit-taking savings and credit cooperative societies. A unit increase in product innovation will lead to a 0.802 increase in ROE. Also a unit increase in process innovation will lead to a 0.493 increase in ROE. Moreover, a unit increase in organizational innovation will lead to a 0.715.

Further, in Table 4.9 the study results indicated in ROA that the t-ratio for product innovation to FP was 6.569, the ratio being significant at 5% level of significance which indicates that product innovation throughput is a significant predictor of financial performance of deposit taking SACCOs. Also the t-ratio for process innovation to FP was 3.968, the ratio being significant at 5% level of significance which indicates that process innovation throughput is a significant predictor of financial performance of deposit taking SACCOs. Further, it was indicated that the t-ratio for organizational innovation to FP was 0.1425; this indicates that organizational innovation is a significant predictor of financial performance of deposit taking SACCOs. This implies that as the value of product innovation, process innovation and organizational innovation increases financial performances increase.

In Table 4.10 the study results indicated in ROE that the t-ratio for product innovation to FP was 8.41, the ratio being significant at 5% level of significance which indicates that product innovation throughput is a significant predictor of financial performance of deposit taking SACCOs. Also the t-ratio for process innovation to FP was 0.18, the ratio being significant at 5% level of significance which indicates that process innovation is a significant predictor of financial performance of deposit taking SACCOs. Further, it was indicated that the t-ratio for organizational innovation to FP was 3.34; this indicates that organizational innovation is a significant predictor of financial performance of deposit taking SACCOs. This implies that as the value of product innovation, process innovation and organizational innovation increases financial performances increase. Thus from the above findings financial innovation contributes most to ROA and then followed by ROE and that at 5% level of significance and 95% level of confidence, product innovation, process innovation and organizational innovation were all significant in ROA and ROE.

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The main purpose of this study was to establish the effect of financial innovation on financial performance of deposit-taking SACCOs in Kajiado County.

The first objective of the study was to analyze the effect of product innovation on financial performance of deposit-taking SACCOs. From the analysis of the findings it was revealed that electronic banking mean 3.96, mobile banking with a mean of 4.21 and a standard deviation of 0.845 and introduction of new loans mean 3.31. When there is an increased issuance of loans by SACCOs, the interest charged on such loans improves the financial performance of the SACCOs. Examples of new loan packages in the SACCOs under study include development loans, school fees loans, emergency loans, supra loan and biz Loan.

The second objective was to establish the effect of process innovation on financial performance of deposit-taking SACCOs in Kenya. According to the analysis of the findings it was revealed that process innovation affected financial performance as on statements that real time gross settlement systems with a mean of 3.57, office automation (the use of computers in the office) with a mean of 3.93, and on loan tracking systems with

a mean of 4.16. It is true that innovation on financial performance of banks in Kenya through the use of RTGS and internet led to an increase in the financial performance of firms studied.

The third objective was to establish the effect of organizational innovation on financial performance of deposit-taking SACCOs in Kenya. Based on the analysis of the findings it was revealed that with agency banking with a mean of 3.59 organizational restructuring with a mean of 3.72 and institutional expansion with a mean of 3.63 affected financial performances to a great extent. The analysis of the findings echo that the effect of agency banking on the performance of commercial banks who found out that agent banking resulted in greater uptake of financial services which resulted in more revenue. s

The study used multiple regression analysis so as to determine the effect of financial innovation on financial performance of deposit-taking SACCOs in Kajiado County. Return On Assets (ROA) and Return On Equity (ROE) were used as measurements of financial performance. From the analysis of the findings on ROA it was found that unit increase in product innovation will lead to a 0.852 increase in ROA; a unit increase in process innovation will lead to a 0.463 increase in ROA, unit increase in organizational innovation will lead to a 0.654 increase in ROA. Moreover, on ROE it was established that a unit increase in product innovation led to a 0.802 increase in ROE; a unit increase in process innovation led to 0.493 increase in ROE, unit increase in organizational innovation led to a 0.715 increase in ROE. Thus, there was a positive relationship among the variables studied.

5.2 Conclusion

The main objective of this study was to establish the effects of financial innovation on financial performance with a specific reference to deposit-taking SACCOs in Kajiado County. Financial innovation was determined using three variables. These were product, process and organizational innovations. On the other hand financial performance was measured using financial indicators which are ROE and ROA. On the effect of product innovation on financial performance, the study concluded that electronic banking, mobile banking and introduction of new loans affected financial performance. In addition, on process innovation the study concluded that use of RTGS, office automation and loan tracking systems affected financial performance of deposit-taking SACCOs in Kajiado County. It was also concluded that agency banking, organizational restructuring and expansion of institutions affected financial performance to a great extent. Further, the regression analysis revealed that there existed a positive relationship among the independent variables (process innovation, product innovation and organizational innovation) and dependent variable (Financial performance as measured by return on assets (ROA) and return on equity (ROE)).

5.3 Recommendations

The main objective of this study was to establish the effects of financial innovation on financial performance with a specific reference to deposit-taking SACCOs in Kajiado County. The following recommendations were made for policy implications:

It is evident from the findings of this study that there is a positive relationship among the independent variables (process innovation, product innovation and organizational innovation) and dependent variable (Financial performance as measured by return on assets and return on equity). These types of innovations (process innovation, product innovation and organizational innovation) should be embraced to improve service delivery on deposit taking SACCOs in Kajiado County. Automation as an attribute of process innovation should ensure improved service delivery, loan tracking systems and real time gross settlement systems. Thus, managers in

SACCOs should embrace the process, product and organizational innovations so that they can compete with banks and earn more profits.

SACCOs require qualified and experienced employees who will meet new challenges of competition particularly from banks. However, from the findings of this study, more than 58% of employees in the deposit-taking SACCOs in Kajiado County have less than 5 years' work experience. The SACCOs should strive to employ more experienced staff if they are to favorably compete with other financial institutions.

From the findings of this research, it was recommended that for the subject SACCOs to earn more profits they need to embrace the three types of innovations (process innovation, product innovation and organizational innovation) so as to increase their financial performance. For the organizational innovation, government should enhance and finance activities that are meant to bring organizational innovation in the SACCOs industry.

The government should support SACCOs to offer a variety of products and services to their members other than simple deposits and credit to encourage higher savings rates. It should also make better legislation which protects members' savings and prudential supervision of the industry.

Statutory regulations should be put in place requiring SACCOs to be registered with the Credit Reference Bureau (CRB). This will discourage loan defaulters hence sustain the liquidity of SACCOs.

This study restricted itself to three variables, that is, process innovation, product innovation and organization innovation. Further research should be carried out to determine the effect of other variables such as monetary policies and legal provisions on the financial performance of deposit-taking SACCOs. Another suggested study would be to explore on the challenges that deposit-taking SACCOs face on the development and implementation of innovative products and services and ways of addressing such challenges.

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