

**FINANCIAL INNOVATIONS AND PERFORMANCE  
OF SAVINGS AND CREDIT CO-OPERATIVES SOCIETIES IN  
KIRINYAGA COUNTY, KENYA**

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## DECLARATION

This research project is my original work and has not been presented for a degree in any other University.

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## **DEDICATION**

I dedicate this work to my family, Wambui, Nyambura and Nyakio for their love, support and encouragement during the entire duration of the course.

## **ACKNOWLEDGEMENT**

I thank the Almighty God for His guidance and providence which enabled me to undertake this study which was too involving in terms of time and resources.

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## **ABBREVIATIONS AND ACRONYMS**

<b>ATM</b>	Automated Teller Machinery
<b>CBK</b>	Central Bank of Kenya
<b>EFT</b>	Electronic Fund Transfer
<b>FOSA</b>	Front Office Service Activity
<b>NIM</b>	Net Interest Margin
<b>R&amp;D</b>	Research and Development
<b>ROA</b>	Return on Assets
<b>ROE</b>	Return on Equity
<b>SACCO</b>	Savings and Credit Co-operatives
<b>SASRA</b>	SACCO Society Regulation Authority- Kenya
<b>SPSS</b>	Statistical Package for Social Science

## **DEFINITION OF TERMS**

### **Financial Innovation**

Action of creating and popularizing new financial instruments as well as new financial technologies, markets and institutions (Haliassos, 2013).

### **Product Innovation**

Product innovation is the introduction of a good or service or improvements made to existing products (Haliassos, 2013).

### **Process Innovation**

Process innovation is the process of introducing new business processes leading to increased efficiency or market expansion (Kihumba, 2008).

### **Institutional Innovation**

Institutional innovation involves creation or changes in organizational structures, the setting up of new types of financial intermediaries, or to changes in the legal and supervisory framework (Hagel & Brown, 2013).

### **Automation**

Automation or automatic control is the use of various control system for operating various equipment such as machinery, factory processes through use of technology in order to make processes run on their own without manpower (Risukhin, 2001).

### **Return on Asset**

Return on assets (ROA) is an indicator of how profitable an organization is relative to its total assets. It gives an idea as to how efficient management is at using the assets at their disposal to generate revenue. Calculated by dividing annual earning by it are total assets (Knott, Bryce & Posen, 2003).

### **Financial Performance**

Financial performance is a subjective measure of how well a SACCO can use assets from its primary mode of business and generate revenues (Jayawardhera & Foley, 2000).

## **ABSTRACT**

SACCOS are the main drivers of economic and social development in rural areas of developing countries. In Kenya 81% of the population rely on the SACCOs to access financial services. However the use of SACCOs by Kenyans as a financial service provider has been declining. The SACCOs are faced with challenges of survival due to decline of members. The decline is attributed to the competition from other financial institutions which have embraced financial innovations. The study therefore sought to investigate the effect of financial innovations on performance of SACCOs in Kenya. The study adopted cross sectional descriptive survey research design. The target population was 60 SACCOs registered by SASRA to operate in Kirinyaga County. Stratified simple random sampling technique was used to obtain the sample size of fifty two SACCOs for the study. Primary data was collected using self-administered questionnaires while secondary data was obtained from audited financial statements. A pilot test was conducted to ascertain the validity and reliability of questionnaire. The Cronbach's alpha coefficient was used for reliability test while the content validity technique was used in validating the research instruments. Primary and secondary data was analyzed using SPSS version. The findings of the study revealed that financial innovations had a positive relationship with financial performance of SACCOs in Kirinyaga County. SACCOs should therefore embrace financial innovations which include product innovations, process innovations and institutional innovations in order to improve their financial performance. SACCOs should introduce new deposit accounts in order to increase the amount of deposits. The SACCOs should also introduce credit and debit cards in order to increase their revenue. Similarly, the SACCOs should introduce electronic fund transfer in order to increase commission fee based income. The institution should automate their operations in order to enhance efficiency. In addition, mobile banking, cashless and paperless services should be introduced in order to reduce operation costs. The firms should also change their management systems and come up with policies that will facilitate restructuring of their operations in order to improve service delivery to their customers.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the Study**

Savings and Credit Cooperative Society (SACCO) is a member-owned financial cooperative whose primary objective is to mobilize savings and afford members access to loans on competitive terms as a way of enhancing their socio-economic well-being (Kamonjo, 2014). It is formed by people having a common bond. They are important form of financial intermediary, which over the years has played a vital role in provision of financial services to their members (Bwana & Mwakujonga, 2013). In Kenya formal cooperatives started taking shape when European settlers formed the Lumbwa Cooperative Society in 1908. Currently SACCOs are credited in the world over for improving peoples' social-economic status. SACCOs are responding gradually to the dynamic and competitive financial environment and are adopting new approaches to the original model. SACCOs movement in Kenya controls over Ksh 490 billion (\$5.5 billion) in form of assets and savings, an amount equivalent to 35% of the national budget.

#### **1.1.1 Financial Innovation**

Financial innovation is the creation and popularization of new financial instruments, technologies, markets and institutions (Haliassos, 2013). It includes institutional, product and process innovation. Financial innovation can be defined as a positive change in financial intermediation or financial system (Juhakam, 2003). Financial innovation can also be referred as a process of creating and marketing of new types of securities. It is the life blood of efficient and responsive capital market (Onduko, 2013). According to Mosongo, Gichana, Ithai and Nguta (2013) financial innovations lowers 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. Changes in international financial environment and increasing integration of domestic environment lead to financial innovation.

Financial innovation is promoted when the financial authorities recognize the obsolescence of the existing statutory frame. Sundbo (2000) contends that there are three types of financial innovations namely product, institution and process innovation. Financial innovations play a key role in achievement of economic growth and competitiveness. The financial innovations enhance economic growth by creating new markets and reaching new productivity levels. Financial innovations also improves the efficiency of financial intermediation which helps investors to achieve a higher risk-adjusted rate of return and also enables some borrowers to enjoy greater availability of funds at a lower cost (Nyaga, 2015). Financial innovations allow business entities to do more business, earn more profit, employ more people, and pay higher salaries and bonuses. Financial innovations enable firms to improve their risk management skills, raise their competitive strengths, meet their customer's needs and satisfy market requirements.

Gakure and Ngumi (2014) pointed out that financial innovations bring risks and uncertainties, particularly with respect to the complexities they pose to the conduct of monetary policy. The study found that central banks monetary policy operate efficiently only in the short term and after sometime, when new instruments are introduced to the market, new challenges emerge which disrupt the performance of monetary policy. New developments in the financial environment require new regulations in order to ensure the effectiveness of monetary policy is not compromised (Gakure & Ngumi, 2014). Financial innovation and changes in monetary procedures and controls follow each other thus financial institution therefore need to change their tools, targets and operating procedures from time to time so as to cope with innovation and ensure the sustainability of the financial systems (Misati, Ighodaro, Were & Omiti, 2015).

### **1.1.2 Financial Performance**

Financial performance is a measure of how well a firm can utilize assets at their disposal to generate revenue (Kihumba, 2008). It is also used as a measure of a firm's overall financial strength over a given period of time, and the same is used to compare similar firms in the same industry or to compare industries or sectors in aggregation.

There are many different ways used to measure financial performance, but all measures should be taken in aggregation. Common items used to measure financial performance are operating income, revenue from operations and cash flow from operations (Jayawardhera & Foley, 2000). The major ratios used to measure profitability include Return on Asset (ROA), Return on Equity (ROE) and Net Interest Margin (NIM) (Murthy, 2015). ROA measure the ratio of income to its total asset and it is used to indicate the profitability of a firm (Khrawish, 2014). It measures the ability of an organization's to generate income by utilizing assets entrusted to the Management.

Net Interest Margin (NIM) is a measure of the difference between the interest incomes generated by a firm over the amount of interest paid out to lenders, relative to the amount of the organization assets. The same is expressed as a percentage of what the financial firms earns on loans over a given 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 period (Knott, Bryce & Posen, 2003). ROE is a financial ratio that measures the amount of profit a company earned compared to the total amount of shareholder fund invested (Shapiro, 2008).

### **1.1.3 Relationship between Financial Innovations and Performance of SACCOs**

Financial innovation is used by financial institutions as formidable strategic tool to outshine competition and is an essential means for the institutions to maintain their effectiveness and improve their performance in the market (Batiz & Woldeesenbet, 2006). In the current dynamic and competitive business environment, a firm must continuously develop products and product lines in order to satisfy the constantly changing needs and desires of customers and maximize its set objectives in terms of sales volume, market share and profitability (Grundiche, 2004). Elements of operations performance that include quality, speed, efficiency and flexibility are related to the firm's performance in product and process innovation (Kimani, 2016). Higher performance and continuing efforts in innovations boosts organizational learning and improves the quality and speed of the operations. Therefore innovation advancements can be incorporated easily and any quality or design deficiencies can be overcome faster resulting in better performance (Coad & Rao, 2008).

Product innovation offers a potential protection to a firm from market threats and competitors (Becheikh, Landry & Amara, 2006). Susman, Warren, Ding & Stites, (2006) proved that product innovation had positive and significant link with financial performance. All financial innovation strategies are implemented using a few basic techniques such as increasing or reducing risk, pooling risk, swapping income streams, splitting income streams and connecting long-term obligation into short-term ones (Onduko, 2013). Innovation strategy is determinant of Sacco financial performance and provides additional insight into the indirect contribution of the individual dimensions of innovation strategies to Sacco performance.

#### **1.1.4 SACCO's in Kenya**

A cooperative organization is a voluntary organization established by people on the basis of cooperation and equality to safeguard their common economic interests (Kamonjo, 2014). Credit cooperatives are formed with the purpose of providing short-term loans and develop the habit of saving. Members of these organizations benefit from favorable terms catered to their needs as compared to other large financial institutions like commercial banks (SASRA, 2014). In Kenya, SACCOS play a critical role in financial sector serving 81% of the population (Kiragu, 2015). As financial intermediaries, SACCOs provide saving opportunities and credit facilities mainly to the poor leaving in the rural areas. The SACCO's mobilize over Kshs.200 billion, which is approximately 31% of the total national savings in Kenya [Central Bank of Kenya (CBK, 2011)].

#### **1.1.5 SACCOs in Kirinyaga County**

Kirinyaga County has 60 registered SACCO societies which account for over 2% of the total assets and deposits in the entire financial sector. The movement is estimated to have over Ksh. 10 billion in savings and over Ksh. 2.5 billion in share capital while employing about 500 directly and another 1,000 indirectly (SASRA, 2014).



## **1.2 Statement of the Problem**

The SACCOs sector is vital for the growth of the developing economies such as Kenya. SACCOs have been playing a distinct and important role of providing financial services in rural areas and low income individuals in urban areas. However, member seeking financial services from SACCOs in Kenya has been declining (Kiragu, 2015). The decrease has been from 13.5% in the year 2009 to 9.1% in the year 2013. In the same period customers who accessed commercial banks for the same services grew from 13.5% to 29.2% (Kiragu, 2015).

The SACCOs are faced with challenges of survival due to decline of members despite their geographical spread compared to other financial providers in the country (Kiragu, 2015). This trend in loss of customers is attributed to the competition from banks which have embraced financial innovations thus being able to offer better services like easy access transaction accounts and consumer loans through mobile and internet platforms (SASRA, 2014). This scenario has sparked off stiff competition for customers between SACCOs and these other Financial Institutions.

Studies have been conducted on financial innovations locally and internationally. Mutuku (2014) conducted a study on relationship between financial innovation and efficiency of SACCOs in Kenya. Maorwe (2012) studied the factors that influence the implementation of strategic plans in SACCOs in Imenti North District-Kenya. Mbiti & Weil (2011) conducted a survey on the relationship between financial innovations and financial performance of banks in Kenya. Muthui (2013) conducted a study on the effects of ICT on corporate strategy of SACCOs in Nyeri County. From existing literature, there is scanty data on the effect of financial innovation on performance of SACCOs in Kirinyaga County. Furthermore, in spite of an extensive descriptive literature on financial innovation, there is a paucity of empirical studies on effect of product, process and institutional innovation and its effect on financial performance of the SACCOs. This study therefore, intends to fill this research gaps by investigating the effect of product, process and institutional innovation on financial performance of SACCOs in Kirinyaga County.

### **1.3 General objectives**

The general objective of this study was to assess the effect of financial innovations on performance of Sacco's in Kirinyaga County, Kenya.

#### **1.3.1 Specific Objectives**

- i. To determine the effect of product innovations on financial performance of SACCOs in Kirinyaga County
- ii. To establish the effect of process innovation on financial performance of SACCOs in Kirinyaga County
- iii. To evaluate the effect of institutional innovation on financial performance of SACCOs in Kirinyaga County

### **1.4 Research Questions**

- i. How does product innovation affect financial performance of SACCOs in Kirinyaga County?
- ii. What effect does process innovation have on the financial performance of SACCOs in Kirinyaga County?
- iii. What effect does institutional innovation have on the financial performance of SACCOs in Kirinyaga County?

### **1.5 Scope of the Study**

The study covered SACCOs licensed by the Ministry of industrialization and enterprise Development to operate in Kirinyaga County. The SACCOs which formed the unit of analysis of the study were those that were in operation by 31st December 2015. The financial innovations used in the study are product, process and institution innovation. The financial performance measures used in the study are income, profit before tax, return on assets and customer deposits. The study was conducted in Kirinyaga County because the county was the third richest county according to a research conducted by Kenya National Bureau of Statistics (KNBS) in the year 2015 after Nairobi and Kiambu. However, the county is situated in a rural area where the residents highly depend on SACCOs for their financial services (SASRA, 2013).

## **1.6 Significance of the Study**

The study is of great importance to Policy makers, SACCO Managers and Researchers. This study has policy implications and recommendations which may be used by government policy makers in structuring policies to create an enabling environment to SACCO operations in the country. Findings and conclusions of this study can be of significance to the Management of SACCOs in the banking sector. Scholars and researchers shall find this study quite of interest due to the gaps for further research that shall be produced at the end of this study. Excerpts of this study has been published in renowned journals and is also available within the University repository systems for access to researchers

## **1.7 Limitation of the study**

The study was conducted in SACCOs operating in Kirinyaga County. The SACCOs are member owned and do not publish their financial statements. Obtaining information from the respondents was therefore challenging because they were not willing to disclose some information which they considered as confidential. The study therefore assured the respondents that the information will be used for academic purposes only and their identity will not be disclosed.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter discusses the theoretical review, conceptual framework, empirical review, summary of the reviewed literature and research gaps.

#### **2.2 Theoretical Review**

A theory is a reasoned statement or group of statements, which are supported by evidence meant to explain certain phenomena. Theories provide a generalized justification to an occurrence. Therefore a researcher should be conversant with those theories applicable to the area of research (Kombo & Tromp, 2009). Trochim (2006) argue that theoretical framework guides research, determines what variables to measure and what statistical associations to look for in the context of the problem under study. Thus, the theoretical literature helps the researcher see clearly the variables of the study, provides a general framework for data analysis and helps in selection of applicable research design (Kombo & Tromp, 2009).

##### **2.2.1 Theory of Changes in Perceived Market**

Allen and Gale (2005) described the theory of changes in perceived markets arise when existing markets fail to provide needed products. Allen and Gale noted that when markets turn hostile, it is no surprise that managers are tempted to extend their brands vertically that is to take their brands into seemingly attractive markets above or below their current position. These vertical extensions are sometimes a strategic imperative but they can be dangerous. The theory attempts to explain how a consumer's view on a certain good or services influences their behavior. Usually, consumer perception theory is used by marketers when designing a campaign for a product or brand. Changes are already being seen, with SACCOs beginning to improve their services. For instance, they have introduced friendly and fast credit services in their FOSAs where members can access loans in 24 hours. In addition members are not required to have guarantors. In spite of stiff competition these institutions have managed to sustain a large chunk of their membership.

### **2.2.2 Theory of Development of New Technology**

The theory of development of new technology was put forward by Patrick and Christian in 1988. They argue that development of new technology can stimulate financial innovation by lowering the cost of providing new financial services and instrument by using computers and telecommunication. The rapid development of technology in the financial sector, the introduction of new communication and transmission system also speeds up information flow. The basic underlying physical technologies of financial are those of telecommunication and data processing, which permit the gathering of information.

Patrick and Christian (2008) emphasized that economic growth results from the increasing income associated with new knowledge. Knowledge has different properties than other economic goods. One can have an opportunity for boundless growth in an economy through increasing knowledge rather than labor or capital creates. Most markets fail to produce enough knowledge because innovators cannot capture all gains related with creating new knowledge. And because knowledge can be infinitely reused at zero marginal cost, the firms which utilize knowledge in production can enjoy quasi-monopoly profits

### **2.2.3 Institutional Theory**

Institutional theory was advanced by Meyer and Rowan's in 1977. The theory asserts that the organizational environment can strongly influence the growth of formal structures in an organization, often more intensely than market pressures. Early adopters of innovative structures that improve technical efficiency are legitimized in the environment. Innovations reach a level of legitimization where failure to adopt them is seen as negligent or illogical or the innovations become mandatory. At this point all organization operating in the market will be forced to adopt the innovative structure even if the innovation doesn't improve efficiency.

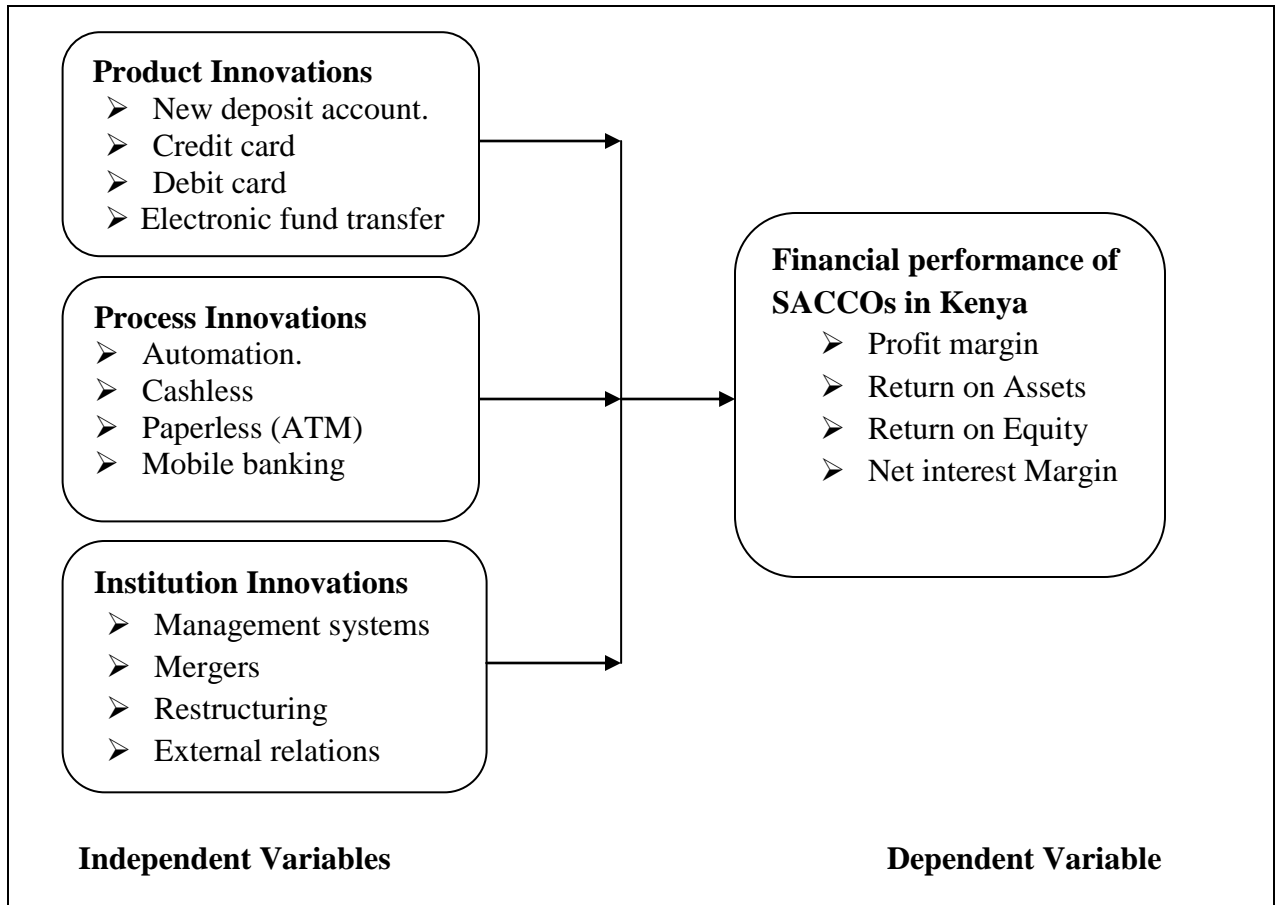
Meyer and Rowan's (2010) argues that often these "institutional myths" are merely accepted in order for the organization to attain or sustain legitimacy in the market environment. Organizations adopt the "vocabularies of structure" prevalent in their environment such as specific job titles, procedures, and organizational roles. The adoption and prominent display of these institutionally-acceptable "trappings of legitimacy" help preserve an aura of organizational action based on "good faith". Legitimacy in the institutional environment helps ensure organizational survival.

#### **2.2.4 Constraint Induced Financial Innovation Theory**

Constraint-induced financial innovation theory was advanced by American economist Silber in 1983. The study pointed out that the key reason of financial innovation is to maximize profitability. As the organization pursue profit maximization some restrictions (such as external constrains such as policy and internal constrains such as organizational management). Though these handicaps not only guarantee the stability of management, they reduce the efficiency of financial institution, and therefore the financial institutions strive toward casting them off. The theory further argues that growth is driven not just by entrepreneurs who spring up to commercialize the new technology in order to maximize their return but also by financial entrepreneurs who innovate new ways to screen and fund the technologists. He further argued that financial innovations can be adapted to give an organization some competitive edge and meets consumer and market demands.

### **2.3 Conceptual Framework**

A conceptual framework is a set of broad ideas and principles taken from relevant fields of inquiry and used to structure a subsequent presentation (Reichel & Ramey, 2007). It shows the relationship between dependent and independent variables through a diagram (Gemino & Ward, 2004). The independent variables in this study are product innovation, process innovation and institutional innovation. Financial performance of Saccos in Kirinyaga County areas in Kenya is the dependent variable.



**Figure 2.1:** Conceptual framework on the effect of financial innovation on performance of SACCOs.

### 2.3.1 Product Innovation

Product innovation refers to innovations of new or modified financial services such as the introduction of new deposit accounts, credit card, debit card, leasing and hire purchase insurance among other financial products (Haliassos, 2013). Introducing new products to the market is an important way by which organizations adapt or respond to increasing global competition, rapidly changing customer demands, technological advancements, and shorter product life cycles (Brown & Eisenhardt, 2009). Developing new products is of the highest importance for the survival of firms. This not only refers to really new products, but firms also need to invest in modifying their existing products. Small and medium-sized companies such as SACCOs are no exception to this rule. Entrepreneurs embrace product innovations In order to respond to changes in market demand or to improve organization efficiency (Maulana, 2016).

### **2.3.2 Process Innovation**

Process innovation is the process of introducing new business processes leading to increased efficiency or market expansion (Kihumba, 2008). Examples include office automation and use of computers with accounting and client data management software. Process innovation is associated with downsizing, restructuring, automation more use of technology, delayering, flattening the hierarchy, reorganizing and total quality management while related to some of these terms. Process innovations aim at minimizing organization operating costs and time as well as building customer loyalty and to improve portfolio management in order to improve overall organization financial performance (Kihumba, 2008). Process innovation is critical for organization growth for the reason that without excellence in process innovations, other innovations will not possible to implement (Tsuma, Musiega, Albert & Douglas, 2015).

### **2.3.3 Institutional Innovation**

The institutional innovation entails both the creation of new institution and change in existing institution (Hargrave & Van deVen, 2006). The institutional innovation can occur alongside a continuum that ranges from more radical or disruptive, such as the creation of new institutions, to less incremental or disruptive innovation, such as the modification of existing institutions. Institutional innovation is challenging and often met with resistance, friction, and contestation because of the dynamic tension between innovative change and institutional: “When innovations meet institutions, two social forces collide, one accounting for the strength of social systems and the other for change” (Hargadon & Douglas, 2001).

## **2.4 Empirical Review**

A number of studies regarding financial innovation have been conducted both internationally and locally. Crepon, Duguet & Mairessec, (2008) carried out a study on the relationship between innovation and performance in Sweden. The study used four-equation model to relate the firms’ innovation decision to their performance. The findings confirm that there exist positive relationship between innovation activities and productivity at the firm level and provide further evidence on the relationship between size and innovation activities.



Tufano (2003) carried out a study on consequences of financial innovations in the financial services industry in North-Holland. The study used a sample of 58 innovations to test whether investment banks that create new securities benefit by charging higher prices than imitators or by capturing larger quantities. The study concluded that innovation is an essential element for economic progress of a country as well as the competitiveness of an industry. Mwangi (2013) carried out a study on factors influencing innovation of companies listed of the Nairobi Securities Exchange in Kenya. His study used descriptive research design. The population of the study comprised of 1,102 active SACCOs in Nairobi County from which a sample of 56 SACCOs was selected for the years 2010 to 2012. Data Envelopment Analysis (DEA) was used to measure technical efficiency of the SACCOs. The study concluded that the legal framework protecting investors in the Nairobi Security Exchange in Kenya was the major cause influencing financial innovation.

A study by Stavins (2011) in US on the effect of consumer characteristics on the use of payment instruments on community banks. The study used data from the 2008 Survey of Consumer Finances and found that consumers differed on how they used payment options depending on gender, size of transactions and occupation. The study further established that community banks that adopted many payment options did better than their peers. This study further revealed that in the short-term, innovative firms can capture early mover advantages such as carving out attractive market share and forging customer loyalty. In the longer term, innovative firms can influence regulatory regimes and have strategic competitive advantages than their peers.

Ngugi and Karina (2013) studied the effect of products innovation on performance of SACCO's in Kenya. They found that product range of SACCO's can only be possible if SACCO's are going to adopt innovation strategies such as product replacement, product repositioning and conformance to variety of products that will contribute to the SACCO's profitability. They concluded that adoption of product innovation which would be translated to a wide range of SACCO's credit products would increase profitability of the SACCO's through access to credit. However the study dwelt on products innovation in SACCO's at the expense of the performance of the SACCO's.

## **2.5 Summary of Literature Review**

The theory of changes in perceived markets explains that marketing is centered in the idea that a producer will create products of value to their consumers who in turn are willing to pay enough to make the venture worthwhile considering opportunity costs. Value can be created in a number of different ways for instance some SACCOs provide products such as deposits and loans while others make products whose tangible value is supplemented by services such as mobile banking. The theory of development of new technology provides that technology can influence process innovation in SACCOs inform of time utility, place utility and possession utility. Place utility refers to the idea that a product is made available to the customer at a preferred location is worth more than one at the place of the provider for example SACCOs' Headquarter. It is much more convenient for the customer to be able to access SACCOs' services through ATM or SACCO's agents rather than from the SACCOs' offices. Time utility entails the idea of having the product and services made available when demanded by the customer.

Institutional perspective theory provides that SACCOs can target a particular segment of the market as their target market for example teachers, farmers, and women. If a SACCO plans to provide their services to women as their target customers, they will create a large base of their customers as women and most women in the community will associate with that particular SACCO. Constraint-induced financial innovation theory, SACCOs operate under established guidelines such as no membership fee, no minimum balance, in order to achieve their objectives. With these in consideration, as the SACCO grows there is higher operation cost hence need for more money to finance it.

This leaves the SACCO at a point where they have to establish an alternative means for raising these funds without contravening the set guidelines. Therefore, the SACCOs will create new ideas by establishing new products like safe keeping of valuable items such as title deeds, log books, at a fee.

## **2.6 Research Gaps**

From the review of relevant literature, it is evident that research in the area of SACCO innovations has been done both locally and internationally. However, there are no comprehensive studies relating to the effect of financial innovation on performance of SACCOs in Kirinyaga County in Kenya. Therefore, this study will attempt to fill these gaps and establish the impact of financial innovations on the financial performance of SACCOs in Kenya.

## CHAPTER THREE METHODOLOGY

### 3.1 Introduction

In this chapter, procedures and strategies that were used in the study are described. The research design, target population, sampling technique and sample size, research instruments for collecting data, pre-testing, data processing and analysis are discussed.

### 3.2 The Research Design

The study adopted cross sectional descriptive survey research design. Descriptive research is the investigation in which data is collected and analyzed in order to describe the specific phenomenon in its current trend, current events and linkages between different factors at the current time. Descriptive research design was chosen because it enables one to generalize the findings to a larger population.

### 3.3 The Target Population

The targeted population was 60 SACCOs registered to operate in Kirinyaga County. The sampling frame for this study was the list of all SACCOs registered in Kirinyaga County.

### 3.4 Sampling Technique and Sample Size

The study used sample of 52 SACCOs that was determined through slovin formular as shown in equation 3.1.

$$n = \frac{N}{1+N(e)^2} \qquad n = \frac{60}{1+60(0.05)^2} = 52 \dots \dots \dots \text{Equation 3.1}$$

Where: n is the Sample size, N is total population, e is the margin error of 0.05 based on 95% confidence level

Stratified simple random sampling technique was employed in selecting the SACCOs as shown in Table 3.1. The respondents were SACCO Managers thus one questionnaire was administered in each selected SACCO.

**Table 3.1: Sample Selection**

<b>Sub-County</b>	<b>Population</b>	<b>Sample size</b>	<b>Percentage</b>
Kirinyaga central	24	21	40
Kirinyaga east	16	14	27
Kirinyaga west	8	7	14
Kirinyaga south	12	10	19
<b>Total</b>	<b>60</b>	<b>52</b>	<b>100</b>

### **3.5 Data Collection Instruments**

Primary and secondary data was used in this study. Questionnaires were used to collect the primary data while the secondary data was obtained from various audited financial statements.

### **3.6 Data Collection Procedures**

Primary data was collected from SACCO managers using self-administered semi-structured questionnaire. This is because SACCOs managers had adequate knowledge about the financial innovations and performance of the SACCOs Secondary data was collected through audited financial statements of the organizations.

### **3.7 Pre-testing of Research Tools**

Six questionnaires were administered in six SACCOs to test the degree of accuracy of the instruments that was used during data collection. The six SACCOs were not sampled in the final study.

#### **3.7.1 Reliability Test**

Cronbach's alpha reliability coefficient was used to test the reliability. The study used reliability coefficient value of 0.7 as a cut-off. The results of the reliability test produced overall Cronbach Alpha correlation coefficient value of the variable ranging between 0.799 and 0.817.

### 3.7.2 Validity Test

To establish the validity of the research instruments, content validity was used to assess whether the tools were likely to provide valid data. The study sought opinion from the supervisors and experts in the research field. This enabled the necessary revision of the research instruments in order to enhance their validity.

### 3.8 Data Processing and Analysis

The data obtained from the questionnaires were both qualitative and quantitative. After data collection, the questionnaires were scrutinized, edited, coded and cleaned for analysis. The quantitative data was analyzed using descriptive statistics tools such as the mean, mode, median, standard deviation and variance as shown in Table 3.2. These tools was used to describe and determine the respondent's degree of agreement or disagreement with various statements under each variable (Mugenda & Mugenda, 2011). Qualitative data are reported as attribute of numbers. The result was presented in form of percentages, tables and graphs.

The study applied multiple regression models to examine the relationship between financial performance and financial innovations among SACCOs as used by Gakure and Ngumi (2013) in a study that was evaluating effect of bank innovations on financial performance of commercial banks in Kenya. Multiple regression determine whether a group of variables together predict a given dependent variable. In this study financial performance was regressed against three independent variables namely Product, Process, and Institutional Innovation. The overall significance of the model was tested using analysis of variance by use of F statistics at 95% confidence level while the coefficient of determination  $R^2$  will be used to show the contribution of independent variables on the dependent variable. The regression model that was applied in this study is as shown in equation 3.2.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \dots\dots\dots \text{Equation 3.2}$$

Where;

$Y$  Is the financial performance of SACCOS,  $\beta_0$  Is the constant or coefficient of intercept,  $X_1$  Is product innovation,  $X_2$  is process innovation,  $X_3$  is institutional innovation,  $\beta_1... \beta_3$  is the corresponding coefficients for the respective independent variables and  $\varepsilon$  is Error term (Disturbance factors) which represents residual or values that are not captured within the regression model.

**Table 3.2: Statistical Analysis Table**

<b>Objectives</b>	<b>Independent variables</b>	<b>Dependent variables</b>	<b>Statistical tools</b>	<b>Means of data collection</b>
To determine the effect of product innovations on financial performance of SACCOS in Kirinyaga County	Product innovation	Financial performance of SACCOS in Kirinyaga County	Mean, mode, standard deviation and variance	Questionnaire and record survey sheet
To establish the effect of process innovation on financial performance of SACCOS in Kirinyaga County	Process innovation	Financial performance of SACCOS in Kirinyaga County	Mean, mode, standard deviation and variance	Questionnaire and record survey sheet
To evaluate the effect of institutional innovation on financial performance of SACCOS in Kirinyaga County	Institution innovation	Financial performance of SACCOS in Kirinyaga County	Mean, mode, standard deviation and variance	Questionnaire and record survey sheet

## CHAPTER FOUR

### RESEARCH FINDINGS AND DISCUSSIONS

#### 4.1 Introduction

This chapter discusses the response rate, background information, descriptive findings and inferential findings. Results were presented in charts and tables. The analysed data was arranged under themes that reflect the research objectives.

#### 4.2 Response rate

The number of questionnaire that was administered to the sampled respondents was 52. A total of 39 questionnaires were dully filled and returned. This represents a response rate of 75% which is sufficient to give the findings adequate credence and reliability. The response rate is considered adequate given the recommendations by Sekaran (2003) who suggests 30% response while Nulty (2008) indicated that a response rate of more than 70% is acceptable. Babbie (2004) also asserted that return rates of 50% are acceptable to analyse, 60% is good and 70% is very good.

#### 4.3 Pre-testing Results for Research Instruments

The study sought to determine the reliability of the research instruments. The results are as shown in Table 4.1. The results of the reliability test produced overall Cronbach Alpha correlation coefficient value of the variable ranging between 0.799 and 0.817. The closer Cronbach's alpha coefficient is to 1, the higher the internal consistency reliability (Sekaran, 2003). All the instruments met threshold of 0.7 and therefore the instruments were reliable.

**Table 4.1: Cronbach Alpha for Reliability Assessments**

<b>Variables</b>	<b>Number of items</b>	<b>Cronbach Alpha Values</b>
Product Innovation	4	0.836
Process Innovation	4	0.799
Institutional Innovation	4	0.817

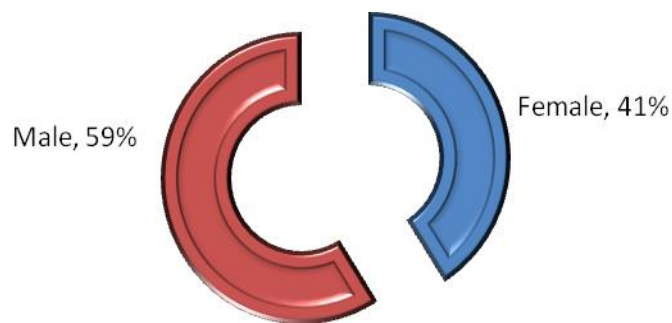


#### 4.4 Background Information

The study collected information regarding general characteristics of the respondents and the institution they work in. The information was grouped in terms of their gender, education level, the year their institution were registered and the sub-county of their operations.

##### 4.4.1 Gender of the respondents

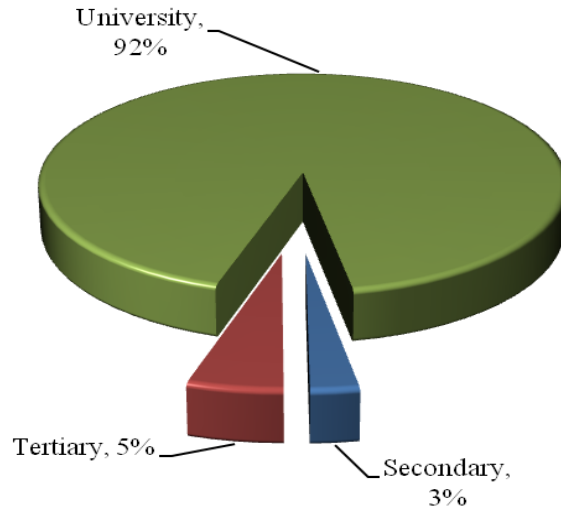
The study sought to know the gender of the respondents. Findings from the study revealed that majority (59%) of the respondents were male while (41%) were female. This shows that leadership in Kirinyaga County SACCOs is male dominated. The findings are in line with those of Kamonjo (2014) who carried a study on Corporate Governance Practice and its Effect on Financial Performance in SACCOs. The study found that leadership in SACCOs is male dominated.



**Figure 4.1: Gender of the respondents**

##### 4.4.2 Distribution of Respondents by Academic Qualifications

The study sought to determine the distribution of respondents according to their academic qualifications. The study found that majority (92%) of the respondents had attained University education level, five percent (5%) had tertiary qualification whereas three percent (3%) had attained secondary education level. This finding indicates that majority of the SACCOs were run by qualified staffs hence had positive impact on the innovation and organization growth and thus they were knowledgeable on management issues. This finding is in line with the recommendation of SASRA (2013) that education enhances the capacity of staff to improve governance and efficiency in service delivery.



**Figure 4.2: Education level**

#### 4.4.3 Distribution of SACCOs by Period of Registration

The study also sought to find out the duration the SACCOs have been in operation. Table 4.2 shows the results of the analysis. The findings of the study indicates that majority (36%) of the SACCOs have been in operation for a period of 6-10 years, 26% have been in operation for over 20 years, 23% between 11-15 years, 10% between 16-20 years while 5% of the SACCOs had been in existence for a period between 0-5 years. The finding indicates that most of the SACCOs have been in operation for over ten years. This implies that the SACCOs have relevant information and experience in the industry and thus they can provide relevant information sought by the study. The findings are in line with Karanja (2011) who asserted that the period a firm has been in operation shows the financial stability and experience in the industry it operates in.

**Table 4.2: Distribution of SACCOs by Period of Registration**

Period of Registration	Frequency	Percent
0 - 5 Years	2	5.1
6 - 10 Years	14	35.9
11 - 15 Years	9	23.1
16 - 20 Years	4	10.3
20 Years and above	10	25.6
<b>Total</b>	<b>39</b>	<b>100.0</b>

#### 4.4.4 Distribution of SACCOs by Members

The study also sought to ascertain the distribution of SACCOs based on their members. The results are as shown in Table 4.3. The study found that majority (62%) of the SACCOs had members below 500 whereas those with members above 2000 accounted for 18%. SACCOs with members between 501-1000 and 1501-2000 accounted for 8% each. Few (5%) of the SACCOs had members between 1001 -1500. The finding implies that majority of SACCOs have few members. The finding are in line with those of Ruttoh (2015) who carried out study on the factors influencing growth of Cooperative societies in Nandi Central district, Nandi county, Kenya. The study found that there was slow membership growth of SACCO in Nandi County due to competition.

**Table 4.3: Distribution of SACCOs by Members**

<b>SACCOs Members</b>	<b>Frequency</b>	<b>Percent</b>
Below 500 Members	24	61.5
501 - 1000 Members	3	7.7
1001 - 1500 Members	2	5.1
1501 - 2000 Members	3	7.7
2001 Members and above	7	17.9
<b>Total</b>	<b>39</b>	<b>100.0</b>

#### 4.4.5 Distribution of Respondents by Sub-county

Respondents were classified according to their Sub-county in which they operate. Table 4.4 shows the distribution of respondents based on their Sub-county of operations. The result of the study shows that majority (51%) of the respondents were drawn from Kirinyaga central sub-county. In addition, 26% were drawn from Kirinyaga east sub-county, 15% from Kirinyaga south while 8% were drawn from Kirinyaga west sub-county. This implies that most of the SACCOs are located in major administrative towns of Kirinyaga County that is Kerugoya and Kianyaga town. The finding concur with KNBS (2015) report which indicated that majority of the SACCOs are located in major administrative towns. The study found that more than 50% of the Kenyan SACCOs are located in Nairobi which is the capital city of Kenya.

**Table 4.4: Distribution of Respondents by Sub-county**

<b>Sub-counties</b>	<b>Frequency</b>	<b>Percent</b>
Kirinyaga Central	20	51.3
Kirinyaga East	10	25.6
Kirinyaga West	3	7.7
Kirinyaga South	6	15.4
<b>Total</b>	<b>39</b>	<b>100.0</b>

**4.4.6 Innovation Factors**

The study examined the factors that influenced SACCOs to embrace innovations. The findings resulting from the analysis are presented in Table 4.5. The study established that majority (59%) of the respondent agreed that competition is the key factor that influenced their organization to embrace innovation while 33% indicated that profitability pushed their organization to embrace innovation. In addition, 8% of the respondent stated that customer demand was the driver behind their organization embracing innovation. This implies that innovation is one of the strategies that enable SACCOs to improve their financial performance and be competitive in the market. This is consistent with a study by Korir (2013) who found that financial innovation has a positive effect on the profitability of commercial banks and their competitive advantage.

**Table 4.5 Distribution of Respondents Based on Innovation Factors**

<b>Innovation Factors</b>	<b>Frequency</b>	<b>Percent</b>
Competition	23	59.0
Profitability	13	33.3
Customers	3	7.7
<b>Total</b>	<b>39</b>	<b>100.0</b>

**4.4.7 Key Innovation in Service Delivery**

The study also sought to establish innovations that SACCOs consider as key success in service delivery. The findings in Table 4.6 indicate that majority (97%) of the respondent agreed that mobile banking technology is key in service delivery. A few (3%) of the respondents stated that restructuring of the institutions is a key factor in service delivery. This shows that most of the SACCOs use mobile banking technology and the same has enabled the SACCOs to efficiently serve their customers.

This finding is consistent with a study by Njenga, Kiragu and Opiyo (2015) which asserted that the main driver for the rapid development of mobile banking is due to the services that it offers which are less expensive and have a geographical footprint defined by the reach of mobile networks in contrast to services offered by traditional retail bank branches, which are out of reach for many people in rural areas from both an economic and geographical perspective.

**Table 4.6 Key Innovation in Service Delivery**

<b>Innovation in Service Delivery</b>	<b>Frequency</b>	<b>Percent</b>
Mobile banking technology	38	97.4
Restructuring of the institutions	1	2.6
Insurance services	0	0
Investment banking	0	0
Profitability	0	0
<b>Total</b>	<b>39</b>	<b>100.0</b>

#### **4.4.8 Product Innovation Strategies Key in Customer Satisfaction**

The study sought to establish the product innovation strategies that SACCOs consider as a key success in customer satisfaction. Table 4.7 indicates that 82% of the respondents were of the opinion that money transfer services is a key success in customer satisfaction, 15.4% stated that products tailored to favor certain group are critical in attaining customer satisfaction whereas 2.6% stated that new deposit account has a positive effect on customer satisfaction. The finding implies that money transfer services were crucial in customer satisfaction than tailored product and new deposit account. This implies that introducing money transfer services in a SACCO will enable the SACCO to satisfy its customers and thus improve the financial performance. The finding concurs with a study by Ngumi (2013) which found that money transfer services have transformed bank business and this has translated to more incomes and profits.

**Table 4.7 Product Innovation Strategies Key in Customer Satisfaction**

<b>Innovation Strategies</b>	<b>Frequency</b>	<b>Percent</b>
New deposit account	1	2.6
Money transfer services	32	82.0
Product tailored to favor certain group	6	15.4
<b>Total</b>	<b>39</b>	<b>100.0</b>

**4.4.10 Process Innovation Strategies Ideal in Realization of High Turnover**

Respondents were further requested to provide information concerning process innovation which they consider as key factor in realization of high turnover. Figure 4.8 shows the response on statement regarding process innovation strategies ideal in realization of high turnover. Seventy four percent (74%) of the respondents indicated that office automation is ideal in realization of high turnover, 18% stated that electronic fund transfer whereas 8% agreed that internet banking is ideal in realization of high turnover. This implies that automating SACCO operations for instance introducing automated teller machines, debit and credit cards, point of sale terminals, mobile banking, internet banking and electronic funds transfer enhances efficiency in service delivery and thus attract more customers which in turn increase turnover. Mansury & Love (2008) asserted that automation of bank operations is among the major changes in internal banking systems that have had a positive influence on banking performance and profitability

**Table 4.8 Process Innovation Strategies Ideal in Realization of High Turnover**

<b>Process Innovation</b>	<b>Frequency</b>	<b>Percent</b>
Office automation	29	74.4
Electronic fund transfer	7	17.9
Internet banking	3	7.7
<b>Total</b>	<b>39</b>	<b>100.0</b>

## **4.5 Descriptive Finding and Discussion**

This section illustrates descriptive findings and discussions relative to the objectives of the study. The study focused on the following feature of financial innovation; Product, Process and Institutional innovations. The findings are presented in form of mean, standard deviations and variances. The responses are in line with a 5 point Likert scale where 5, 4, 3, 2, and 1 represented strongly agree, agree, not sure, disagree, and strongly disagree respectively.

### **4.5.1 Product Innovation**

The study sought to assess the effect of product innovations on performance of SACCOs. The findings are shown in Table 4.9. As per the table the respondent strongly agreed that introduction of new deposit account (mean = 4.49; std dev = 0.556) has increased the amount of deposits. Respondents agreed that credit card (mean = 3.95; std dev = 0.605) had a positive effect of increasing commission fee based income, and debit card (mean = 3.90; std dev = 0.641) have expanded the income generating potential of the SACCOs. The study further indicated that EFT (mean = 3.69; std dev = 0.766) had a positive effect of increasing commission fee based income of the SACCOs. This implies that when a SACCO introduce new product like new deposit account, credit cards, debit cards and electronic fund transfer the SACCO will be able to increase revenue through commission charged to customers for using the new products. The findings are consistent with the study findings by Misati, Njoroge, Kamau and Ouma (2010) which found that mobile banking as a product had expanded the range of services that a bank could offer and hence expanded incomes for banks. Similar findings were shown in a study in Uganda by Porteus (2006) and another one in Tunisia by Mabrouk and Mamogholi (2010) who concluded that mobile banking (product innovation ) helped to increase bank incomes and profitability.

**Table 4.9: Descriptive Statistic for Product Innovation**

<b>Product Innovation Statements.</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Dev</b>	<b>Var.</b>
The introduction of new deposit account has increased the amount of deposits	39	1	5	4.49	0.556	0.309
Credit card have had a positive effect of increasing commission fee based income	39	1	5	3.95	0.605	0.366
Debit card have expanded the income generating potential of the bank	39	1	5	3.90	0.641	0.410
Electronic funds transfer has had a positive effect of increasing commission fee based income.	39	1	5	3.69	0.766	0.587

#### **4.5.2 Process Innovation**

The study also analyzed the views of respondents in respect to process innovation and performance of SACCOs in Table 4.10. The finding indicates that the respondent strongly agreed (mean = 4.82; std dev = 0.389) with the statement that automation of SACCOs operations has enhanced efficiency. Respondent also agreed that mobile banking (mean = 4.36; std dev = 0.584) has had a positive effect of increasing commission fee based income. The study further indicates that cashless services (mean = 4.21; std dev = 0.695) has reduced operation costs. In addition respondents concurred (mean = 4.13; std dev = 0.570) that adoption of paperless services has reduced cost of offering services. The findings implies that when a SACCO comes up with new processes like automation of operations, cashless services, paperless services and mobile banking the SACCO will be able to reduce operating costs and also serve its customers efficiently. This will in turn boost customers' satisfactions and improve the financial performance. The findings are in agreement with study findings by Mang'ana (2015) which affirmed that SACCOs in Kenya have adopted technology in operations in order to achieve sustainable advantage over the competitors. Study by Misati, Njoroge and Ouma (2010), reveals that mobile banking has expanded the services that financial organization could offer and hence expanded the stream of incomes. Another study in Uganda by Porteus (2006) concluded that mobile banking helped to increase financial institution revenue and profitability.



**Table 4.10: Descriptive Statistic for Process Innovation**

<b>Process Innovation Statements.</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Dev</b>	<b>Var.</b>
Automation of SACCO operations has enhanced efficiency of operations	39	1	5	4.82	0.389	0.151
Cashless services has reduced operation costs	39	1	5	4.21	0.695	0.483
Adoption of paperless services has reduced cost of offering services.	39	1	5	4.13	0.570	0.325
Mobile banking has had a positive effect of increasing commission fee based income	39	1	5	4.36	0.584	0.341

### **4.5.3 Institution Innovation**

The study further inquired on the effect of institution innovations on the performance of SACCOs. The results are presented in Table 4.11. The finding reveal that the respondents admitted (mean = 4.59; std dev = 0.637) that management system has improved the service delivery. Respondent were also in agreement that Merging of SACCOs greatly enhances revenue through economies of scale and gain in market share (mean = 3.69; std dev = 0.694). The respondents also concurred with the statement that restructuring reduces costs of operation and enhances return to members (mean = 4.05; std dev = 0.647). It was also evident that SACCO performance is affected by the number of external relations with other institutions (mean = 3.92; std dev = 0.623). These findings imply that upgrading management system to meet current market demands will improve service delivery. Mergers, restructuring and forging external relations with other financial players like banks will enable SACCOs to achieve economies of scale for instance mobile banking can enable SACCO customers to easily access services through their phone.

**Table 4.11: Descriptive Statistic for Institution Innovation**

Institution Innovation Statements	N	Min	Max	Mean	Std.	
					Dev	Var.
Change in management system has improved the service delivery	39	1	5	4.59	0.637	0.406
Merging of SACCOs greatly enhances revenue through economies of scale and gain in market share.	39	1	5	3.69	0.694	0.482
Restructuring reduces costs of operation and enhances return to members	39	1	5	4.05	0.647	0.418
SACCO performance is affected by the number of external relations with other institutions	39	1	5	3.92	0.623	0.389

#### 4.5.4 Financial Performance

The study sought to determine the respondent's level of agreement with effect of financial performance on the performance of SACCOs. Table 4.12 indicates that the respondents admitted (mean = 4.49; std dev = 0.556) that the rate of return on assets has improved over the years due to financial innovations. Respondent were also in agreement that over the years financial innovations has enhanced shareholders return (mean = 4.46; std dev = 0.505). The findings further indicates that net interest margin (mean = 4.28; std dev = 0.560) has increased as a result of financial innovation. The respondents also concurred with the statement that profit margin has increased as a result of the SACCOs embracing more innovation (mean = 3.85; std dev = 0.587). This findings therefore illustrates that the variables are positively associated with the financial performance of SACCOs where increasing the independent variables would result to increase in the dependent variable. These findings concur with those of Kimani (2016) who found that innovation has positive effects on financial performance. He further asserted that innovation increases firms' profits, market share and savings and reduces the operating costs.

**Table 4.12: Descriptive Statistic for Financial Performance**

<b>Financial Performance Statements</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std.</b>	
					<b>Dev</b>	<b>Var.</b>
The rate of return on assets has improved over the years due to financial innovations	39	1	5	4.49	0.556	0.309
Shareholders return has improved over the years due to financial innovations.	39	1	5	4.46	0.505	0.255
Financial innovation has resulted to increase in net interest margin	39	1	5	4.28	0.560	0.313
Profit margin increase as SACCO embrace more innovation	39	1	5	3.85	0.587	0.344

#### **4.6 Inferential Findings**

The study conducted correlation analysis to establish the linear relationship between the independent variables and the dependent variable.

##### **4.6.1 Correlation between Product Innovations and Financial Performance**

The correlation between product innovation and financial performance of SACCOs in Kirinyaga County was examined. The results of the correlation analysis presented in Table 4.13. The study revealed that the relationship between product innovation and financial performance was positive and statistically significant ( $r=0.579$ ,  $p<0.05$ ). This implies that introduction of new products for instance new deposit account, credit cards and debit cards enhanced the financial performance of a SACCO. These findings are in agreement with a study by Nwokah, Elizabeth and Ofoegbu (2009) which found that product development facets of product innovations are positively and significantly correlated with the firms' performance in terms of profitability, sales turnover and customer loyalty.

**Table 4.13: Correlation between Product Innovation and Financial Performance of SACCOs**

	<b>Financial Performance</b>	
<b>Product Innovation</b>	Pearson Correlation	.579
	Sig. (2-tailed)	.000
	N	39

\*\* . Correlation is significant at the 0.05 level (2-tailed).

#### **4.6.2 Correlation between Process Innovations and Financial Performance**

The relationship between process innovation and financial performance of SACCOs in Kirinyaga County was examined. The results of correlation analysis are presented in Table 4.14. The Table shows that the correlation between process innovation and financial performance is positive, moderately weak but statistically significant ( $r=0.374$ ,  $p<0.05$ ). This indicates that any effort to introduce new processes for instance downsizing, restructuring, automation, delayering, flattening the hierarchy and reorganizing Sacco's processes will lead to an increase in financial performance. These findings concur with a study by Gichana (2015) which found that processes innovation had a positive effect on the financial performance of a firm.

**Table 4.14: Correlation between Process Innovation and Financial Performance of SACCOs**

	<b>Financial Performance</b>	
<b>Process Innovation</b>	Pearson Correlation	.374*
	Sig. (2-tailed)	.044
	N	39

\*. Correlation is significant at the 0.05 level (2-tailed).

#### **4.6.3 Correlation between Institutional Innovations and Financial Performance**

The relationship between institutional innovation and financial performance of SACCOs in Kirinyaga County was examined. The results of correlation analysis are presented in Table 4.15. The Table indicates that the correlation between institution innovation and financial performance is positive, moderately weak but statistically significant ( $r=0.343$ ,  $p<0.05$ ).

This implies that creation of new institution or change in existing institution for instance merging with another institution, restructuring and forging external relationship can contribute positively to the financial performance of an organization. The findings are in agreement with study by Mosongo et al., (2013) which established that institutional innovation had a positive on the financial performance of SACCOs.

**Table 4.15: Correlation between Institutional Innovation and Financial Performance of SACCOs**

		<b>Financial Performance</b>
<b>Institutional Innovation</b>	Pearson Correlation	.343*
	Sig. (2-tailed)	.033
	N	39

\*. Correlation is significant at the 0.05 level (2-tailed).

#### **4.7 Regression Analysis model**

Multiple regression analysis was conducted to ascertain the effect of financial innovation on financial performance of the SACCOs. The results in Table 4.16 shows that the value of  $R^2$  was 0.403 indicating that variation of 40.3% in financial performance of SACCOs can be contributed by financial innovation.

**Table 4.16: Model Summary**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
	.635 <sup>a</sup>	.403	.351	1.14469

a. Predictors: (Constant), Institutional Innovation, Product Innovation, Process Innovation.

#### **4.7.1 Analysis of Variance**

The findings on the analysis of variance (ANOVA) presented in Table 4.17 shows that F-statistic value of 7.863 and P-value of 0.000. The P-value obtained was less than the conventional P value of 0.05. These findings imply that the regression model was significant in predicting the relationship between financial innovation and performance of SACCOs.

**Table 4.17: ANOVA<sup>b</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	30.908	3	10.303	7.863	.000 <sup>a</sup>
Residual	45.861	35	1.310		
Total	76.769	38			

a. Predictors: (Constant), Institutional Innovation, Product Innovation, Process Innovation.

b. Dependent Variable: Financial Performance

#### 4.7.2 Regression Coefficients

The findings in Table 4.18 show the coefficient and P values for the variables in the study. The results show that product innovation ( $p = 0.000$ ), process innovation ( $p=0.024$ ) and institutional innovation ( $p=0.036$ ) were statistically significant at 95%.

**Table 4.18: Regression Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.917	2.612		1.882	.068
Product Innovation	.462	.119	.522	3.876	.000
Process Innovation	.124	.203	.131	2.613	.012
Institutional Innovation	.120	.167	.151	2.718	.013

a. Dependent Variable: Financial Performance

The regression model of the study was  $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$

Substituting the coefficient in the model,

$$Y = 4.917 + 0.462X_1 + 0.124X_2 + 0.120X_3 \dots \dots \dots \text{Equation 4.1}$$

According to this model, it was found that taking all the independent variables value at zero, the financial performance of the SACCO will be 4.917. The regression coefficient for product innovation (0.462) was statistically significant ( $t=3.876$ ,  $p=0.000 < 0.05$ ), which indicates that a unit increase in product innovation will result to an increase of 0.462 units in financial performance.

This implies that if a SACCO introduces a new product, the financial performance will improve. This finding concurs with study findings by consistent with a study done by Ahoya (2015) who found that product innovation had a positive and significant effect on financial performance of Kenya Commercial Bank.

The regression coefficient for process innovation was (0.124) was statistically significant ( $t=2.613$ ,  $p=0.012<0.05$ ), which indicates that a unit increase in process innovation will result to an increase of 0.124 units in financial performance. This implies that if a SACCO introducing new business processes, the financial performance will improve. This finding agrees with study findings by Gichana (2015) which found that innovation processes had a positive effect on the growth of an enterprise.

The regression coefficient for institutional innovation (0.12) was statistically significant ( $t=2.718$ ,  $p=0.013<0.05$ ), which indicates that a unit increase in institutional innovation will result to an increase of 0.12 units in financial performance. This implies that if a SACCO creates a new institution or change the existing institution, the financial performance will improve. The findings conform to the study findings by Onduko (2013), who conducted a study to establish the relationship between financial innovation and financial performance among savings and credit co-operatives societies in Nairobi County, Kenya. The study found that there was a positive relationship between the institutional innovation in the SACCOs and their performance.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents a summary of the findings, conclusions, recommendations, limitations and suggestions for further research on the effect of financial innovations and financial performance of SACCOs in Kirinyaga County

#### **5.2 Summary of the Findings**

This section presents the summary of the study findings based on the specific objectives which were the effect of product, process and institutional innovations on financial performance.

##### **5.2.1 Product innovation and Financial Performance**

The results of the study reveal that introduction of new deposit account in a SACCO increases the amount of deposits. It is also evident that introduction of credit cards has a positive effect of increasing commission fee based income. In addition, use of debit cards by SACCO customers expands the income generating potential of the SACCOs whereas electronic fund transfer has a positive effect of increasing commission fee based income. The results also indicate that product innovations have a positive relationship with financial performance. This was interpreted to mean that product innovations lead to better financial performance of an organization.

##### **5.2.2 Process innovation and Financial Performance**

The finding indicates that the respondents strongly agreed that automation of SACCO's operations has enhanced efficiency and mobile banking has had a positive effect of increasing commission fee based income. The respondents also agreed that cashless services have reduced operation costs whereas adoption of paperless services has reduced cost of offering services. Most of the respondents also indicated that office automation is ideal in realization of high turnover while a few stated that electronic fund transfer and internet banking is ideal in realization of high turnover. These results are interpreted to mean that embracing process innovations in an organization results to better financial performance.



### **5.2.3 Institutional innovation and Financial Performance**

Findings reveal that respondents absolutely admitted that change in management system has improved the service delivery. Respondents were also in agreement that organisation restructuring reduces cost of operation while external relation has effect on SACCO performance. In addition, it was agreed that mergers enhances revenue through economies of scale and gain in market share. The results also indicate that institutional innovations have positive relationship with financial performance. This result is interpreted to mean that embracing institutional innovations in an organization results to better financial performance.

### **5.2.4 Financial Innovation and Financial Performance**

The results of the study indicates that return on assets, return on equity and net interest margin has improved over the year due to financial innovations. In addition, the respondents agreed that profit margin has increased as organisation embrace more external relations. The result also indicates that financial innovations positively affect the financial performance. This means that embracing financial innovation in an organisation can improve financial performance.

## **5.3 Conclusions**

From the findings the study makes the following conclusions;

### **5.3.1 Product innovation and Financial Performance**

Introduction of new products can lead to better financial performance. In particular, if a SACCO introduces new deposit accounts, the amount of deposits will increase thus increasing the financial performance. In addition, introduction of credit cards and debit cards will increase commission fee based income. Similarly, introduction of electronic fund transfer will also increase commission fee based income.

### **5.3.2 Process innovation and Financial Performance**

Process innovations have a positive relationship with financial performance. Embracing process innovations in an organization will therefore result to better financial performance. In particular, automating SACCO's operations enhances efficiency whereas mobile banking increases commission fee based income.

### **5.3.3 Institutional innovation and Financial Performance**

Institutional innovations have positive relationship with financial performance. Embracing institutional innovations in an organization will therefore result to better financial performance. In particular, changing the management system of a SACCO improves the service delivery. Organisation restructuring and mergers reduces cost of operation while external relation improves SACCO financial performance. In addition, it was agreed that mergers enhances revenue through economies of scale and gain in market share.

### **5.3.4 Financial Innovation and Financial Performance**

Financial innovations positively affect the financial performance of SACCOs. Embracing financial innovation in an organisation therefore can improve financial performance. Financial innovations can enable a firm to improve its rate of return on assets, return on equity, net interest margin and profit margin.

## **5.4 Recommendations**

The study makes the following recommendations;

### **5.4.1 Product innovation and Financial Performance**

SACCOs should embrace product innovations in order to improve their financial performance. SACCOs should therefore introduce new deposit accounts in order to increase the amount of deposits. The SACCOs should also introduce credit cards and debit cards in order to increase their revenue. Similarly, the SACCOs should introduce electronic fund transfer since they have a positive effect of increasing commission fee based income.

### **5.4.2 Process innovation and Financial Performance**

SACCOs should undertake process innovations in order to improve their financial performance. SACCO's should therefore automate their operations in order to enhance efficiency. SACCO's should also introduce mobile banking in order to increases commission fee based income. In addition, cashless and paperless services should be introduced in order to reduce operation costs.

### **5.4.3 Institutional innovation and Financial Performance**

SACCOs should embrace institutional innovations in order to improve their financial performance. The firms should change their management systems in order to improve service delivery to their customers. The firms should also undertake organisation restructuring and external relation in order to reduce their operation costs and improve their financial performance. In addition, SACCOs should consider merging with other institutions in order to enhance their revenue through economies of scale and gain market share.

### **5.4.4 Financial Innovation and Financial Performance**

SACCOs should embrace financial innovations which include product innovations, process innovations and institutional innovations in order to improve its rate of return on assets, return on equity, net interest margin and profit margin.

### **5.5 Suggestion for further study**

The study assessed the effect of financial innovations on performance of savings and credit co-operatives societies in Kirinyaga County, Kenya. However, a replica study is recommended for SACCOs in other Counties in order to test whether the conclusions of this study will hold true. Another study could be carried out using other factors that may influence the financial performance of SACCOs.

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**APPENDICES**

**Appendix I**

**QUESTIONNAIRE**

**QUESTIONNAIRE FOR: EFFECT OF FINANCIAL INNOVATIONS ON  
PERFORMANCE OF SACCOS IN KENYA**

**QUESTIONNAIRE No: .....**

**Date...../...../2016**

**(Information provided will be highly confidential)**

**BACKGROUND INFORMATION**

(Please tick appropriately or fill additional information in the space provided).

1) Gender

Female [ ]

Male [ ]

2) Education level

Primary [ ]

Secondary [ ]

Tertiary [ ]

University [ ]

Others; Specify.....

3) When was your SACCO registered?

0 - 5 Years [ ]

6 - 10 Years [ ]

11 - 15 Years [ ]

16 - 20 Years [ ]

20 Years and above [ ]



4) How many members does your SACCO have?

Below 500 Members [ ]

501 - 1000 Members [ ]

1001 - 1500 Members [ ]

1501 - 2000 Members [ ]

2000 Members and above [ ]

5) Which Sub-county does your SACCO operate?

Kirinyaga central [ ]

Kirinyaga east [ ]

Kirinyaga west [ ]

Kirinyaga south [ ]

6) Do financial products available to investors and depositors have impact on productivity of your SACCO:

Yes [ ]

No [ ]

7) What influenced your organization to embrace innovation?

Competition [ ]

Profitability [ ]

Regulations [ ]

Customers [ ]

Others; Specify.....

8) Which of the following innovation does your Sacco consider as a key success in service delivery?

Mobile banking technology [ ]

Restructuring of the institutions [ ]

Insurance services [ ]

Investment banking [ ]

Others not specified [ ]

9) Which of the following product innovation strategies does your SACCO considers as a key success in customer satisfaction

New deposit account [ ]

Credit card [ ]

Debit card [ ]

Money transfer services [ ]

Product tailored to favor certain group [ ]

10) Which type of process innovation is key factor in realization of high revenue turnover in the Sacco?

Office automation [ ]

Electronic fund transfer [ ]

Internet banking [ ]

ATM deposits and withdrawal [ ]

Others (specify) [ ]

## SECTION A: PRODUCT INNOVATION

This section has statements regarding the effect of product innovations on performance of SACCO. Kindly respond with the response that matches your opinion. Please tick as appropriate in the boxes using a tick (√) or cross mark (x).

Product innovation statements		5	4	3	2	1
		Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
1	<b>New deposit account:</b> The introduction of new deposit account has increased the amount of deposits					
2	<b>Credit card:</b> Credit card have had a positive effect of increasing commission fee based income					
3	<b>Debit card:</b> Debit card have expanded the income generating potential of the bank					
4	<b>EFT.</b> Electronic funds transfer has had a positive effect of increasing commission fee based income.					

## SECTION B: PROCESS INNOVATION

This section has statements regarding the effect of process innovations on performance of SACCO. Kindly respond with the response that matches your opinion. Please tick as appropriate in the boxes using a tick (✓) or cross mark (x).

Process innovation statements		5	4	3	2	1
		Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
1	<b>Automation:</b> Automation of SACCO operations has enhanced efficiency of operations					
2	<b>Cashless:</b> Cashless services has reduced operation costs					
3	<b>Paperless:</b> Adoption of paperless services has reduced cost of offering services.					
4	<b>Mobile banking:</b> Mobile banking has had a positive effect of increasing commission fee based income					

### SECTION C: INSTITUTION INNOVATION

This section has statements regarding the effect of institution innovations on performance of SACCO. Kindly respond with the response that matches your opinion.

Please tick as appropriate in the boxes using a tick (√) or cross mark (x).

Institution innovation statements		5	4	3	2	1
		Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
1	<b>Management system:</b> Change in management system has improved the service delivery.					
2	<b>Mergers:</b> Merging of SACCOs greatly enhances revenue through economies of scale and gain in market share.					
3	<b>Organisation restructuring:</b> Restructuring reduces costs of operation and enhances return to members					
4	<b>External relations:</b> SACCO performance is affected by the number of external relations with other institutions					

## SECTION D: FINANCIAL PERFORMANCE

This section has statements regarding the effect of institution innovations on performance of SACCO. Kindly respond with the response that matches your opinion.

Please tick as appropriate in the boxes using a tick (√) or cross mark (x).

Financial performance statements		5	4	3	2	1
		Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
1	<b>ROA:</b> The rate of return on assets has improved over the years due to financial innovations.					
2	<b>ROE:</b> Shareholders return has improved over the years due to financial innovations.					
3	<b>NIM:</b> Financial innovation has resulted to increase in net interest margin					
4	<b>External relations:</b> Profit margin increase as SACCO embrace more innovation					

**Thank you for your cooperation**

## Appendix II

### RECORD SURVEY SHEET

The record survey sheet will be filled using information obtained from audited financial statements of the SACCOs.

	<b>2013</b>	<b>2014</b>	<b>2015</b>
Revenue			
Total expenditure			
Profit margin			
Total assets			
Share capital			
Return on assets			