FINANCIAL INNOVATION USAGE AND PROFITABILITY OF SUPERMARKETS IN MOMBASA COUNTY, KENYA

JOHN MUTINDA VUNDI

D53/MSA/PT/33695/2015

A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS DEPARTMENT OF FINANCE AND IN PARTIAL FULFILMENT FOR THE AWARD OF A DEGREE OF MASTER OF BUSINESS ADMINISTRATION (FINANCE OPTION) OF KENYATTA UNIVERSITY

June 2019

DECLARATION

This proposal is my original work and has not been presented for a degree or any other award in any university. No part of this research proposal should be reproduced without authority of the author or/and Kenyatta University.

Signature : ...………………………… Date:……………………….

John Mutinda Vundi

REG NO: D53/MSA/PT/33695/2015

Declaration By Supervisor

I confirm that the work in this Research Project was done by the candidate under my supervision.

Signature: …………………………… Date: ………………………………..

Dr. Vincent Shiundu

Lecturer

Kenyatta University
Department of Accounting and Finance

School of Business

DEDICATION

I dedicate this report to my nuclear family – My wife Mary Vundi, my boys Charles and James, my dad Obadiah Vundi Ndivo for his daily encouragement and my entire extended family members for their moral support, prayers and financial support.

ACKNOWLEDGEMENT

I am thankful to Almighty God for enabling me to work on this research report and also those who motivated and encouraged me to achieve success in my work. This would have been very difficult task to accomplish without your dedicated support.

OPERATIONAL DEFINITIONS OF TERMS

Financial innovation Usage New financial products and processes developed to provide an improved service that meets particular needs of financial system participants

Barcode technologies Use of barcode scanners in identification, handling, retrieval and storage of goods in supermarkets

Loyalty programs Rewards program provided by a supermarkets to frequent customers who make purchases to encourage them to make repeat purchase

Plastic money Generic term for all types of bank cards, debit cards, smart cards and automated teller machine cards used in making purchases in supermarkets

Mobile retailing Use of mobile phones in retailing

Customer patronage Tendency of customers to frequent a particular supermarket for similar products that can be accessed or purchased elsewhere

Profitability Ability of a supermarket to earn revenue over expenses

Payout It is the payment made to a payee

A **supermarket** Is a self-service shop offering a wide variety of food and household products,

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
ATM	Automated Teller Machine
CAMCCUL	Cameroon Cooperative Credit Union League
EFTPOS	Electronic Funds Transfer at the Point of Sale
EPOS	Electronic point of Sale
GPS	Global Position System
ICT	Communication Technology
IT	Information Technology
ROA	Return on Assets
ROSCI	Return on Supply Chain Investment
SME	Small and Medium Enterprises
SPSS	Statistical Package for Social Sciences
VIP	Very Important Person
OLS	Ordinary Least Square

ABSTRACT

Performance of supermarkets across the country contributes to the development of economy through service sector. The problem is financial challenges affecting supermarkets/financial underperformance. To achieve this economic growth there is need to embrace the latest technology usage which helps in channeling money across transaction space, Information database, risk management and pooling of funds in order to support decision making process, and a problems of a symmetric information, addressing moral hazards and a system of payment which based on purchase and sales of goods and services by payment system. However there still seem to be a challenge in achieving the best performance of these firms. Mobile banking, online banking and real time gross settlement and automated teller machines are some of financial innovations that have had strong effect on profitability both individually and collectively. Use of ATMs, SMS banking for example increased transactions due to easy access of accounts on machines placed at strategic locations. Online banking and mobile banking all brought services close to the customers and reduce cost of operation. The most common aim and object of this study is to determine the financial innovation usage effects on profitability of supermarkets in Mombasa County, Kenya. The certain aim and objectives were to determine the effect of barcode technology on profitability, to evaluate the effects of loyalty programs on profitability, to establish the effect of plastic money on profitability and to determine the effect of mobile retailing on profitability of supermarkets. The study was anchored on constraint theory, the transaction cost innovation theory and innovation theory of profits. Descriptive research design was used by the researcher mostly. 214 employees were selected from the accounts and finance departments of the supermarkets which known as the targeted population.83 employees was the sample size. Both of the data was collected primary and secondary. The collected data was edited, key and coded into the programs statistically for the analysis then by using descriptive statistics the coded data was analyzed corresponding to mean, standard deviation, and percentage by using the inferential statistics and (SPSS) were analyzed also such as correlation and ANOVA. The analyzed data was then shown in form of tables, graphs and figures. The study concluded that loyalty programs offered was appropriate point systems which can save time and improve accuracy in sales. Supermarkets have implemented rewards schemes, cash transaction have advantage if it effectively designed with loyalty programs.

CHAPTER ONE

INTRODUCTION

1.1 Background information

Globally, the history of the financial innovation has the benefits and success which caused to the substantial impact on the economies of the world. The origin of financial innovation can be traced back to approximately 6000 years before when the Sumerians of Uruk a city in Mesopotamia introduced tradable debt contracts which included interest rates to facilitate a variety of transactions. This was brought about by growing innovation, development of economy and specialization.

The early Rome, freely traded shares developed by the private investors, corporations and stock exchange that independently wrote contracts and owned of the individual shareholders. These firms made it possible to mobilize capital for innovative, large-scale mining technologies. Similarly, the entrepreneurs of the 19th century and 20th century established the new financial instruments, for foster screening a well improved accounting systems and highly specialized investment banks by the distant investors during the construction of rail road's (Levine 2009).

From the ancient times financial innovation has been an ongoing process and complemented as a society's growth engine. Financial innovation helps in channeling money over space and time , information database, risk management, pooling of funds in order to carry the addressing moral hazard, decision making process and a problems of asymmetric information and system of payment which based on the purchase and sales of goods and services by a payment system (Ranjan & Sood 2009).

The role of financial innovation products, namely, ATMs, the Web/Internet, POS, and mobile banking in Pakistan, and their impact on the financial performance of money deposit banks, is quite irrefutable, in spite of the consistently floating fraudulent risk associated with e-payment platforms in Pakistan. After the banking consolidation reforms in Pakistan in 2004- 2005, the financial activities of the deposit money banks in Pakistan quickly increased as they tried, with their foreign competitors, to attain a competitive advantage through the utilization of advanced technologies. The results of the study revealed that infrastructural investment in automated teller machines (ATMs) and Point of Sale (POS), relative to the efficiency ratio, are negatively related, or it can be stated that total transaction value through ATMs and POS diminishes the operating expenses to net operating income ratio of Pakistani banks. In aggregate, it is concluded that the four various products of financial innovation used in the study have no significant impact on the efficiency ratio of deposit money banks in Pakistan. It is actually the efficiency ratio that governs the infrastructure of technological advancement, for example financial innovation products. Cautiously, it is concluded that the efficiency ratio determines the deployment of financial innovation (information technology) products in the banking sector of Pakistan (Safdar H, *et al* 2018)

In Turkey the banking system proves to be the most emerging industries in the world. Due to the economic global crisis experienced in the year 2000's there have been several structural changes adopted which includes financial innovations. Although standard microeconomic theory (rightly) focuses much of its attention on the issues of static resource allocation and economic efficiency, there is nevertheless a general appreciation that performance over time is driven by a variety of dynamic factors including innovation (Aysel and Fatma, 2017). In Mexico financial innovation has led to major structural changes in housing and finance. This has widened both mortgage credit products and intermediaries' funding techniques. Particularly, financial innovations have improved household accessibility to mortgage credit. A number of regulation reforms have fostered the development of the housing finance sector. New funding sources and new credit products have all led to the development in housing finance sector which translates to economic development (Ibara & Huerta, 2009).

India has experienced economic growth due to financial innovation. A significant positive effect of numerous financial innovations on the economy including microfinance, venture capital and other financial technologies such as Mobile-Banking, E-banking, National Electronic Fund Transfer (NEFT) and online share trading. These innovation plays an essential role in terms of changing India. These innovations become an important part of India with the passage of times and cause of improvements in the financial environment of a country in order to meet the requirements of current global turbulent of the financial environment (Gupta 2014).

In China financial innovation has brought rapid economic development. For example marine insurance and ship finance agricultural futures, paper currency, group lending and other insurance pools were some of the financial innovation used in early times and which led to economic development. However excessive usage of financial innovations and financial liberalization brought about financial crisis in 1997 and 1998.

As a result of this another innovation was introduced whereby regulations were made to balance the risk and financial innovation. Continuous innovations in the country has resulted to economic development whereby the aforesaid approach is applied in trade finance, mortgage markets, non-bank finance, small and medium enterprise finance and mobile financial services (Arner, Buckley &Panton 2014). In Zimbabwe financial innovation has played a significant role in economic development. Mobile financial services greatly increased financial inclusion. A report by Finscope consumer survey indicated an increase in the number of adults receiving financial services in 2014 mainly due to mobile money. This increased access to financial services improved economic activity even to the marginalized areas enabling the country to experience economic growth. It is noted that technology and financial innovation had a positive effect on the flow of funds which increased investment, income and liquidity funding for the country (Bara & Mudzingiri 2016).

For the growth of financial sector and financial inclusion the Uganda financial innovation plays a crucial role as a driver. There has been an increased usage and appropriation of these financial innovation including credit and debit cards, mobile money service, automated teller machine (ATM) and electronic banking products.

A report by Finscope after the survey on the financial inclusion status in Uganda shows that there is increase in the number of adults who assesse the financial service by informal sources. This was assign of use of financial innovation increased during that period. Use of financial innovation showed significant positive and negative effect on money velocity (Nampewo & Opolot 2016).

Studies done in Kenya reveals that moderating effect of mobile phones were higher compared to internet services on the banking innovations which influence the Kenyan banks financial performance. From the study findings, the bank's innovation affects financial performance of commercial banks in Kenya in a positive way. Hence it is highly recommended to the management of commercial banks and the Government to continue exploring and implementing sustainable business linkages and collaborations with mobile phone service providers as well as the internet service providers as a way of accelerating the penetration of innovations and eventually creating desired impacts in the economy. Banks should leverage on mobiles phones in order to grow their business and customer base (Patrick M, 2013)

1.1.1 Financial Innovation Usage

Kenya like many other countries in the world has embraced financial innovation especially in the banking sector. Large scale and government owned banks tend to innovate regularly as compared to small private banks. Majority of the innovations which are used include ATMS, SMS banking, internet banking, youth oriented accounts, women oriented banking and children accounts. Some of the benefits accruing from these innovations are improved customer service and increase in bank revenue. There exist various challenges that banks face in adopting of financial innovation like introduction of similar products by competitors and customers poor response to innovative products (Kinuthia 2010).

In Islamic banking industry in Kenya, financial innovations like usage of debit and credit cards, agency banking, internet and mobile banking all indicated a positive effect on profitability of those banks that was measured using return on assets. Though individual innovations had a weak positive effect, collectively financial innovations made banks to undergo drastic change within a short span of time. Some of the banks like Gulf African bank and First community bank recorded triple digit profit due to an innovation called Tawaruq which means lending to other financial institutions with the money used to meant to finance Islamic banks only, (Muia 2010).

Small and medium enterprises have also experienced tremendous growth due to use of financial innovation. Small business loans, small business mobile banking, e-banking and direct marketing formed some of the financial innovation developed by banks towards SMEs. Though the SMEs had other challenges that barred their growth potential, financial innovation had greater effect on their growth, (Nzove 2013). Deposit taking microfinance institutions in Kenya like Uwezo, Rafiki and Kenya women finance trust have improved on their profits due to financial innovations. Mobile banking, online banking and real time gross settlement and automated teller machines are some of financial innovations that have had strong effect on profitability both individually and collectively. Use of ATMs for example increased transactions due to easy access of accounts on machines placed at strategic locations. Online banking and mobile banking all brought services close to the customers and reduce cost of operation for MFIs making them increase on their profits, (Kahiga 2013).

For this study the researcher will adopt barcode technology usage, loyality programs, plastic money usage and mobile retailing. Barcode technology is a rectangular of an image that contains the series of a black parallel lines and widths of white spaces which can be read through scanner (Kahiga, 2013). To read it there is need to be swept across as the lines should be same despite of the laser position. There is need to read and scan the 2D codes by scanner which is based on image, likewise to the using the scanner at home or office for images and documents scanning.

Loyalty programs are running by the firms which usually offers the customers benefits (Sparks, 2012). A reward by the program customer loyalty has given to the customers who are regular customers or purchase goods on regular basis from the company. It is only for the encouragement of the customer to return frequently. Plastic money is used predominantly in respect to the everyday using plastic cards in order to actual bank notes (Bayt, 2014). It consists in a shape of Debit & Credit card, Master card, credit card and (ATM) card. The purpose is facilitating the people easily and quickly in case of cash money transaction.

By using tablets, smart-phones and other mobile devices the goods are purchased by retail shopping which is known as Mobile retailing (Pantano, 2016). It is a sector which is growing fast with forecast trends for 36.5% in the US and by 2019, 30.1% of online sales in Europe.

1.1.2 Profitability of Supermarkets

Supermarkets usually sell products at low prices, but maintain their profits by selling more and selling products of higher margin. The growth of supermarkets in Kenya can be attributed to increased growth of towns and a growing number of middle class people and changing lifestyle and market liberalization. Supermarkets can gain higher profits by for example adopting cost leadership strategies that ensure that firm gains a bigger market share. The working capital management is a significant predictor of financial performance. For example, the results indicate that when organizations have optimum investments in stock they are likely to minimize costs associated with stock hence profitability. Therefore any organization should ensure proper working capital management in terms of ensuring proper stock management, creditor management, cash management, and effective debtor's management to increase their financial performance (Kabuye *et al*., 2019)

As for any other business firm, the profitability of a grocery retail store is a consequence of the interplay between environmental factors and internal factors. Retail managers are constantly faced with the challenge of making decisions and taking actions, in order to satisfy consumers' needs and wants, and respond to the actions of competitors. Retail store management is, indeed, a life of highly complex operations, comprising tasks that are long-term as well as short-term by character (Mikael H, 2009). Cost leadership strategies attract cost-conscious or price sensitive customers thereby increasing their profitability. Generally supermarkets sell their products at lower prices compared to other store which attracts many customers increasing sales thus leading higher profits, (Kamau 2014). Supermarkets increase their profitability by opening many branches in major towns. This ensures that customers easily access their product of choice. On the same note supermarket stock a variety of products to ensure that customers get all they require under one roof. When customers get all that they require in the store, it gives them confidence to do repeat purchases thus increasing on sales and profitability.

Increasing the number of shoppers visiting the store may also lead to improved profits of the store. This can be done by introducing rewards for example accumulation of points that are redeemed regularly. This attracts many customers and leads to increased profits, (Anderson 2017).

However despite increased number of shoppers, branches supermarkets continue to experience challenges with their profitability threatening their closure. For instance Nakumatt closed despite having branches allover using latest technology. Uchumi is struggling to survive. Therefore, in summary there are a number of financial innovation that are applied in supermarkets to enhance their profitability that include introduction of efficient consumer response standards, dealing with expanded service requirements, creating mass customization, focusing on customer loyalty and private labeling, increasing delivery options, electronic point of sale data collection and management of supply chain,(Erjen and Sloot 2017).

Supermarket profitability may be measured by use of financial ratios like ROE “ Return on Equity” and ROA “Return on Asset” . Return on equity presented the earned profit comparing to the total amount of the shareholders equity invested. It shows the shareholders earned rate of return on the invested funds in the company. It is the ratio of NI after taxes which is divided by total equity capital (Mutua 2013) while on the other hand ROA refers to the supermarket profitability. It is an income ratio to its T.A. by utilizing the assets it measures the supermarket ability to generate income. If the ROA is higher it shows the efficient usage of resources by the firm.

1.1.3 Mombasa County:

In 2013 courtesy of the new 2010 constitution, counties in Kenya were formed and Mombasa County is among the 47 counties in Kenya, being county number 001. Initially, it was Mombasa City/Municipality but after the boundaries were modernized as counties in 2013, it became a county. Mombasa county covers 229.7 km2 area excluding the water mass 65 km2 and it is the smallest county. It is situated in the south eastern part of the former coast province. It borders Kwale County to the south west, Indian Ocean to the east and Kilifi County to the north. The county is divided in to 18 locations, 7 divisions and 30 sub-locations (Economic survey 2012) administratively. The county lies among longitudes 39°34’ and 39°46’ east and latitudes 3°56’ and 4°10’ south of the equator. It has several businesses dealing in food, health care services and education. There are a few industrial setups and the region has a great potential for establishment of agro-based industries. In addition Mombasa County hosts number of large supermarkets some of which have branches in other small towns in the county. Other businesses include hotels, bars and restaurants.

1.2 Statement of the problem

Profits from supermarkets are significant for development of economy; however, supermarkets are failing to achieve their profitability levels. Most supermarkets have closed down while some are facing low stock returns for profitability which calls for proper financial innovations. A study done by Sonya Bells (2016) indicates that the profitability of supermarkets has been declining from the year 2014 with 2.4 million to the year 2015 with 1.7 million and with a decrease of 0.29% in November 2016 as compared to average growth of 5% in the year 2013. This was evidenced globally by research done by Sohal (2014) in Australian firms which showed that there was a 13% decrease of 50 firms' profitability. This results to a question of financial innovation on profitability in supermarkets.

Supermarket chain are generally facing challenge of low profitability has been indicated by (Mithano, 2015). Though, the leading supermarkets have opened branches in many towns in Kenya, others experienced profitability problems and have closed. Uchumi supermarket closed in 2006 its 17 branches due to poor profitability (Mburu, 2013). In 2015 more supermarkets closed two of its branches in Kenya and Uganda due to huge losses of 45.1 million experienced. The relationships among profitability of Islamic banking and financial innovation are studied by Muia (2013) in Kenya. The variables of study were: Agency banking, mobile banking, issuing Islamic credit cards and debit cards by Islamic banks and internet banking, Shariah compliant on profitability. In Kenya operating 8 commercial banks in Islamic banking the sample size was used. By using inferential and descriptive statistics the collected data was analyzed. The study was done in banks, but failed to apply component analysis using barcode technology to analyze profitability.

In Kenya , Kahiga (2014) investigated the financial innovation effects on profitability of deposit-taking microfinance institutions. The sought the effect of mobile banking, online banking, real time gross settlements (RTGS) and automated teller machines (ATM) withdraws and profitability. The sample size of nine micro financial institutions was used and analyzed using descriptive statistics which included mean and standard deviations was used to analyze data. The study failed to apply inferential statistics to analyze the effect of financial innovations using loyalty programs to analysis profitability of supermarkets. Thus, the study will assess the effect of financial innovation usage on profitability of supermarkets in Mombasa County.

1.3 Objective of the study:

By specific and general objectives this study will be guided as:

1.3.1. General objective

On profitability of supermarkets in Mombasa County, Kenya, the effect of financial innovation usage will be determined in the study as the most common aim and object of this study .

1.3.2 Specific objectives

i) To determine the effect of Usage of barcode technology on profitability of supermarkets in Mombasa County, Kenya.

ii) To evaluate the effect of Usage of loyalty programs on profitability of supermarkets in Mombasa County, Kenya.

iii) To establish the effect of Usage of plastic money on profitability of supermarkets in Mombasa County, Kenya.

iv) To determine the effect of Usage of mobile retailing on profitability of supermarkets in Mombasa County, Kenya.

1.4 Research Questions

i) What are the effects of Barcode technology usage on profitability of Supermarkets in Mombasa County, Kenya?

ii) How does Loyalty programs usage affect the profitability of supermarkets in Mombasa County, Kenya?

iii) What are the effects of Plastic money usage on profitability of supermarkets in Mombasa County, Kenya?

iv) How does Mobile retailing usage affect on profitability of supermarkets in Mombasa County, Kenya.

1.5 Significant of the Study

The role of the study is to ascertain the effect of financial innovations on profitability of supermarkets in Mombasa County. The study will provide information that will assist the investors in supermarkets to understand the role of financial innovations on profitability and growth in supermarkets. Supermarkets are facing various challenges which are hindering their profitability.

Investors in this business need to find strategies that will make them gain competitive and advantage to increase their profits. From this study they will be able to know the kind of financial innovation to invest in so as to improve on their financial performance.

Equally, the study will enable the policy makers in the area of regulation and supervision of businesses in Mombasa County to know the effect of financial innovation on profitability of supermarkets. The study will provide useful lessons on how various legal, regulatory and procedural requirements could impact on supermarkets as they endeavor to conform. This will help them formulate policies that will support and enhance usage of innovations in order to improve business performance.

In last the for further research work the study points out the area and builds the knowledge on the existing body. Wish of researchers for study the area of financial innovation specifically in the sector of retail will be made of for financial innovation contribution in Kenya for the supermarkets.

1.6 Scope of the study

The study will focus on the financial innovations usage and how they affect the profitability of supermarkets in Mombasa County. The study will be limited to supermarkets in the county. The study will investigate the effect of barcode technology usage, loyalty programs usage, plastic money usage and mobile retailing usage on profitability of supermarkets. The study period will be limited five years i.e. 2013-2017.

1.7 Limitations of the study

In order to access the senior participants the researcher faced difficulties and problems and have busy schedule such as management employees. To overcome this researcher ensured to book the appointment in advance with the study participants in order to meet the challenges before the questionnaire could be canceled by two research assistants. The researcher also faced time constraints given the short time required to undertake various tasks. The researcher handled this challenge by ensuring that they design a research plan and timetable showing the time allocated to each task besides ensuring that they strictly followed the designed schedule.

1.8 Organization of the Study

In three chapters the study will be organized. In the first chapter the introduction to the study are given. Extending the chapter, there is discussion of the research problems, the study background, significant of the study, the research questions and objectives as well as the limitations of the study. Under the chapter number two, the researcher will review existing literature on the study topic. The theoretical review, empirical review, and the summary of literature and research gaps. The conceptual study framework will be provided. The focus of the chapter three will be on the research methodology under which the target population, data collection procedure and instruments, research design, data analysis, pilot testing, ethical consideration and sample and sampling techniques.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The Theoretical Literature Review, Empirical Literature Review, Research Gaps and Conceptual Framework will required in this chapter.

2.2 Theoretical literature Review

The theories that will guided this study are constraint innovation theory, transaction cost innovation theory and Schumpeter innovation theory of profits.

2.2.1 Constraint innovation theory

Silber William presented this theory in 1975.The theory argues that the aim of financial innovation in firms is to reduce constraints that decrease profit. In the process of engaging in activities that boost profit, there are some restrictions either from within or outside the firm such as organizational leadership and government policy that hinder the process. These limitations not only to reduce the financial institution efficiency making them strive to cast them off but also the stability of the management guarantee. From research it has been indicated that the less profitable firms do not innovate in their respective sector. In order to increase the profitability these firms necessarily impetus to innovate in a bid (Hassan, 2017).

The theory of Constraint-induced innovation from microeconomics is discussed in the financial innovation. It assumes that it is specimen. The challenges faced by both small and big firms are similar and both can gain same benefits if they use financial innovations. So the theory can be applied to macroeconomics. Constraint innovation theory also assumed that innovations are only meant to maximize profits (Kagira, 2015). The limitation of the theory is that it cannot show the financial innovation phenomenon in order to comprehensively liberal financial trend.

The theory tries to explain that individual and businesses only innovate when they are in hardship which is not necessary the case since firms innovate even when they do not face any in order to gain more profits (Simiyu, 2017).

The relevancy of this theory is to the study due to large scale supermarkets in Mombasa County work in an environment with various constraints that reduce their profitability. Stiff competition, government regulations and leadership styles may pose challenges that push the firms to innovate to gain competitive advantage.

2.2.2 The transaction cost innovation theory

This theory was introduce by Hicks and Niehans in 1983. According to this theory, to reduce the transaction cost is the main object of the financial innovation. The improvement of the financial service and financial innovation can stimulate by reducing cost that leads the higher profits. Financial innovation is studied under this study in respect to the perceptive of the microscopic economic structure change. It conclude that the main purpose of the financial innovation is transaction cost reduction (Muia, 2013) . The theory assumes that financial innovation is the only cause of reduction in transaction cost. Further the theory is engineered in the motive that innovation is basically purposed to enable financial institutions to earn profits (Shalakha, 2012).

Limitation of this theory is that it does not take into consideration the heterogeneity of firms. Different firms have different capabilities which give rise to different costs. Such differential costs may influence the usage of financial innovations by firms (Foss & Klein, 2010).

Transaction cost innovation theory is relevant in this context because usage of debit cards, loyalty cards, barcodes scanning technologies and mobile retailing are financial innovation that are lawful which seek cost reduction at extreme in the processing transactions. Among the seller and buyers these financial innovations have the ability and potential of reducing the transaction cost.

2.2.3 Innovation theory of profits

This theory was originated by Joseph Schumpeter an American economist in 1934. Schumpeter argues that in a bid to make profits, entrepreneurs innovate by introducing new processes, new products and new organizational structures. This is to counter competition and make more profits. Due to super profits gained from the innovations other entrepreneurs also imitate the innovation which erodes the profit margin in the short run.

This triggers more innovation in order to seek more ways and sources for activities that creating value in order to increase the profits. The process goes on in business cycles in terms of innovation which he referred to as Kondratieff cycles. He emphasized profit maximization as key driver for the entrepreneurs to innovate (Hassan, 2017).

In presenting the new technologies continuously the assumption of the theory is that the entrepreneurship as a main power. In the production process to make the innovations is the main role of the entrepreneur according to this study through implementing invention the new goods production or old into new form and identifying the new resources and ways of marketing products or raw material thus forming an industry.

Further the theory assumes the state of stable balance at the starting point of realizing innovations. It is necessary the innovation should occur according to his consideration so that the economy development can be in a stable state. Thus, the balance of economy is upset and economy starts to improve. Due to entrepreneurs activities, income and prices increase, credit increase, enhancement of welfare that attracting the other entrepreneurs. But establishment of the new companies in the market cause to disappear one by one. Thus, until re booming starts, the end of economic development will be reached. When a new innovation occurs, the same process will start again (Kaya, 2015).

Due to the activities of entrepreneurs, credits increase, prices and incomes rise up, and welfare enhances which attracts the other entrepreneurs. But, with coming of new firms to the market, profits begin to disappear one by one. Thus, until re- booming starts, the end of economic development will be reached. When a new innovation occurs, the same process will start again (Kaya, 2015).

First limitation of the theory is that it emphasizes innovation and ignores risk taking and organizing abilities of an entrepreneur. The theory portrays a narrow view of the functions of entrepreneurs. The work of an entrepreneur is not only to introduce innovation but, is responsible for proper organization of the business (Nzove, 2013).

Secondly the theory is limited as it shows the innovation role as an initial move in the development of the economy. In the capitalist economy the innovation is the main factor which causes the fluctuations of cycle. So the development of economy depends on many social and economy factors as well as innovations (Kaya, 2015).

The theory is relevant to the study because it can be a tool to explain continuous innovations in supermarkets. Innovations are created in supermarkets to attract customers. After a given period they are imitated by other entrepreneurs and erode their profitability. Supermarkets again start other innovations and process continues.

2.3 Empirical Literature

2.3.1 Barcode technology usage and profitability of supermarkets

Rostami (2014) conducted a study on the effects of barcode system utilization on the firms' profitability, a case study of Isfaham steel company. The study used the following hypotheses: the utilization of barcode influences the improvement of firms' profitability, tracing the products by using barcodes would affect the firms 'profitability improvement, cost decrease using barcode affects the firms 'profitability improvement. The study used a sample size of 384 people selected randomly from steel company employees. Questionnaire and interview were used to collect data which was analyzed by descriptive statistics (abundance, average) and inferential statistics (regression model). Findings indicated that all research hypotheses including cost reduction and product tracking were effective in firm profitability.

The study concluded that with the utilization of barcodes and good diversity having the process part necessities for profitability of firm, tracing products and costs cutting. For differentiating the goods from each other the usage of technology would be special serial. Njenga (2017) conducted a study on the electronic point role for sales on performance of supply chain of the retail sectors.

The main purpose of the study is to identify the role of rapid scan systems on supply chain of retail firms performance, to find out the role of cloud based communication systems on supply chain performance of retail firms, to find the role of Mobile point of sale on supply chain performance of retail firms and to find out the role of EFTPOS on supply chain performance of retail firms.

Purposive sampling was used for the selection of thirty five respondents from the supermarket employee's population of 156 within Nairobi. The analysis of collected data was done by using the (SPSS version 21). Descriptive statistics including percentages, frequency distribution and means were used in order to present and summarize the data. In order to inspecting the relationship between the study variables the correlations coefficient of person was run. The findings demonstrated that 73.2% of progress in supply chain performance at retail division can be explained by four factors in particular rapid scan systems, cloud based communication systems, mobile point of sale and EFTPOS. Effects of rapid scan systems, cloud based communication systems, mobile point of sale and EFTPOS were found to be statistically significant with a positive effect on supply chain performance. From the findings, the study concluded that electronic point of sale play an important role in the supply chain performance.

This is where rapid scan systems provides better decision making capability in the consumer packaged goods area based on the collection of electronic scanner data during increased complex situations that occur in supply chain fields. The study recommended that another study be done in other sectors of the economy, such as manufacturing sector, public &government institutions and retailing sector to see if they validate, support or contradict the findings of the study.

Kitheka (2012) investigated the on the performance of the supermarket the inventory management automation effect in western Kenya. Particularly, the two of following objects peruse by the study; on the performance of supermarkets in Western Kenya the determination of the inventory management automation effects and introducing the inventory management automation extent.

From 12 operational supermarkets out of 11 the data was collected by applying the survey method. Using inferential and descriptive both statistics with the help of SPSS the data was gathered by using structured and analyzed questionnaires. The performance of the supermarket affected by the inventory management automation according to the findings of this study and among the supermarket performance and the inventory management automation there was a positive linear relationship. The conclusion of the study that the inventory management systems should be automated by the supermarket so that the delivery levels of the customer service can be improved and operational costs can be reduced.

There is need the management structures should decentralize by the supermarket, before investment in new technologies must do enough research and specialization of labor encourage was also recommended. For determination that to enhance profits and control their inventory investments how can use the automation by supermarkets was also recommended by the study.

Igor (2011) studied regarding the warehousing operations improvements by mobile barcode systems implementation aimed at process of advancing sales in Croatia. The main purpose of the study is to investigate the effect of implementation of mobile barcode on wholesale trading enterprise, to determine the effect of implementation of mobile barcode on production enterprise engaged in metal manufacturing industry.

Two enterprises were used as study population where business process modeling was used to get data. The results shows that it was justified to mobile barcode systems implementation that by technology implementation the saving made has been considerable. Regarding the process of inventory taking an achievement was made of the immediately visible saving which indicates the benefits of these technologies most transparently in order to process improvement. According to the study conclusion, In the manipulation and identification of the products the IT technologies implementation is an major factor in respect to the business operations improvement.

Makori (2013) investigated that among supermarkets in Nairobi, Kenya the effect of real-time information processing supply chain optimization. The most particular purpose of the study were to get real-time information processing types in Nairobi, Kenya, used by supermarkets in order to determination of the real-time information processing benefits and among the supply chain optimization and real-time information processing establishing the relationship.

The 50 respondents sample size was got from the 105 supermarkets list. By using questionnaires the data was collected from the field and then by using SPSS it can be analyzed and presented in figures and tables. This study shows that in Nairobi, Kenya, all supermarkets used the real-time information processing technology with the use of following technologies: internet, barcodes, mobile phones, GPS and RFID.

The two main benefits were accrued indicates in the study by using the real-time information processing that were increased supply chain visibility, improved inventory management and reducing costs of labor. The results has shown that in Nairobi, more than half of the supermarkets using mobile phones and barcodes.

There is need to train the staff of supermarket regarding the proper use of technologies in order to increase the maximum benefits and it is recommendation from the study. It also suggested that increase in the use of barcodes, internet and mobile phones sine that had significant relations the number of warranty claims, inventory turnover and ROSCI.

2.3.2 Customer loyalty programs and profitability of supermarkets

Research by Bwire in 2016 regarding the loyalty programs effect on mobile telecommunication firm’s financial performance in Kenya. The main purpose and object to find the corporate loyalty effect spent on net assets, the individual loyalty spent effect. In Kenya the population size of mobile telecommunications firms was 3 namely: Airtel, Telkom Kenya Limited and Safaricom Limited and census survey was used. Obtaining from the financial reports and statements the quantitative secondary was used of all three firms of mobile telecommunication in Kenya for five years 2010 to 2014. By using descriptive statistics such as standard deviation and mean the data was analyzed.

The relationship shows by the Pearson Product Moment Correlation Coefficient among all regression and variable analysis was applied to generating the links among financial performance and loyalty programs. The results show a strong connection among the financial performance and loyalty programs of telecommunication firms in Kenya.

The conclusion of the study that loyalty programs are implemented by the telecommunication firms which increase the sales turnover. The suggestions by the study that the firm Mobile Telecommunication ought to loyalty program sponsor; to appreciate the customer, is will increased sales and attracts new customers.

Kamau (2017) examined the loyalty programs effects on customer retention: Nakumatt supermarkets, Kenya case. The following particular objectives was guided by the study; in Nakumatt supermarket to establish the point system effect on customer retention; in Nakumatt supermarket find out the smart card effects on customer retention; in Nakumatt supermarket to determine the giving gift vouchers effect on customer retention as well as determine the discounts effect on customer retention. For selecting 385 respondents from 5 Nakumatt branches operating in Nairobi disproportionate sampling technique was used

Data was collected through structured questionnaires which as analyzed by descriptive statistics such as frequencies, percentage, standard deviation and means by using 20 version of SPSS. To determine the prominent factor, factor analysis was used. The positive relationships shown by the study among variables and customer retention that caused to increasing profitability. According to the conclusion of the study that at Nakumatt supermarket the appositive significant relationship among loyalty programs such as credit card, discounts, gift vouchers and point system on customer retention. The similar study recommended by the study to be done based on supermarkets and other sectors like transport sector, insurance factor or banking sector for comparative purposes in Kenya.

A study conducted by Marcel (2015) on customer relationship management and the performance of the firm; the case of CAMCCUL microfinance institutions revisited. The following objectives was guided by the study: to identify customer programs effect on firms financial performance, to determine the customer computerization effect on firms financial performance and to evaluate the financial bonding effect on firms financial performance. For selecting 200 respondents sample the study was used to obtain primary data the analyzed by descriptive statistics.

To present the relationship b/w variables the regression analysis was used. The findings indicated that among the customer retention program had the most effective impact firm’s financial performance. The study concluded that customer retention programs affects financial performance firms positive and significantly. The study recommended integration of IT infrastructure with customer oriented business architecture and more developed human analytics by firms to gain more competitive advantage.

Sima (2015) investigated in Jordan, the customer loyalty programs impact on customer retention. The following particular objectives was guided by the study; to find out the point system impact, to identify their system reward impact on customer retention, to determine the charging an upfront fee impact for the benefits of VIP on customer retention on and to determine the non-monetary programs effect on customer retention. A randomly selected sample of 350 respondents from all companies of Jordanian customers who could be reached, by descriptive statistics the data was analyzed.

The show the relationship among variables the multiple regression analysis was used. A significant evidence of all loyalty programs effect on maintain and building customer retention showed by the findings. The conclusion of the study was that, for maintaining and building customer retention all loyalty programs are essential and useful which cause to generate high profitability.

The study suggested that there is need to know by the marketers that how can loyalty program to innovate which reflect the customer attitude towards shopping and lifestyle, in respect to create life time customer and keep them loyal to the business to increase more profitability.

Wathigo (2016) conducted study on the loyalty programs effect on customer patronage of supermarkets in Nairobi County. The following objectives of the study were: to analyze the effect of loyalty programs on consumer patronage of supermarkets, to introduce the influence of perceived value loyalty programs in patronage behavior and to determine mediating role of supermarkets' service quality on loyalty program effects. Stratified sampling was used to select 384 loyalty cardholders from Nairobi county four administrative divisions.

Chi-tests and hierarchical regression analysis was also used to analyze data. Results showed a positive impact of loyalty programs on customer patronage of supermarkets in Nairobi County. The study concluded that loyalty programs positively influenced patronage behavior of customers towards supermarkets in Nairobi. The study recommended that supermarkets need to be more innovative at their rewards program offerings.

2.3.3 Plastic money usage and profitability of supermarkets

A study conducted by Mainga (2017) on plastic money transactions effects on the financial position and performance of the credit and savings cooperatives societies in Nairobi County, Kenya. The following specific objectives were find of by the study that mobile money effect on the saccos financial performance and identify the visa cards effects on saccos financial performance in Nairobi county. In Nairobi county 486 employee's population was study of 35 saccos. 146 respondents were used to select from stratified random sampling.

To collect data the questionnaires were used that analyzed by Bivariate correlation and multiple linear regressions in order to show the relationships among variables. The study found that there was positive relationship between the visa cards and mobile money related with Saccos financial performance. The recommendation of the study was that the Saccos management should encourage their customers to use mobile money and visa cards so that the Saccos financial performance can be improved.

Wafula (2015) conducted a study on the effects of plastic money on the financial performance of commercial banks in Kenya. Specific objective of the study was to ascertain whether plastic money usage increased or decreased the profitability of commercial banks in Kenya. The population of the study consisted of all commercial banks in Kenya, forty four (44),involved in plastic money use hence a census of all these banks was used. Descriptive statistics such as mean score for the variable were calculated.

The analysis involved multiple regression of variables under study that is the financial performance represented by net profit number of plastic cards issued by the banks, number of A.T.M system installations, number of Point of Sale Machines, and transaction value of plastic cards by the banks. The findings of the study were that plastic money has a strong and significant effect on the profitability of commercial banks in the Kenyan banking industry.

The study revealed that there was a positive relationship between plastic money and bank performance. The study recommended that commercial banks should revise the commission charged on plastic cards because it had the end effect of encouraging consumers to increase the usage of plastic cards Commercial banks should also collaborate with S.ME's to install ATM/Credit card machines for use by consumers. Banks should also enhance credit risk management by incorporating high technology to mitigate cases of fraud and credit loss provisions. Further research needed to be done on the relationship between money and spending, saving or investment patterns. A study could also be undertaken to show the effects of plastic on money supply.

Rauf (2014) conducted a study on Electronic Debit Card Usage and their Impact on Profitability of Pakistan Banking Sector: ROA, Model. All 46 banks operating in Pakistan were used. Regression analysis was used to analyze data. The study found out that increase in debit card usage enhanced the profitability of banking industry in form of ROA. The study recommended further study in the process of transforming paper based transactions to electronic based to reduce the cost and enhance the customer satisfaction through high quality of service delivery.

Monyoncho (2015) studied relationship between E-Banking technologies and financial performance of commercial banks in Kenya. The specific objectives were to assess the influence of ATMs on the financial performance of commercial banks in Kenya, to establish the effect of debit and credit cards on the financial performance of commercial banks in Kenya, to determine the effect of mobile banking on the financial performance of commercial banks in Kenya and to assess the effect of internet banking on the financial performance of commercial banks in Kenya.

The study population included all 44 commercial banks licensed by Central Bank of Kenya. Secondary data for a five year period was collected from financial statements of commercial banks in line with the specific variables of this study. Descriptive statistics (weighted means, standard deviation) was used to summarize the data using SPSS version 21. Pearson moment correlation was conducted to establish the linear relationship between study variables.

Regression analysis was conducted to establish the nature of the relationship. The study revealed a strong positive relationship between debit cards usage and financial performance of banks in Kenya. The study concluded that debit card usage had a positive influence on financial performance of commercial banks in Kenya. The study recommend that financial institutions should continue in convincing customers to embrace usage of debit cards as it was found to be positively related financial performance.

Munyoro (2016) conducted a study on the Significance of plastic money to the hospitality industry: A case study of rainbow towers group of hotels in Zimbabwe. Specific objectives were to: find out the method of payment preferred by tourists In Zimbabwe, to determine the challenges that hinder use of plastic money in Zimbabwe.

Sample size was 200 respondents picked by purposive sampling. Statistical Package for Social Sciences (SPSS) software was used to analyze data collected and data was presented in the form of frequency distributions and analyzed with various statistical measures. This research found out that plastic money is significant in the hospitality sector of Zimbabwe as it stimulate tourist activity which attracted more foreign currency inflows and spending, thereby impacting positively on the economy as a whole.

The study concluded that plastic money was the preferred method of payment in the hospitality sector it is a cheap method of payment compared to carrying hard cash. The study recommended awareness campaigns to promote the usage of plastic money as a safe and convenient method of transacting. It encouraged players in Zimbabwe's hospitality sector to take advantage of such technological innovations in order to maximize revenue and remain competitive. Also the study recommended the branded loyalty card system as a way of attracting and retaining customers with the overall objective of maximizing sales in the sector.

Kyalo (2014) studied the effects of usage of credit card on the performance of commercial banks in Kenya. The specific objective of the study was to determine whether the credit card usage will increase or decrease the profitability of commercial banks. A census study of 7 Commercial which were offering the credit card during the period under study was carried out. Secondary data drawn from the published annual reports of commercial banks and the Central Bank of Kenya for the seven commercial banks for the period between 2009 and 2013 was used. Descriptive statistics such as means score, frequencies and percentages for each variable were calculated.

The analysis involved multiple regressions of variables under study that is the financial performance represented by return on assets, number of credit cards offered during the period of study, the number of transactions done by the customers using the credit cards, the amount of money customers have transacted using the credit cards, leverage ratio of banks and the age of banks. Using OLS regression method, inferential tests including the Pearson Product Moment Correlation Coefficient and regression analysis was conducted. The result indicated a positive relationship between credit card usage and financial performance of the commercial banks.

The study concluded that credit cards positively contribute to the financial performance of commercial banks as indicated by the study findings The study recommended that commercial banks should revise the interest rate charged on the credit cards. This has the end effect of encouraging consumers to increase the usage of credit cards.

On analysis of the use of plastic money Hajela (2015) conducted a study: A boon or a bane. The particular object of the study was the use of plastic money and awareness among the study consumers and consumers which most specific reason for preference of plastic money over paper money.

The method of Stratified Random Sampling was used for selection of 200 respondents which includes consumers such as working professionals, students, senior citizens, house makers and government officials. Primary data and secondary data both were used.

By use of questionnaires the primary data was collected and it was analyzed by descriptive statistics. Consumer most preferred to the plastic money over hard cash and it was found according to the study and the main benefits of the plastic money is that it is most accessible and convenience for consumers.

The conclusion of the study is that the most preference of the consumer is to use plastic money over paper money for their transactions and is satisfied using it. The recommendation of the study is a furthermore research on usage of plastic money trend.

2.3.4 Mobile retailing usage and profitability of supermarkets

In 2015 Ritho and Jagongo was conducted a study the effects on mobile banking on financial performance of the Commercial Banks in Kenya. The following specific objectives were guided by the study: to find out the cost of m-banking service effects on commercial banks financial performance; to assess the security system of m-banking effect on commercial banks financial performance, to establish the relationship among commercial banks financial performance and m-banking service speed and to identify the effect of required skills by use of m-baking services on commercial banks financial performance in Kenya.

In Kenya the 43 commercial banks population was studied that targeting all commercial banks IT managers or directors in their headquarters in Nairobi. For collection of data the questionnaires was used in order to pick and drop system.

By using descriptive method the collected data was analyzed with the help of computer package SPSS. By using statistical methods the analyzed data was presented such as bar graphs and charts. According to findings there are highly positive impacts of M-baking service on the commercial banks financial performance in Kenya.

In order to promote confidence and efficiency in the financial system the M-baking helped in many ways thus winning the trust of public. It also found by the study that through M-banking the speed and security has a positive effects on the financial performance of the commercial banks in Kenya with many of other banking sectors recording deposit at high amount and creating sufficient pool for investors in order to willing to borrow to increased profit.

The study found that the m-banking service prices have positive impact in Kenya's commercial banks financial performance. The recommendations of the study that the consideration of banks should be coming with fair and clear prices of m-banking which creates universal platforms for all banking sectors to enhance clear and fair market completion and from customer exploitation thus bar financial institutions.

It was also suggested by the study that the low transaction rates should be offered by the financial institutions within their mobile networks in order to ensure the various customer deposits are secured and protected at all times to lure customer to adopt this as a culture to ensure the sustainability of m-banking in future.

The study was conducted by Momanyi in 2015 on mobile banking effects on commercial banks profitability in Kenya. The 43 commercial banks was targeted population operating in Kenya. According to for the past five years the total transferred amounts by mobile banking were collected and the users' numbers of active mobile banking was regressed against to the performance of bank measured by Return on Assets (ROA). The secondary data was used by study from the central bank on Kenya and statistics of Kenya National Bureau. Under study the multiple regressions analysis of variables were involved.

It was found by the study according to the regression model of five years there is positive relation b/w the mobile banking and the profitability of banks. It was shown by the study that the mobile banking has an impact on the commercial banks profitability in Kenya. The conclusion of the study that the number of opportunities offered by the mobile banking for increasing the revenues. The study suggested that the new technologies should adopt by the commercial banks that will cause to improve their profitability.

Mobile banking should also considered by the policy makers in the formulation of their policies because of the development of technology and from physical branch networks the expected switch to supported banking services technologically which will generated profitability that will convert to the better tax revenues for the government.

It was suggested by the study that there should be an increase in the country's agency banking networks, to tap on the unbanked populations since the positive impact of agency banking on the profitability of banks.

Kithaka (2014) investigated the mobile banking effects on the commercial banks financial performance in Kenya. The specific objectives of the study were to determine the mobile banking effects on the commercial banks financial performance in Kenya. A census method was adopted where practicing of mobile banking of all commercial banks were studied in Kenya.

The secondary data was used by the study from the Audited Financial statements of the Banks, which deposited at the annual baking survey reports of commercial banks financial performance of the and at the Nairobi Securities Exchange . By using SPSS (Statistical Package for Social Sciences) the data was analyzed. Through descriptive statistics including frequency counts, mean, mode, percentage and median the quantitative analysis was done.

The study conducted an Analysis of Variance (ANOVA) to the test for mobile banking effects and for the model strength on commercial banks financial performance in Kenya. The study found out from the regression model that the variables of mobile banking wee impacting on the commercial banks financial performance in Kenya, which through mobile banking, capital adequacy, bank liquidity, asset quality, number of users of mobile banking, and management efficiency the annual amount of money moved.

The conclusion of the study that there is an significant positive effect which mobile banking had on commercial banks financial performance in Kenya. The recommendation of the study that mobile banking should be considered by the policy makers in their policies formulation because of the technological developments the expected switch from physical branch networks to technologically supported banking services.

The further, it was recommended that the commercial banks should use and adopt mobile baking in their operational activities because a number of people increasing day by day with access to a mobile hand set.

Eugenie, Laurie and Cole (2014) conducted a study on the mobile apps impact on the revenues of small business. The specific objectives of the study were: To investigate that how new technology used by the small businesses, to determine how the technology impacted on the revenues, and to find out how the business owners are satisfied with these activities.

321 online random samples of owners of small business throughout the US (United States) was used. To get the data from the respondents the online questionnaire was used. To analyze the gather data Descriptive statistics was used. 53% reported increased revenues for their use as the results shows b/w those businesses that use the mobile applications and more than 25% revenues increased according to the report over the quarter of those businesses in their total revenues.

The conclusion of the study that relying and using the mobile smart phones for the small businesses are critically important for the activities such as decision of purchasing, to stay competitive with their larger counterparts. The recommendation of the studies that there is need to more research on the types of applications that cause successfully to increase revenues, from the use of such application the industries who gets most of the benefits, and the analysis of benefit/cost related to the incorporating applications in the strategy of advertising.

2.4 Summary of Empirical Literature and Research Gap

This section shows evidence of research gaps, these gaps range from contextual, conceptual and knowledge gaps. A number of studies on financial innovation usage and profitability of supermarkets were conducted in developed and other countries other than Kenya. Similarly, these studies are inconclusive as they are characterized by mixed results thus the contextual and knowledge gaps respectively.

The proposed study seeks to address these gaps in literature by evaluating the effect of financial innovation usage and profitability of supermarkets in Kenya.

Table 2.1: Summary of Empirical Literature and Research Gaps

Researcher	Objective of the study	Findings of the Study	Research gaps	Focus of this Study
Njenga(2017) KENYA	Role of Electronic Point of Sale on Supply Chain performance of Retail sector	It concluded that that electronic point of sale play an important role in the supply chain performance.	The only focused on rapid scan system, cloud based system and mobile retailing.	The study will incorporate loyalty programs, plastic money and barcode usage.
Bwire (2016) KENYA	Effect of loyalty programs on financial performance of mobile telecommunication firms in Kenya.	Study concludes that Telecommunication firms implemented loyalty programs which enhances sales turnover.	The study focused only on communication sector.	The study focus on retail sector.
Kamau (2017)	Effect of loyalty programs on customer retention: a case of Nakumatt supermarkets, Kenya	There is a positive significant effect between loyalty programs and customer retention at Nakumatt supermarkets.	They only focused on Nakumatt supermarkets.	The study will incorporate all supermarkets in Mombasa county.
Jagongo & and Ritho (2015)	Conducted a study mobile banking effects on Commercial Banks financial performance in Kenya.	The study conclude that the prices of M-banking services had a high positive effect on financial performance of commercial banks in Kenya.	The study focused on commercial bank	This study will focus on supermarkets.
Momanyi (2015	Effects of mobile banking on profitability of commercial banks in Kenya.	The study concluded that mobile banking offer banks several opportunities for increasing revenues.	Study focused on commercial banks.	This study will focus on supermarkets
Hajela (2015)	Conducted a study on the analysis of the use of plastic money	The study concluded that customer's mostly prefer to use plastic money over cash for their transactions and is satisfied using it.	Study focused on professionals, government officials and teachers.	The study will focus on supermarkets customers.

Source: Researcher (2018)

2.5 Conceptual framework

In a study diagrammatic representation of variables refers to the conceptual framework. In a board structure of clear statements the variables are systematically that shows the relations b/w two or more empirical properties to be rejected or accepted. It comprise of dependent and independent variables. The criterion or predictor variables or dependent variables are the one that the researchers wish to explain. The exploratory or independent variables is assumed that it cause the changes in dependent variables (Obaga, 2016).

Profitability is dependent on financial innovation usage, therefore it is the dependent variable. Similarly, the independent variable is the financial innovation usage which are barcode, loyalty programs, plastic money and mobile retailing.

Independent variable

Financial Innovation

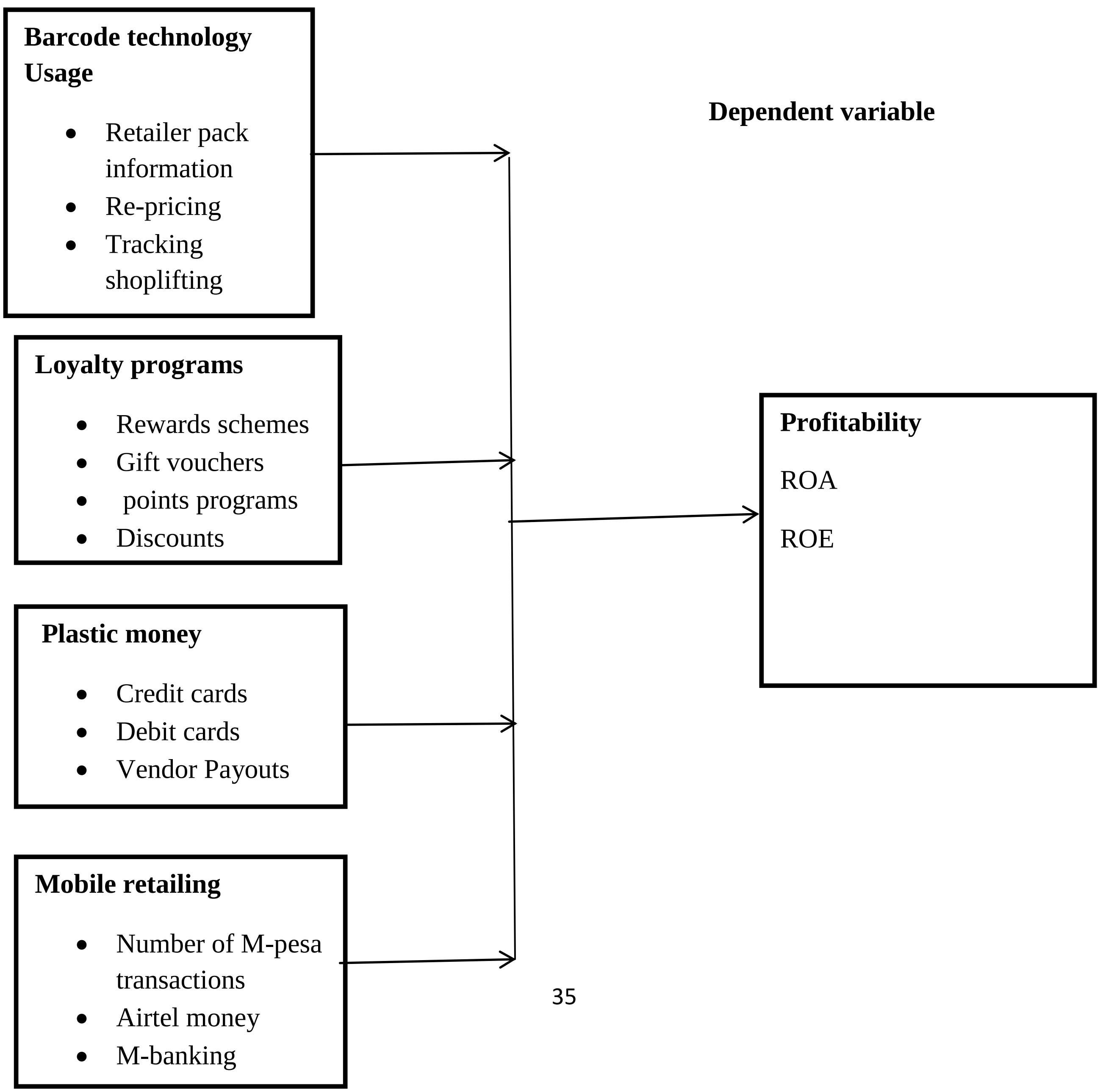

Figure 2.1 Conceptual Framework

Source: Researcher (2018)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter comprises of the methodology of the research. It constitutes the, target population, research design, data analysis and data collection instruments and procedure, data analysis and presentation.

3.2 Research Design

It provides the basis and nature of data collected and methods used to collect data through instruments. It involved field observations from where researchers involved the views of interest to inquire certain issues concerning their study. The researcher collected data without field manipulation or bias of the research instrument to involve naturally occurring phenomena facts which enabled to study.

In this study, the researcher used descriptive research design. The study was based on descriptive design, because it was based on the fact given from the field as described in the study. Mombasa town supermarkets are a representative of other Kenya supermarkets and was described the way it is. It was applied to this study to obtain information with respect to study variables.

3.3 Target Population

The study was conducted in five supermarkets in Mombasa town. The target population of the study was 214 employees selected from finance-related sections, and accounts sections of the supermarkets were picked. The target population comprised of employees from five supermarkets operating in A One Digo 27, Budget 46, Naivas 41, Society stores 31, and Tuskeys 48 supermarkets.

Table 3.1 Target Population

Supermarket Name	Target Population
A One	27
Budget	46
Society Stores	31
Naivas	52
Tuskys	58
Total	**214**

Source: Individual Supermarkets (2018)

3.4 Sample Size and Sampling Procedures

Ogula (2005) defined sample is the subset taken from the whole population to make inferences in the research. The good sample is taken to represent the whole population which can generalize the findings. The sample size for this study was 85 employees working in accounts related sections, procurement and audits and was selected from the entire population by use of stratified sampling method by applying proportionate sampling across the target population.

The 40 percent of the entire population picked by the study. Thus the sample of the study was 85 respondents. A representative sample with at least 0% of the population thus the 20% or 40% choice is considered as the representative according to Cooper and Schindler

(2011). Furthermore, it is stated by the Mugenda and Mugenda (2007) that the sample size of b/w 10 percent and 30 percent of the whole population is enough for any academic research. A sample of 40% is therefore deemed more representatives in this research.

Table 3.2 Sample Size Determination

Supermarkets	Target population	Proportion	Sample size
A One	27	0.4	11
Budget	46	0.4	18
Society stores	31	0.4	12
Naivas	52	0.4	21
Tuskys	58	0.4	23
Total	**214**	**1.00**	**85**

Source: Researcher (2018)

3.5 Data Collection Instruments

The study used primary data by use of research questionnaire. The questionnaire was closed ended and arranged using scale of point 5 because it will be appropriate to abide by the validity and reliability. According to Oso (2008), the questionnaires was used for data collection technique from respondents under study. Copy of questionnaires was chosen due to time frame and partly, because the researcher was handled unique respondents.

3.5.1 Validity of Research Instruments

According to Mugenda (2009), validity refers to the degree to which a study measures what it is proposed to measure and it indicates how sound the research is. Validity was done by content validity and face validity with the help of the researcher's supervisor and relevant experts under the study.

To improve validity of the research instruments a pilot study was done in Woolmatt supermarket in Nairobi and was not be sampled in the final sample. The pilot questionnaire was analyzed to find unclear or ambiguous statements to the respondents. Such items was reviewed and corrected, thereby improving face validity of research instruments.

3.5.2 Reliability of Research Instruments

The researcher established reliability of the research instrument by use of Cronbach's Alpha coefficient of internal consistency because it gives a unique quantitative estimate of the internal consistency of the scale. According to Saunders (2009) for the instruments to be reliable, the alpha coefficient has to be more than 0.7.

A pilot study was done in Woolmatt supermarkets in Nairobi with 20 questionnaires which was included in the final study because it has the same operations as those in Mombasa Town supermarkets. The researcher took the questionnaire to the employees from the supermarkets not included in this study.

3.6 Data Collection Process

The researcher adopted drop and pick method in data collection. Primary data was collected by use of self-administered questionnaire. The questionnaire was used to obtain and gather information to analyze and compare. Two research assistants were engaged to mainly make follow-up of the administered questionnaires. Questionnaire was administered to employees of the supermarkets.

3.7 Data Analysis and Presentation

Data collected was edited, coded and key in to the statistical programs for analysis then the coded data was analyzed using descriptive statistics such as, percentage, mean, average weighted mean and standard deviation by use of a software of Statistical Package for the Social Sciences SPSS and inferential statistics to analyze quantitative data. The data was presented in tables and figures and then the findings were drawn.

The study was analyzed by multiple linear regression model in order to assess the relationships between financial innovation usage and Profitability.

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 \varepsilon$…..where

Y-Profitability measured by ROA and ROE

X_1 – Use of barcode technology

X_2 – Use of loyalty programs, X_3– Use of plastic money and X_4 Use of mobile retailing

$\beta_1, \beta_2, \beta_3$, and before.

In the model β0, - is a constant term of the variables and B-Measure of the sensitivity of the depended variables Y is a predictor variable - is an error term to establish an unexplained variation in the model and its variability tested by 0.05 sensitivity analysis. The data was presented in tables and figures. Inferential statistics was used to give final conclusion of the study.

3.8 Ethical Consideration

A moral consideration was taken into by first looking for research permit from NACOSTIC and approval from top management of the supermarkets. The study further sought authorization from the graduate school of Kenyatta university before commencing the data collection process. A questionnaire was prepared in such a way that there was no state of the respondent name.

A statement as to the severe confidentiality with which data was held specifically stated in the questionnaire. Moral considerations were also taken care of by the researcher meeting the respondents as to the purpose of exploring and prospect from them.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

The chapter presents the research findings of the study on the relationship between the financial innovation usage and profitability of supermarkets in Mombasa County in Kenya. Whereas the study had targets 214 supermarkets and sampled 85 respondents which considered adequate.

The data collected was analyzed using SPSS, and the findings were presented based on the following objectives; to determine the effect of use of barcode technology on profitability of supermarkets in Mombasa County, Kenya, to evaluate the effect of use of loyalty programs on profitability of supermarkets in Mombasa County, Kenya, to establish the effect of use of plastic money on profitability of supermarkets in Mombasa County, Kenya and determine the effect of use of mobile retailing on profitability of supermarkets in Mombasa County, Kenya

4.2 Data analysis and findings

The data collected from the respondents was analyzed and the findings presented below.

4.2.1 Response Rate

After obtaining a research approval from the university and a research authorization from the National Commission for Science, Technology and Innovation, the researcher distributed a total of 85 questionnaires to the respondents. Out of this, 73 questionnaires were filled and collected while 12 were not filled making a total response rate of 86%. According to Mugenda and Mugenda (2003) 50% response rate is deemed to be fair, a response rate of 60% is considered good and a response rate of over 70% is excellent.

Therefore the response rate of 86% which was achieved during data collection was adequate for this study as shown in table 4.1 below.

Table 4.1: Response Rate

Status of questionnaires	**Number of questionnaires**	**Percentage**
Filled questionnaires	73	86
Unfilled questionnaires	12	14
Total	**85**	**100**

Source: Researcher data (2019)

4.2.2 Gender of Respondents

The study showed that 49(67.1 percent) were male and 24 (32.9 percent) were female. The number of female in the supermarkets 24 (32.9 percent) is characterized to have attitude towards the financial innovation usage and profitability of supermarkets in Mombasa County in Kenya.

Table 4.2 Gender of respondents

	Frequency	Percent
Male	49	67.1
Female	24	32.9
Total	73	100.0

The study results showed that the majority of the respondents in supermarkets in Mombasa town were male and they influence profitability.

4.2.3 Age of respondents

The study sought to find out the respondent's age from the indicated range. Results in table 4.3 revealed that 37.0% of the respondents were aged 26-35 years, 35.6% of the respondents were aged between 36-45 years, 27.4% were aged less than 25 years, and none of the respondent was aged 50 years.

Table 4.3 Age Bracket

		Frequency	Percent
Valid	Below 25 years	20	27.4
	26-35 years	27	37.0
	36-45 years	26	35.6
	Total	73	100.0

Field data 2018

The findings of the study implied that the factories were dominated by middle aged group of people which implied that they were active to achieve the firm's long term objectives in financial innovation usage.

A young and active employee was able to manage and to passionately make the vision of an organization. This study concurred with Nduati, (2014) whose majority of respondents were of middle age group.

4.3.3 Education Level

The study sought to find out the education characteristics of employees working in supermarkets. The respondents were asked to indicate their highest level of education.

Table 4.4 Education level

		Frequency	Percent
Valid	KCSE	12	16.4
	Certificate	17	23.3
	Diploma	24	32.9
	Degree	19	26.0
	Others	1	1.4
	Total	73	100.0

The findings in table 4.3 illustrated that 32.9% of the respondents had diploma qualification. Bachelor degree holders were represented by 26.0%, certificate had 23.3 %(17) and 12(16.4%) were qualified with KCSE. The result indicated that the majority of the respondents had diploma qualification.

Education background defines the level of understanding of the research instrument and the phenomena under study. Therefore, respondents in this study moderately understood the effect of financial innovation on growth of supermarkets.

Muturi (2015) analyzed the effect of financial innovation adoption on profitability of tea factories in Meru County in Kenyain his study had a contrary view on the education level indicate the high level of education of respondent were attained university level of education hence more knowledge on using financial innovation practices.

The study findings revealed that majority of the employees had attained adequate education which is diploma to enable them clearly articulate the financial innovation aspects under study.

4.3 Descriptive Analysis

4.3.1 Barcode technology and profitability of supermarkets

The respondents were asked to give their response to what extent does barcode technology undertaken by the supermarket facilitate financial innovation usage with agreeing or disagreeing with the statement as presented in table 4.4.

Table 4.4 Effect of barcode technology on profitability of supermarkets

Effects	N	Mean	Std. Deviation
The utilization of check out time spent influences EPOS to track inventory	82	3.68	1.064
Using scan systems eliminate human errors	82	3.50	1.125
Using Retailer pack information enable Re-pricing	82	2.56	1.334
EPOS helps in calculating how much to order to prevent shoplifting	82	3.39	1.108
Scan systems is rapid, more accurate and efficient means of data processing	82	3.99	.882
Scanning systems promote better decision making because of accurate and raid data	82	3.90	.833
Automatic reordering improve service speed to Customers	82	3.75	1.065

The study showed that scan systems is rapid, more accurate and efficient means of data processing offered by supermarkets increase profitability of supermarkets with m=3.99 and SD=.882 was the maximum on supermarkets services, secondly with scanning systems promote better decision making because of accurate and raid data increase market share of supermarket products m=3.90 and SD=.833, followed by facilitation of supermarket profitability by Automatic reordering improve service speed to customers will increase profit m=3.75 and SD=1.065, respondents believe that utilization of check out time spent influences EPOS to track inventory through business innovations m=3.68 and SD=1.064, respondents enjoy with groups registered to deal with similar products m=3.50 and SD=1.125, provides facilitations in forming EPOS helps in calculating how much to order to prevent shoplifting m=3.39 and SD=1.108 and it encourages the use of retailer pack information enable re-pricing m=2.56 and SD=1.334.

From the results, it was found that supermarket do not encourage the use of retailer pack information enable re-pricing and scan systems is rapid, more accurate and efficient means of data processing. The study findings was supported by Hassan (2017) which found that firms re-price goods using scan systems rapidly from financial innovations. A study by Kagira (2015) contradicts with the findings which indicated that financial innovation is more accurate and efficient in data processing phenomena.

4.3.2 Loyalty programs and profitability of supermarkets

The respondents were asked to give their answers to what extent does to what extent they agree with the following as the outcome from giving loyalty programs offered on profitability. Table 4.5 presented the results.

Table 4.5 Loyalty programs and profitability of supermarkets

Aspect of loyalty programs	N	Mean	Std. Deviation
Supermarket has implemented rewards schemes	82	4.38	1.017
It has integrated processes of gift voucher for better sales	82	3.63	1.060
Supermarket has appropriate point systems can save time, improve accuracy increase sales	82	4.83	1.028
Cash transaction have advantage if it effectively designed with loyalty programs	82	3.75	1.011
Supermarket has discounts strategy to facilitate stimulate customer sales as they rise profit level	82	2.61	1.019
it encourages shoppers to pay in stores and access frequent purchases	82	3.68	1.064
Some of the incentives may include advanced access to new products, additional discounts or sometimes free merchandise.	82	3.64	.978
Customers typically register their personal information with the company and are given a unique identifier	82	3.75	1.025
Numerical ID or membership card, and use that identifier when making a purchase	82	3.61	1.051
Loyalty programs provide rewards customers for brand loyalty with wealth of consumer information	82	3.95	1.065
Supermarket can evaluate anonymous purchase	82	3.60	1.236
The use of a loyalty program offer additional information about the types of products that may be purchased to together	82	3.61	1.051
Reward programs are integrated into the customer’s everyday routine can cultivate true brand loyalty	82	3.95	1.065

Supermarket which have appropriate point systems can save time, improve accuracy increase sales m=4.83, sd=1.028 was the maximum followed by Supermarket have implemented rewards schemes with m=4.38 and sd=1.017. Cash transaction have advantage if it effectively designed with loyalty programs m=3.75 and sd=1.011, it encourages shoppers to pay in stores and access frequent purchases with m=3.68 and sd=1.064, some of the incentives may include advanced access to new products, additional discounts or sometimes free merchandise with m=3.64 and sd=0.978, It has integrated processes of gift voucher for better sales m=3.63 and sd=1.060 and the supermarket has discounts strategy to facilitate stimulate customer sales as they rise profit level performance m=2.61 and sd=1.019.

The study contradicts by Wafula (2015) which noted that cash transaction with plastic money has appropriate point system which save and improve accuracy in sales. However, Rauf (2014) agreed by indicating that debit card usage improve profitability of banks. That is increase in debit card enhances profitability of banks and vise vase.

4.3.3 Plastic money and profitability of supermarkets

The study sought to examine the extent which respondents agree that the following are the activities undertaken for facilitation of plastic money on profitability.

Table 4.6 Plastic money and profitability of supermarkets

	N	M	Std. Dev.
Supermarket use credit cards to provide method enabling cardholder to make purchases	82	3.95	1.065
Cardholder is obligated to repay the debt to the card issuer in full by the due date	82	3.60	1.236
Credit cards are sometimes used interchangeably, they are distinct protocols of financial transactions	82	3.23	1.643
Credit cards are revolving credit instrument that do not need to be paid in full every month	82	4.17	.991
There is no late fee payable so long as the minimum payments are made at specified intervals.	82	4.27	5.799
Debit cards can be used to shop online	82	4.07	.979
Debit card transactions require remembering of PIN number as measure for financial security	82	4.22	.754
Customer can borrow money that they need to pay back in full when their statement period ends.	82	3.23	1.643
Debit cards are linked to bank account, on other hand, so they are drawing money directly from that account to use	82	3.61	1.051
Customer avoid paying interest on outstanding balances	82	3.95	1.065
Unlike credit cards customer cant' spend money don't have in the account(barring overdraft protection features)	82	3.60	1.236

The study showed that there is no late fee payable so long as the minimum payments are made at specified intervals. as a result of financial innovations m=4.27 and sd =5.799, Debit card transactions require remembering of PIN number as measure for financial security m=4.22 and sd.754, Credit cards are revolving credit instrument that do not need to be paid in full every month made m=4.17 and sd.991, and supermarkets use debit cards to shop online m=4.07 and sd .979 was the maximum indicators of profitability, while minimum responses indicated that unlike credit cards customer cant' spend money don't have in the account(barring overdraft protection features) supermarkets cannot allow customer borrow to money that they need and pay back for the goods m=3.23 and sd.1.643. This implies that supermarkets neither can either nor use credit cards sometimes interchangeably which are distinct protocols of financial transactions.

The findings supported the study of Monyoncho (2015) which found that e- banking technology is enhanced by debit card transactions. Munyoro (2016) said that supermarket can either use debit of credit card interchangeably with financial transactions in pay back for goods bought. Debit card can resolve credit instruments which do not require payment of full in every month.

4.3.4 Mobile retailing and profitability of supermarkets

The study sought to examine the extent to which the following aspects of mobile banking services with respect to supermarkets. The results were presented in table 4. 5

Table 4.7 Effects of Mobile retailing and profitability of supermarkets

	N	Mean	Std. Deviation
M-pesa can deposit and withdrawal money from a network of agents that includes resellers and retail outlets acting banking agents	82	4.61	1.051
Airtel money allows users to deposit money in into an account stored on their cellphone	82	3.95	1.065
Mobile banking can transfer ,money and pay for goods and services easily with a mobile device	82	4.60	1.236
Mobile retailing one can redeem deposits for regular money.	82	4.68	1.121
Users are charged a small fee for sending and withdraw using the service in supermarket	82	4.74	1.236
M-pesa is branchless banking service where customers can deposit and withdraw money from a network of supermarket agent	82	4.62	1.051
Mobile banking has spread quickly and had become the most successful mobile phone based financial services	82	3.23	1.643

The study showed that Users are charged a small fee for sending and withdraw using the service in supermarket had the highest effects m= 4.74 and sd. 1.236, followed by Mobile retailing one can redeem deposits for regular money m=4.68 and sd. 1.121, M-pesa is branchless banking service where customers can deposit and withdraw money from a network of supermarket agents m=4.62 and sd. 1.051, M-pesa can deposit and withdrawal money from a network of agents that includes resellers and retail outlets acting banking agents m=4.61 and sd.1.051, Airtel money allows users to deposit money in into an account stored on their cellphone have actively encouraged and facilitated with the use of ICT among financial groups m=3.95 and sd. 1.065 and marketing services m=3.90. The study revealed that users are charged a small fee for sending and withdraw using the service in supermarket for buying goods.

The study agreed with Eugenie, Laurie and Cole (2014) mobile mpesa is branchless use of banking in purchase. It can deposit and withdraw money without going to the bank using supermarket agents. However, Kitaka (2014) showed that mobile banking affect financial performance of banks.

4.4 Correlations Analysis between financial innovation usage and profitability

The study sought to establish the correlations between the influence of financial innovation usage and the profitability of supermarkets in Kenya. The correlation matrix was presented in table 4.8.

Table 4.8 Correlation matrix

		Barcode technology	Loyalty programs	Plastic money	Mobile retailing
Barcode technology	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	82			
Loyalty programs	Pearson Correlation	.802**	1		
	Sig. (2-tailed)	.000			
	N	82	82		
Plastic money	Pearson Correlation	.422**	.520**	1	
	Sig. (2-tailed)	.000	.000		
	N	82	82	82	
Mobile retailing	Pearson Correlation	.618**	.764**	.700**	
	Sig. (2-tailed)	.000	.000	.000	1
	N	82	82	82	

From table presented, the study showed that there exist a strong correlations (.802**, .000) between loyalty programs offered and profitability with significant influence of less than 0.01. The indicated that there is potential of Loyalty programs as financial innovation increases profitability and hence advances to it. There a weak correlations between Plastic money (.422**) and statistically significant and moderate correlation between Mobile retailing (.618**) and profitability. This implies that there exist a moderate correlation between financial innovation usage and profitability. This implies that since the majority of the supermarkets financial innovations are used to improve profitability of supermarkets.

4.5 Regression analysis

In order to establish the relationship between independent variable and dependent variables, multiple regressions was analyzed. The research study aimed to analyze the relationship between financial innovation usage and profitability. The study revealed that 86.4% of profitability in supermarkets could be explained by the variables under study. From this study it is evident that at 95% confidential level, the variables produce statistically significant values and can be relied to explain profitability in the supermarkets.

Table 4.9 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.929[a]	.864	.857	.29638

a. Predictors: (Constant), Barcode technology, Loyalty programs,
Plastic money, Mobile retailing

From the analysis, The study revealed that independent variables financial innovation usage in this study has influenced to 86.4% variation in profitability of supermarkets as explained by Adjusted R Square of 85.7% .

Analysis of Variance (ANOVA)

Analysis of Variance shows the relationship between two variables. The section shows how the researcher has conducted inferential statistics with p-value (sig' for significance influence on the criterion variable. The p-values less than 5% are generally considered significant. This study the researcher observed the relationship between financial innovation usage and profitability of supermarkets. The results were presented by ANOVA table 4.8.

Table 4.10 ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	42.934	4	10.733	122.192	.000[b]
1	Residual	6.764	77	.088		
	Total	49.698	81			

a. Dependent Variable: profitability

b. Predictors: (Constant), Barcode technology, Loyalty programs, Plastic money, Mobile retailing

From the ANOVA results, the p-value 0.000 was analyzed means that regression model was statistically significant in predicting the relationship between financial innovation usage and profitability of supermarkets and the predictor variables as it was less than 5%. By use of the F* test table (5%, 4) tabulated value was 3.47 which was not more than the calculated f=122.192 as well indicated that the model was significant.

Table 4.111 Coefficience

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.112	.209		.534	.000
	Barcode technology	-.141	.080	-.125	-1.774	.080
	Loyalty programs	.302	.081	.319	3.710	.000
	Plastic money	.289	.066	.259	4.398	.000
	Mobile etailing	.589	.083	.550	7.065	.000

The researcher conducted regression analysis to determine the relationship between financial innovation usage and profitability of supermarkets. The following regression equation was established;

Y (profitability) = $0.112 - 0.141X_1 + 0.302X_2 + 0.289X_3 + 0.589\,X_4$

From the regression model obtained above, holding all other variables constant, financial innovation usage affect profitability of supermarkets. The regression equation revealed that there is direct relationship between financial innovation usage and profitability of supermarkets. The analysis was conducted at 5% significance level. The criterion for correlating the corresponding predictor variables were significant in the regression model which was through p-values 5%. If the p-value is less than 5%, then the predictor variable is significant. Therefore, from the above analysis financial innovation usage was significant in the model as its corresponding predictor variables profitability of supermarkets were less than 5%. Apart from barcode technology which was insignificant with a p-value of 0.08. The study was supported by Bwire (2016) which found that financial innovation from loyalty programs has significant effect on financial performance of mobile telecommunication firms in Kenya

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter presents summary, conclusions and recommendations of the study. The data collected and analyzed based on the following objectives; to determine the effect of use of barcode technology on profitability of supermarkets in Mombasa County, Kenya, to evaluate the effect of use of loyalty programs on profitability of supermarkets in Mombasa County, Kenya, to establish the effect of use of plastic money on profitability of supermarkets in Mombasa County, Kenya and determine the effect of use of mobile retailing on profitability of supermarkets in Mombasa County, Kenya

5.2 Summary of the study findings

Performance of supermarkets across the country contributes to the development of economy through service sector. The problem is financial challenges affecting supermarkets/financial underperformance. To achieve this economic growth there is need to embrace the latest technology usage which helps in channeling money across transaction space, Information database, risk management and pooling of funds in order to support decision making process, and a problems of a symmetric information, addressing moral hazards and a system of payment which based on purchase and sales of goods and services by payment system. However there still seem to be a challenge in achieving the best performance of these firms. Mobile banking, online banking and real time gross settlement and automated teller machines are some of financial innovations that have had strong effect on profitability both individually and collectively. Use of ATMs, SMS banking for example increased transactions due to easy access of accounts on machines placed at strategic locations. Online banking and mobile banking all brought services close to the customers and reduce cost of operation.

The study presents the background to the study by capturing the conceptual, theoretical and contextual issues explaining the study. Hence, the research problem, which documents the knowledge gaps that the study sought to fill, culminates to the objectives of the study. The study highlights the anticipated value addition from the research effort. The study also documents relevant literature on the study variables from the local as well as foreign markets and subsequently develops a conceptual model to show the study relationships. The study used descriptive design (cross-sectional and longitudinal designs). A sample size of 384 individual investors was taken from the 16 investment banks where investors bought and sold shares. This section gives a summary of the findings of this study.

The first objective of the study was to determine the effect of usage of barcode technology on profitability of supermarkets in Mombasa County, Kenya. The study established that the model was positively not statistically significant between usage of barcode technology on profitability of supermarkets in Mombasa county, Kenya as measured by return on assets. This findings indicate that the usage of barcode technology by supermarkets has nothing to do with their profitability.

The second objective of the study was to establish the effect of usage of loyalty programs on profitability of supermarkets in Mombasa County, Kenya. The study established that the model was positively statistically significant between usage of loyalty programs on profitability of supermarkets in Mombasa county, Kenya as measured by return on assets. This findings indicate that as customers increase in the usage of loyalty programs, the profitability of supermarket continue to improve.

The third objective of the study was to evaluate the effect of usage of plastic money on profitability of supermarkets in Mombasa County, Kenya. The study established that the model was positively statistically significant between usage of plastic money on profitability of supermarkets in Mombasa county, Kenya as measured by return on assets. This findings indicate that as customers increase in the usage of plastic money, the profitability of supermarket continue to improve.

The fourth objective of the study was to determine the effect of usage of mobile retailing on profitability of supermarkets in Mombasa County, Kenya. The study established that the model was positively statistically significant between usage of mobile retailing on profitability of supermarkets in Mombasa county, Kenya as measured by return on assets. This findings indicate that as customers increase in the usage of mobile retailing, the profitability of supermarket continue to improve.

5.3 Conclusion of the study

Using barcode technology, the study found that scan systems is rapid, more accurate and efficient means of data processing offered by supermarkets increase profitability of supermarkets. The facilitation of supermarket profitability by automatic reordering improves service speed to customers increased profit and supermarkets did not encourage the use of retailer pack information enable re-pricing.

The study concluded that loyalty programs offered was appropriate point systems which can save time and improve accuracy in sales. Supermarket has implemented rewards schemes, cash transaction have advantage if it effectively designed with loyalty programs. The supermarket provides discounts to stimulate customer sales as result increase profit level performance.There is no late fee payable so long as the minimum payments made at specified intervals as a result of financial innovations. This implied that supermarkets neither can either nor use credit cards sometimes interchangeably which are distinct protocols of financial transactions.

On the aspects of mobile banking services with respect to supermarkets, the study concluded that users are charged a small fee for sending and withdraw using the service in supermarket, followed by mobile retailing one can redeem deposits for regular money, while Airtel money allows users to deposit money in into an account stored on their cell-phone have actively encouraged and facilitated with the use of ICT.

5.4 Recommendation of the study

In light of the findings of this study and the conclusions drawn from them, the following will be recommended: Firstly, the researcher will recommend to the investors in supermarkets to understand and make use of the role of financial innovations to enhance growth and profitability in supermarkets. Investors in this business need to find strategies that will make them gain competitive and advantage to increase their profits. From this study they will be able to know the kind of financial innovation to invest in so as to improve on their financial performance.

The researcher will also recommend to policy makers in the area of regulation and supervision of businesses in Mombasa County to know the effect of financial innovation on profitability of supermarkets. The study will provide useful lessons on how various legal, regulatory and procedural requirements could impact on supermarkets as they endeavor to conform. This will help them formulate policies that will support and enhance usage of innovations in order to improve business performance. This recommendation is in-line with the application of usage of royalty programs, plastic money and mobile retailing on profitability of supermarkets.

REFERENCES

AndersonT. &Hernant M., (2006) Managing retail chain profitability based on local competitive conditions: Preliminary analysis International Journal of Retail & Distribution Management **Vol**. **35** No. 11, 2007 pp. 912-935q University of Skovde, Sweden.

Aysel G., and Fatma D., (2017). (2017) Analysis of the relationship between financialInnovation and the performance of Turkish banking system: International Review of Economics and Management **Vol.5** No.3, pp.16-32.

Bist A., Nair P., DubeyR., &Hajela, T. (2015). Analysis of Use of Plastic Money: A Boon or a Bane. SIMS Journal of Management Research, **1(2)**:34-51.

Bonface., R. M, & Ambrose., J. (2015). Mobile Banking and Financial Performance of Commercial Banks in Kenya. International Journal of Finance and Current Business Studies **4** (12)16-31.

Bwire Z. W., (2016).The Effect Of Loyalty Programmes On Financial Performance Of Mobile Telecommunication Firms In Kenya

Bindu P. K.(2016) .A Study on the Importance and Popularity of Plastic Money in Aluva IOSR Journal of Economics and Finance **Volume 7**, Issue 1, PP 51-58

Bara A., &MudzingiriC.,(2016).Financial innovation and economic growth: evidence from Zimbabwe. Investment Management and Financial Innovations, **Volume 13**, Issue 2.

Berman S. M., (2012) The Economic Impact of Grocery Stores development in underserved communities. thesis tulane university.

Cytonn W., (2018) .Restructuring an Insolvent Business – Case Study of Nakumatt Holdings. Research Journal of Economics **Vol. 4 |** No. 5 June | 2016 ISSN 2347-823

Eugenie G., Laurie B., &ColeH., (2014).The Impact of Mobile Apps on Small Business Revenues. Journal of Business and Economics, **Volume 5**, No. 4, pp. 437-442 ISSN 2155-7950, USA .

Erjen N., & Sloot L., (2017). Analysing supermarket performance with the high-Performance Frank K, Joachim K, Irene A and Nicholas B., (2019) internal control systems, working Capital Management and financial performance of supermarkets; Cogent Business & Management **6**: 1573524, pp.15-18.

Gupta S., &Aanchal A.,(2014).Financial Innovations and Technologies: Indian Economy 2020 IOSR Journal of Business and Management e-ISSN: 2278-487X, p-ISSN: 2319-7668. **Volume 16**, Issue 2. Ver. III (Feb. 2014), PP 62-67 www.iosrjournals.org

Hernant M.,(2009).The effects of scale of operation, local market conditions, and conduct on the economic performance of supermarkets. Dissertation, Stockholm School of Economics

Hicks D.,&Niehans J., (1998). Financial Innovation, multinational banking and Monetary Policy, Journal of banking and Finance, 537-551

Igor P., (2012) Improvement of Warehouse Operations through Implementation of Mobile Barcode Systems Aimed at Advancing Sales Process. International Journal of Retail & Distribution Management. **Vol. 45** Iss 1 pp. 57 – 70

Kitheka S.,(2012).Inventory management automation and the performance of supermarkets in western Kenya. Research Project of Nairobi University.

Kyalo F., 2014.The effect of credit card usage on the financial Performance of Commercial banks in Kenya. Research project university of Nairobi

Kothari, C. R. (2005). Research methodology: Methods & techniques. New Delhi: New Age International (P) Ltd

Kyalo F, (2014) The effect of credit card usage on the financial performance of commercial banks in Kenya. Unpublished MBA project UoN

Kinuthia.B.W. (2010).An analysis of financial innovations in the Kenya banking sector.Unpublished MBA Project. University of Nairobi.

Kothari, C. (2011). Research Methodology- Methods and Techniques. New Dhelhi: New Age international Publishers.

KithakaE.,(2014) The Effect Of Mobile Banking On Financial Performance Of Commercial Banks In Kenya. Research thesis university of Nairobi.

Kamau L. W.,(2017). Effect Of Loyalty Programs On Customer Retention: A Case Of Nakumatt Supermarkets Kenya. Thesis United States International University-Africa

KahigaD. M.,(2014). Effect Of Financial Innovation On Profitability Of Deposit-Taking Microfinance Institutions In Kenya. Research project university of Nairobi.

Kaunyangi T. W.,(2014) The Impact of Competition on Performance of Firms in the Mobile Telecommunication Sector in Kenya. International Journal of Scientific and Research Publications, **Volume 4**, Issue 11, ISSN 2250-3153

LaevenL., LevineR., &MichalopoulosS.,(2012).Financial Innovation and Endogenous Growth. Brown University London

Molonket L., (2014) Effects Of Competition On The Profitability Of Cement Manufacturers In Kenya. European Journal of Business and Social Sciences, **Vol. 3**, No. 7 ,pp 40-48

Mainga N., (2017) The effects of plastic money transactions on financial performance of savings and credit co-operative societies in Nairobi county, Kenya Strategic journal of business change and management. **Vol. 4,** Iss. 4 (31), pp 572- 586, Oct 13, 2017, www.strategicjournals.com, ©strategic Journals

Mikael H., (2009) Profitability Performance of Supermarkets; Economic Research Institute.

Momanyi D., (2015) effects of mobile banking on profitability of commercial banks in kenya. Research Thesis university of Nairobi.

Makori W. C., (2013) Real-time information processing and supply hain optimization among supermarkets in nairobi, kenya marcel t. n.,(2015) customer relationship management and firm performance: revisiting the case of the camccul microfinance institutions.International Journal of Information Technology and Business Management **Vol.38** No.1

Muia A. M.,(2013) the relationship between financial innovation and growth in profitability of Islamic banking in Kenya. Research project university of Nairobi.

Munyoro G., (2016).The Significance of Plastic Money to the Hospitality Industry: A Case Study Of Rainbow Towers Group Of Hotels (RTG).Chinhoyi University of Technology

Mwinzi D. M., (2014).the effect of financial innovation on economic growth in Kenya.

Mutisya H. K., (2015).Technology As A Competitive Advantage In Supermarket Operations In Nairobi County

Mugenda OM, Mugenda AG (2003). Research Methods: Quantitative and Qualitative Approaches. Nairobi: Acts Press.

Monyoncho L. N., (2015).Relationship Between Banking Technologies And Financial Performance Of Commercial Banks In Kenya. International Journal of Economics, Commerce and Management United Kingdom **Vol. III**, Issue 11, November 2015

Normasita S., (2015).Determinants of Electronic Payment Adoption in Malaysia: The Stakeholders' Perspectives. A thesis submitted for the degree of Doctor of Philosophy at The University of Queensland School of Agriculture and Food Sciences

Njagi e. M., (2016).the effect of product innovation on the profitability of private manufacturing firms in Nairobi county.

Nzove E. M., (2013). Effect Of Financial Innovations On The Growth Of Small And Medium Enterprises.

Njenga S., (2017) Role Of Electronic Point Of Sale On Supply Chain Performance In Retail Sector In Kenya Among Selected Supermarket Chains In Nairobi County. European Journal of Logistics, Purchasing and Supply Chain Management **Vol.5** No.2, pp.19-55,

Omwansa, M.J. (2013). Information and Communications Technology And Operational Efficiency In Supermarkets In Nairobi. University of Nairobi

Omwansa M. J.,(2013). information and communications technology and operational efficiency in supermarkets in Nairobi. Unpublished project University of Nairobi.

Obaga C. A., (2016).an evaluation of the impact of business ethics on organizational profitability: a case study of uchumi chain of supermarkets limited. Research project Management University of Africa.

Patrick M., (2013) Effect of Bank Innovations on financial performance ofCommercial banks in Kenya. Unpublished thesis JKUAT.

PhiriD., (2017).The impact of competition on financial performance of SMEs. A case study of Vineyard Funeral Assurance. Medlands UniversityZimbabwe.

Ranjan P., &Sood V., (2009). Financial Innovation in India: An Empirical Study. Indore Indira Institute of Career Studies, Indore

Safdar H. T, Said S, Fatima A, Gulzar A, Qaria A, and Muhammad R. U., (2018) does Financial Innovation improves performance? An analysis of process innovation used in Pakistan; Journal of Innovation Economics and Management **Vol.27** No.3, pp.195-214.

ShalakhaL. D., (2012).The Relationship Between Financial Innovations And The Growth of Commercia L Bank S I N Kenya

Silber W. (1983).The Process of Financial Innovation.American Economic Review.73(2). 89-95

Schumpeter. J. A..(1950). Capitalism. Socialism, and Democracy, 3rd ed.: Harper & Brothers. New York.

Uma, S,, (2003). Research Methods for Business: A skill building Approach, 4th edition, Wiley and Sons, New York

Williams B., Brown, T., &Onsman, A. (2010). Exploratory factor analysis: A five-step guide for novices. Australasian Journalo f Para-medicine, **8**(3). Retrieved from http://ro.ecu.edu.au/jephc/vol8/iss3/! on 27.08.2015

Wafulae. E.,(2015) Effect Of Plastic Money On The Financial Performance Of Commercial Banks In Kenya. Research Project Submitted To The University Of Nairobi

Wafula E.V., (2015). Effect of Plastic Money on the Financial Performance of Commercial Banks in Kenya.

APPENDICES

Appendix I: Questionnaire

Dear Respondent,

I am a student at the school of , Kenyatta University, undertaking a research study titled "The Effect of financial Innovation usage on Profitability of supermarkets in Mombasa County" as part of my academic work requirements.

Kindly spare your time and respond to the questionnaire below. The information that you will provide shall be treated with a high level of confidentiality and strictly used for the stated academic purpose only.

Yours Faithfully,

INSTRUCTIONS

This questionnaire is designed to assist the researcher carry out a study in Supermarkets.

Your kind responses will be appreciated and treated confidentially.

Answer the following questions by ticking and/ or giving your own view where necessary. Answer areas where best suited to you.

SECTION A: DEMOGRAPHIC INFORMATION

1. **Please indicate your gender**

   Male [ ]

   Female [ ]

2. Please indicate your age

   Below 25 years [ ]

26-35 years [ ]

36-40 years [ ]

41-45 years [ ]

46-55 years [ ]

56 years and above [ ]

3. Please indicate your highest level of qualification

Primary [ ]

Secondary (KCSE) [ ]

Diploma [ ]

Bachelor Degree [ ]

SECTION B: Barcode technology

From the statement provided below, please indicate your level of agreement or disagreement to the following statements. Please use the scale below 1=strongly disagree 2=Disagree 3=Neutral 4=Agree 5=strongly agree by placing a tick in the appropriate box,

Statement	**5**	**4**	**3**	**2**	**1**
The utilization of check out time spent influences EPOS to track inventory					
Using scan systems eliminate human errors					
Using Retailer pack information enable Re-pricing					
EPOS helps in calculating how much to order to prevent shoplifting					

Scan systems is rapid, more accurate and efficient means of data processing					
Scanning systems promote better decision making because of accurate and raid data					
Automatic reordering improve service speed to Customers					

SECTION C: Loyalty programs

By placing a tick in the appropriate box, please indicate the influence of proper application of Loyalty programs contributed to build a valuable information programs for better profitability, where; 5=Very high extent, 4=High extent, 3=Moderate extent, 2=Low extent, 1=Very low extent

Loyalty programs	**5**	**4**	**3**	**2**	**1**
Supermarket has implemented rewards schemes					
It has integrated processes of gift voucher for better sales					
Supermarket has appropriate point systems can save time, improve accuracy increase sales					
Cash transaction have advantage if it effectively designed with loyalty programs					
Supermarket has discounts strategy to facilitate stimulate customer sales as they rise profit level					
it encourages shoppers to pay in stores and accesss frequent purchases					
Some of the incentives may include advanced access to new products, additional discounts or sometimes free merchandise.					
Customers typically register their personal information with the company and are given a unique identifier					
Numerical ID or membership card, and use that identifier when making a purchase					

Loyalty programs provide rewards customers for brand loyalty with wealth of consumer information					
Supermarket can evaluate anonymous purchase					
the use of a loyalty program offer additional information about the types of products that may be purchased to together					
Reward programs are integrated into the customer's everyday routine can cultivate true brand loyalty					

SECTION D: Plastic money

By placing a tick in the appropriate box, please indicate the extent to which you agree with the following statements on the effect of Plastic money, where; 5=Strongly agree, 4=Agree, 3=Not sure, 2=Disagree, 1=Strongly disagree

use	**5**	**4**	**3**	**2**	**1**
Supermarket use credit cards to provide method enabling cardholder to make purchases					
Cardholder is obligated to repay the debt to the card issuer in full by the due date					
credit cards are sometimes used interchangeably, they are distinct protocols of financial transactions					
Credit cards are revolving credit instrument that do not need to be paid in full every month					
There is no late fee payable so long as the minimum payments are made at specified intervals.					
Debit cards can be used to shop online					
Debit card transactions require remembering of PIN number as measure for financial security					
Customer can borrow money that they need to pay back in full when their statement period ends.					

Debit cards are linked to bank account, on other hand, so they are drawing money directly from that account to use					
customer avoid paying interest on outstanding balances					
Unlike credit cards customer cant' spend money don't have in the account(barring overdraft protection features)					

SECTION E: Mobile retailing

By ticking in the appropriate box, please indicate the extent to which you agree with the following statements on the effect of **Mobile retailing on profitability**, where; 5= Strongly agree, 4=Agree, 3=Not sure, 2=Disagree, 1=Strongly disagree

	5	**4**	**3**	**2**	**1**
M-pesa can deposit and withdrawal money from a network of agents that includes resellers and retail outlets acting banking agents					
Airtel money allows users to deposit money in into an account stored on their cellphone					
Mobile banking can transfer ,money and pay for goods and services easily with a mobile device					
Mobile banking one can redeem deposits for regular money.					
users are charged a small fee for sending and withdraw using the service in supermarket					
M-pesa is branchless banking service where customers can deposit and withdraw money from a network of supermarket agents includes airtel resellers and retailers outlets acting as banking agents					
Mobile banking has spread quickly and had become the most successful mobile phone based financial services					

SECTION F: Profitability

By ticking in the appropriate box, please indicate the level of agreement with the financial innovations enhances Profitability, where; 5=Strongly agree, 4=Agree, 3=Not sure, 2=Disagree, 1=Strongly disagree

Profitability	**5**	**4**	**3**	**2**	**1**
Return on asset is improved					
Quality services is achieved by timely solutions					
Cost-effectiveness analysis					
Reduced compliance costs for legitimate					

Thank you for your responses

Appendix II: Time Schedule

Activity	**Duration**					
	Oct 2018	**Nov 2018**	**Dec 2018**	**Jan 2019**	**Feb 2019**	**March 2019**
Project writing						
Project presentations						
Collection of data						
Data analysis and Writing of Final document.						