FINANCIAL TECHNOLOGY AND CUSTOMER FINANCIAL MANAGEMENT IN DEPOSIT TAKING SAVINGS AND CREDIT CO-OPERATIVES IN BARINGO COUNTY, KENYA

RUTTO JELAGAT PRISCA
D53/OL/NKU/32060/2016

A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILLMENT FOR THE AWARD OF DEGREE IN MASTER OF BUSINESS ADMINISTRATION FINANCE OPTION OF KENYATTA UNIVERSITY.

NOVEMBER, 2020

DECLARATION AND APPROVAL

Declaration by candidate:

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

Signature _____ **_____**

Rutto Jelagat Prisca Date

Declaration by Supervisor:

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

Signature _____ _____

Dr. Ambrose Jagongo Date

Lecturer, School of Business, Kenyatta University

DEDICATION

This research is dedicated to my dear parents Mr. & Mrs. Yator who laid a great foundation for my education, to my loving husband Korir Kiprotich and dear sons Adrian and Abram who have been a great encouragement to me, to my brothers and sisters for their inspiration, to all those who trust and obey the Almighty God, and to the academic and research fraternity.

ACKNOWLEDGEMENT

I thank the Almighty God for spiritual guidance and the far He has taken me since I joined Kenyatta University.

I am indebted to my supervisor; Dr. Ambrose Jagongo for his advice, time, invaluable comments, for enduring with me and for all the efforts he made to see that I successfully complete the proposal; Dr. Jagongo you are worth my mentor.

I am grateful to Kenyatta University for allowing me to undertake my Master of Business Administration (MBA) course with them. I would like, in a special way to thank the academic fraternity of the School of Business. Special thanks go to Kenyatta University Nakuru Town Campus non-teaching staff for their overwhelming support and hospitality to see that I succeed in my studies.

God bless you all.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

OPERATIONAL DEFINITION OF TERMS

Customer's control- This refers to the power of the customer to influence or direct events relating to his or her financial information through approvals and making reconciliations.

Deposit taking Sacco's- Otherwise known as banking institutions, are corporations which provide services as intermediaries of financial market.

Financial technology- This is a new invention that allows delivery of financial services relating to trading and investment, lending, payments, personal finance, currency exchange and remittances and crowd funding.

Investment Technology- use of financial and automated trading in parts of cash bond markets and fixed income futures.

Lending Technology- use of soft information to conduct monitoring and screening before advancing financial help.

Payment Technology- occurs when someone pays for his financial obligations through a mobile or smartphone device and following some financial regulations.

Savings and Credit Cooperative Organization- It's an acronym for Savings and Credit Cooperative Organizations. It is owned, governed and managed by its members who have the same common bond.

LIST OF ABBREVIATIONS AND ACRONYMS

DTIs	Deposit taking Institutions
FinTech	Financial technology
ICT	Information and Communication Technology
PFM	Personal Financial Management
Sacco's	Savings and Credit Cooperatives Society
SPSS	Statistical Package for Social Sciences

ABSTRACT

Technology is revolutionizing the way that the financial industry operates. Technology has changed all the systems of banks including accounting and management systems as well as how services are delivered to customers. The growing penetration of cellular phones has given consumers the alternative to use digital wallets in environments that are not covered by internet networks. Customers are able to link their cards to their physical traditional wallets on their smartphones and use the smartphone to make payments in remote retail outlets. They can also install applications to send payments to different personals and business till numbers through their smartphones. However, with the emergence of financial technology, customers are faced with the day to day management of their financial data. The main objective of the study was to establish the relationship between financial technology and customer financial management in deposit taking Sacco's in Baringo County. The specific objectives were: to establish the relationship between; lending technology, payment technology, investment technology and customer financial management in deposit taking Sacco's and to examine the composite effect of financial technology on customer financial management in deposit taking Sacco's in Baringo county, Kenya. Economic theory which gives a distinct point of view of examining issues relating to emerging technologies, where business process changes and the financial control theory where the controls are based on freely transferable obligations and rights which assume trust and believe were used. The study used a simple randomized ex-post facto design where the variables that cannot be manipulated in the sense that they affect other variables were selected and analyzed and observations of the relationships between these variables was conducted in a natural setting. In this study, the population was infinite hence the study targeted all the customers who visited deposit taking Sacco's in Baringo County between 8.30a.m to 4.30p.m during the month of September 2019. Primary data was collected using structured questionnaires. To establish the relationship between financial technology and customer financial management in deposit taking Sacco's, descriptive statistics were used by way of percentages, proportions and frequency distributions of responses to summarize the data. In order to test the significance of the association between attributes, inferential statistics such as the Pearson Product-Moment correlation and Regression analysis was used. Results from the study showed that there was a positive significant effect of financial technology on customer financial management in deposit taking Sacco's. The correlation analysis showed a positive correlation between financial technology and customer financial management. This study is important for the government and financial industry players in checking the roles of financial technology on economic development through customer individual financial decision. Moreover the study informs deposit taking Sacco's' customers about the recent trends in financial technology and their relationship with control over their financial data. The study also concludes that investment technology significantly affects customer financial management. Sacco's that intends to increase its customer financial management could invest in improving its use of financial investment technology since it would result in an increase in performance. The study also recommends Sacco's to increase investment in mobile banking users, and the entire mobile banking technology. This is because the study found out that increase in online banking increases customer financial management.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Technologies that are ever emerging require that senior management strategists and those in power of financial services should manage with care and consideration. These technologies revolves around business process changes, standards and adoption, information security business value and investments and can be examines from the point of view of economic theory, (Yoris & Robert, 2007).

Technology is changing the operations of financial industry. The management and accounting system of banking institutions as well as customer service delivery by the banks has been influenced by technology. The ever changing technological advances are creating entirely new business innovations, such as financial technology. Wang, (2018) states that collection and processing of information has become the critical resource for making decisions relating to lending, thus allowing entities to achieve advantage in producing information. This means that the socially desirable goal of avoiding too much credit contraction during economic downturns is achieved through funding to make loans. Therefore, for the foreseeable future, deposit taking Sacco's will coexist as well as partner with FinTech lenders in the market for retail lending.

According to Manta, (2019), financial inclusion is directly affected by the increasingly relevant global changes in financial health. According to this study, at the international level, examination of the potential risks that financial technology could pose to the financial stability globally, begun in April 2016, by the G20 Financial Stability Board (FSB). The board is currently conducting another exercise that focuses on the influence of digitization and financial technology on banking sector and its possible implications for the banking sector.

Higgins, (2019) exploited a natural experiment causing exogenous shocks to the use of a financial technology over time. The researcher combined administrative data on the debit card rollout with a combination of Mexican microdata on both retailers and consumers. The study found out that the shock to debit card adoption has significant effects on financial technology adoption on small retailers. That the market has adopted point-of-sale (POS) terminals to accept card payments, which in turn has led other

consumers to adopt cards. Specifically, the number of other consumers with debit cards increased by 21 per-cent.

According to Ng'an'ga, (2014), large volumes of personal data in banks archives have challenged the banks in that it has regularly attracted panics, crises and regulatory penalties. To deal with this challenge, banks have prioritized privacy and protection of customer data more than anything else and capitalizing on it as a competitive differentiator. Financial technology is growing and its adoption is increasing at an increasing rate while seeking to give customers more financial literacy on how to make smarter financial decisions, offer new avenues for loans, diversify payment options and encourage investments.

Stamegna & Karakas, (2019) during European Parliamentary Research Service briefing pointed out that the industry of financial technology includes organizations using systems that are based on technology for the provision of either financial products or services directly. The researchers further stressed out that the industry is growing at a high rate as can be seen in Europe based companies that invested in FinTech up to $ twenty six billion during the first six months of the year 2108. This industry of financial technology come along with benefits like job creation, inventions and innovations but has shortcomings relating to consumer protecting issues, cyber-crimes and consumer's data protection issues. The European Union's law and policy makers have embraced and planned various ways to counter these multi-disciplinary shortcomings.

Control refers to the ability to influence or lead people's behavior or the course of events. Controls over financial data includes rules, processes and steps that are followed to let things happen through people in the financial sector. Financial control also known as financial decision controls include financial approvals by an individual, reconciliation of financial data, and financial information security.

Customer service and new distribution channels have emerged due to the modification of landline, adoption of smart cellular devices and mobile broadband networks through electronic banking websites and the emerging mobile banking applications. Day to day operations of consumers have been affected by the use of simple, unambiguous and available digital. Online sites and mobile applications allow competitors in digital world to target wider and broader markets. This however, makes the organizations to

enjoy advantages like economies of scale that does not require the implementation and maintenance of extensive network of physical branches hence offering an opportunity that new givers of financial services are exploiting with competitive digital distribution model. Digital channels also reduce the costs incurred by customers in changing financial service providers and improves the ability to compare products and services offered by different providers, (Fernández, Pablo, & Ortún, 2018).

FinTech has caused significant changes in the area of payments. Consumers have experienced great evolution from financial technology that has enhanced their mode of payments. The first invention of digital wallets like PayPal emerged as a response to issues that consumers had towards payments done online. These inventions have provided portable alternative to the physical wallets that consumers have been using thus enabling consumers to participate in the online market without having to give details of their financial cards. The growing penetration of cellular phones has given consumers the alternative to use digital wallets in environments that are not covered by internet networks. Consumers are able to link their cards to their physical traditional wallets on their smartphones and use the smartphone to make payments in remote retail outlets. They can also install applications to send payments to different personals and business till numbers through their smartphones, (Bates, 2017).

1.1.1 Financial Technology

Financial technology is the way of doing things in the financial industry including provision of financial solutions and financial services. It was introduced at the beginning of 1990s. It was projected by Citigroup as a measure to facilitate technological cooperation efforts. However, financial technology has been an attraction to several industry players like consumers and regulators since 2014. The art of funds and technology have had a mutual and intertwined relationship from inception. Finance can be traced to documentations of the earliest financial transactions where administration roles were changed to settled agricultural states from a state of from hunter-gather groups. Therefore, technology and finance has had a from the point of view of processes that offer mutually reinforcing development of finance and documentations as a form of early information and communication technology, (Rowlinson, 2010)

The main aim of financial technology is to provide its users with automated, transparent, user-friendly and more effective and efficient services and products than those available currently. The possibilities for improvements along these lines have not been exploited fully by traditional banks (Arner, 2015). Financial technology distribute insurance and other financial instrument as well as providing third-party services in addition to providing services and products in the banking industry. "FinTech" includes organizations that provide the way to do things (such as software solutions) to financial service providers. This industry has companies that fall into four main segments in relation to their differentiated models of business. By extension with the traditional areas of a general banks' value addition areas, contributions in resource management, financing and payments are other areas of differentiation in FinTech. Among the sub segments is the personal financial management (PFM) sub segment which involves organizations that offer private planning on issues relating to finance, especially administration, management and presentation of financial information using application software or application based services. PFMs enable consumers to see the loans applied for with different loan providers and also the assets they have logged with various banking institutions through a common application. For customers to be able to use the application software, they are often required to subscribe and pay an annual fee or a one-off fee. Application programming interface (API) are used to integrate the accounts of different service providers into a PFM system, PFMs interface with the portals of deposit taking Sacco's, using technology, (Yoris & Robert, 2007).

The use of technology enables organizations to offer new services and products with the FinTech innovations. Financial service provision through the use of technology is not something new. This can be evidence from the introduction of Automated teller machines that were launched in 1960's although they were not defined as FinTech. Other developments like the high frequency trading (HFT) have been introduced recently as financial technology innovations. Notably, innovations involving FinTech are not the new entrants to the market of innovations involving technology, but are innovations that are differentiated at the current time that use technology, (Schindler, 2017).

Wang, (2018), explains that the over the last two decades, the landscape of retail lending has changed significantly as shown by the rigorous growth of online or financial

technology lending to small businesses and consumers. This therefore clearly indicates that in the near future, the retail lending market will make banks and FinTech lenders to coexist or partner with each other.

Payment technology occurs when someone pays for his financial obligations through a mobile or smartphone device and following some financial regulations. Payment technology has brought competition and diverse opinions by providing consumers with better alternatives of making payments for their services and products and evaluating different service providers.

In the recent years, an increasingly significant section of the fixed income industry landscape has been disrupted by electronic trading. Electronic trading has contributed to changes in the structure of the market, the process of price determination and discovery and the nature of liquidity provision. The uptake and growth of electronic trading has enabled a profound use of financial and automated trading in parts of cash bond markets and fixed income futures, (Wyman, 2018).

Previous studies on financial technology have not considered the different forms of financial technology. This study therefore considered financial technology services relating to lending, payments and investment

1.1.2 Customer financial management

Emergence of technology has given customers considerable control over their financial data. Financial service firms have been virtually influenced by advancements in technology over the last years. The financial industry is demanding better ways of doing things and greater efficiency, therefore making the players in the industry to integrate technologies by using mobile devices and tablets as competitive mechanisms. Banking institutions have been challenged by the large volumes of personal data in their archives that have regularly attracted panics, crises and regulatory penalties. To deal with this challenge, banks have prioritized privacy and protection of customer data more than anything else and capitalizing on it as a competitive differentiator, (Ng'an'ga, 2014).

According to (Open Banking Working Group and Innopay, 2017), analysis, customer roles as compared to the governments and companies has changed significantly in the ever changing digital world. The analysis states that the world is moving from a

scenario where the customer has limited control, that is product centric and where products were pushed to customers to a customer centricity world. That currently, marketers and service providers are trying to increase the number of point of meeting with, and points of getting feedback from the customer as a way to improve marketing procedures and strategies. The interaction between service providers or marketers has been made continuous, with real time availability of services throughout the days and nights in form of increasing emergence of technology based channels. This takes the concept of centricity of the customer from the state where the customer is just the point of reference, with limited feedback loops (1.0) of marketing professionals to a level where customers are allowed to control and give continuous instant and feedback (2.0).

Mazer, (2018) points out that both conversion and reach aspects need to be addressed by successful customer control. 'Reach' from the perspective of customer control refers to the many options that customers are provided with by the third party service providers and are able to use them to access individual's bank accounts. The process of using technology for banking contexts and new transaction which were not possible initially makes new functionalities achievable and possible. This is where players in the FinTech industry address customers who are underserved, by providing services through advanced functionalities and that have a better conversion.

For several years, banking services have adopted digital data management of customer's financial data and these has been extended to mobile authorization and authentication. The ever rising need for customers to exercise control on their financial data promotes using mobile and digital devices even in places far from the geographical boundaries of banks. This has enabled customers to have the ability to create and manage access rights that are dedicated to protection of financial assets and personal data, through giving their consent or authorization whenever a transaction is taking place. This study looks at customers control over financial data from the perspective of approvals, making reconciliations and information security.

1.1.3 Deposit Taking Sacco's in Baringo County

Microfinance Act, 2013 defines a deposit-taking institution as an institution which accept deposits from its members and advance loans to its account holders. In Kenya, deposit taking institutions otherwise known as microfinance institutions have attracted

the interest of practitioners and policy makers due to their contributions towards making the living standards of rural settles to improve. This industry in Kenya has aimed to nurture unrealized market activities from small and medium scale investments that are able to generate sufficient and necessary revenues while yielding a return on the investment. The microfinance Act was established on 2nd May 2008, and it was meant to allow several micro-finance institutions that had been established to apply for licensing so as to be able to accept deposits from the general public and members. The Microfinance Act is mandated to regulate and oversee the establishment, operations and business of deposit taking microfinance institutions in Kenya through supervision and licensing.

1.2 Statement of the Problem

It is believed that banking is crucial and essential to economic growth and development. Banking industry should not lag behind in its capability with respect to product combinations, capital, technology and innovation in order to fulfill their role. According to (Auka, Bosire, & Matern, 2013), customers care and individualized attention is more significant to a financial institution than providing the customer with a conducive business environment. The rapid changes in information technology and telecommunications arena have continuously disrupted and revolutionized the banking industry. Introduction of communication technologies and computers have brought a major impact as it allows individuals to share information with each other in ways that assist the functioning of traditional face to face, written modes and telephonic. These technologies use both global and always up communication infrastructures that enable a 24-hour activity and synchronous as well asynchronous interactions as among organizations, groups and individuals, (Lee, 2007).

Studies conducted previously, have concentrated on technology and the banking industry as an organization. These studies, however have not considered the customer's aspect of creating and managing dedicated access rights to financial assets and personal data. Saleem & Rashid, (2011) conducted a research with the aim of establishing whether customer satisfaction and mobile banking adoption in Pakistan has a relationship. The study found out that customer's concerns about authenticity, reliability and security of the technology have significant relationship with mobile banking adoption. The results implied that firms should focus upon innovative services,

ICT application, customer trust, risk and security as since these are the major indicators of adoption of technology. Fenuga & Oladejo, (2010) researched on the effects of electronic payment on customer service delivery in Nigerian Banks. The study found out that electronic payment as a service rendered by the Nigerian banking industry has significant impact on customer service. That these electronic payments leads to better management efficiency, improves customer service delivery, increases customer satisfaction and sustainability as well as increase profit, in Nigeria. Ng'an'ga, (2014) studied on the competitive advantage and information technology. The study was based in Kenya and it mainly targeted Equity bank limited. The study concluded that adoption of ICT by Kenyan commercial banks would help systems explore and expand its customer share and market, thus enabling a firm's growth strategy. The study showed that adoption of ICT has affected the growth ability of firms by extending their core business and increasing their scope through product development and market penetration. ICT adoption also helps banks to improve customer relationships by providing new channels, customized or personalized product, more effective marketing, shorter time to market, and online interactive community with a 24-hour technical support.

Mutua, (2014) researched on effects of mobile banking on the financial performance of commercial banks in Kenya and found out that deposit taking Sacco's in Kenya have adopted innovations through mobile devices to enable provision of critical services to banks customers. The results of the study showed that as mobile banking services were used, monthly value increased leading to an increase in the profitability of the commercial banks. The research also showed that performance of commercial banks in Kenya in terms of finances are affected to a large extent by mobile banking as its leads to reduction of unnecessary cost, customer service improvement and increased efficiency. Nyang'ate, (2015) researched on the relationship between banking technologies and financial performance of commercial banks in Kenya and found out that there was a positive relationship between adoption of E-Banking technologies and the performance of commercial banks in Kenya. The study recommended that continued investment in ICT should be a priority of commercial banks. Despite extensive studies by different researchers on the dimensions of technology in banking, little has been done on financial technology and customer financial management in

deposit taking Sacco's. Financial technology comprises of services relating to: lending, payments and trading and investment. This study therefore sought to establish the relationship between financial technology and customer financial management in deposit taking Sacco's in Baringo County, Kenya. The study was carried out on customers in Boresha Sacco and Skyline Sacco. This study is important for the government and financial industry players in checking the roles of financial technology on economic development through customer individual financial decision. Moreover the study informs deposit taking Sacco's' customers about the recent trends in financial technology and their relationship with control over their financial data.

1.3 Objectives

1.3.1 General Objective

To establish the relationship between financial technology and customer financial management in deposit taking Sacco's in Baringo County.

1.3.2 Specific Objectives

i. Establish the relationship between lending technology and customer financial management in deposit taking Sacco's in Baringo County.
ii. Establish the relationship between payment technology and customer financial management in deposit taking Sacco's in Baringo County.
iii. Establish the relationship between investment technology and customer financial management in deposit taking Sacco's in Baringo County.

1.4 Research Questions

i. What is the relationship between lending technology and customer financial management in deposit taking Sacco's in Baringo County?
ii. What is the relationship between payment technology and customer financial management in deposit taking Sacco's in Baringo County?
iii. What is the relationship between investments technology and customer financial management in deposit taking Sacco's in Baringo County?

1.5 Significance of the Study

From economic theory point of view, influences of information technology on ledgers and money raise a lot of issues. Therefore, if new creations in information and financial

technology leads to efficient and effective use of funds, it will finally lead to growth in the economy. Basically, financial accounting, management accounting and control are different disciplines altogether. Individuals have distinguished lives conditioned by physical and biological circumstances. The interests and possibilities of individuals towards satisfying family and personal functions vary from time to time, (Östman, 2009).

First, this research is a point of reference to other scholars undertaking research on financial technology and also describes the areas that need to be given interest for further studies. Secondly, this study forms part of the existing literature for further research work. Thirdly, this study is important for the government and financial industry players in checking the roles of financial technology on economic development through customer's individual financial decision. Moreover the study informs deposit taking Sacco's' customers about the recent trends in financial technology and their relationship with control over their financial data. This understanding will assist deposit taking Sacco's to adopt and advice their customers on financial technology and control over the customer's financial data.

1.6 Scope of the Study

This research was conducted on customers visiting Boresha Sacco and Skyline Sacco head offices from 8: 30 am to 4: 00 pm from 1st September 2019 to 30th September 2019. Boresha Sacco's and Skyline Sacco's head offices are located in Eldama Ravine in the former Rift Valley Province of Kenya, about 60 km North/ West of Nakuru town. The study population was infinite since the customer arrival differed from time to time and depicted by a small portion at a given time. The study only concentrated on customer's financial management as brought about by financial technology. The study used a simple randomized ex-post facto design. Primary data from the respondents was collected through structured questionnaires and for the purpose of testing the strenght of relationship between attributes, Regression analysis and Pearson correlation was conducted.

1.7 Limitations of the Study

Customers of deposit taking Sacco's are faced with significant hurdles in their effort to control their financial information and may be afraid to give information relating to

their financial data. To eliminate this fear, the researcher assured the respondents of confidentiality of the information they gave and that the information was only used for the purpose of this study. This assurance enabled the respondents to open up and provide the vital data for this study.

1.8 Organization of the Study

This project is organized in a way that the foregoing chapter one gives information on the background of the study, problem statement, research main and specific objectives, significance, scope, and the limitations of the study. Chapter two presents literature review and theoretical review on FinTech and customer financial management, research gaps and the study's conceptual framework. Chapter three deals with the methodology that will be employed in the study, the target population, sampling design, data collection procedures, instruments, ethical consideration and how data will be analyzed. Chapter four presents the research findings based on the specific objectives and analyses various variables involved in the study. Chapter five presents the summary and discussions on the findings of the research and looks at the implications of the findings to the existing body of knowledge in the field of finance.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section framework the previous research works done on the financial technology and customer financial management. It covered financial technology practices that are often used by customers in deposit taking institutions in Kenya to control their financial data. The fundamental aspects that were considered include lending, payment and investment technology. This section also gives theories, empirical literature and the conceptual framework that guided the study variables.

2.2 Theoretical Review

This section focuses on the various theories guiding the study by specifically discussing the economic theory and theory of financial control.

2.2.1 Economic Theory

The publication of Adams Smith, on the wealth of the nation in 1776 became the first formalization of the economic thought. The law and principles governing the functioning of an economy can be dealt with by the economic theory. Economic theory gives a distinct point of view of examining issues relating to emerging technologies, where business process changes, standards and adoption, information security, implementation outcomes, industry impact, business value and investments require consideration and care on the part of financial services leaders and senior management strategists. Economics claims to describe policies and procedures that will improve peoples' lives. Money is an invention that has been ranked as the greatest by mankind. The use of sophisticated and great systems of processing information combined as funds, mankind can allocate all the available resources to sectors with potential production continuously. This, has however served as an ever changing driving force for the building of the economic society by humans. (Nakaso, 2016)

According to Robbins, (1966), economic development was taken to mean increase in the size of annual production or capital whatsoever the case with the level of population. Economic development may also refer to rise in complexity, and in the combination of several different functions. Financial industry can be referred to as information industry, because financial services like investment decisions, payment and settlement and risk management are based on wide and broad information processing ranges.

There are inventions that have been discovered recently in information technology like distributed ledger technology (DLT) and block chain that have had a potential significant effect on the basic infrastructure for financial activities, that is, ledgers and money. From economic theory point of view, such influences of information technology on ledgers and money raise a lot of issues. Therefore, if new creations in information and financial technology leads to efficient and effective use of funds, it will finally lead to growth in the economy.

This study therefore adopted the economic theory because it is expected that financial service industry can be taken as information industry, since financial services such as investment decisions, risk management and payment and settlement and are based on wide and broad range of information processing.

2.2.2 Theory of Financial Control

Financial control systems are defined as ways and mechanisms that associate visions and functions to financial resources and where money is involved indirectly or directly. These controls are based on freely transferable obligations and rights which assume trust and believe in transferability and, as media of exchange, enables almost all forms of transactions possible, that is, money. Systems of control should be viewed in relation to the material and the functional operations of organizations, experiential functions of people, finance functions and various external functions of larger systems, (Yogendrarajah, 2014).

According to Östman, (2009), many fields of the social sciences are intentionally fragmented and have their special way to control problems. Also, several fields related to accounting are partial fragments. Basically, financial accounting, management accounting and control are different disciplines altogether. Individuals have distinguished lives conditioned by physical and biological circumstances. The interests and possibilities of individuals towards satisfying family and personal functions vary from time to time. The world is also a unique and the usual inhabitation of human beings as dictated by physical and biological factors operates primarily irrespective of the views human beings have over them.

After the constitutional reforms and industrial evolution in the mid-19th century, political and financial systems began to emerge. Gradually, general modification of

functions and new requirements for economic activities led to material progress for many people and production output from organizations led to improvement of material functions in form of goods and services with critical characteristics that could be used as means for personal functions in a general and direct way, irrespective of differences in personal and social context. Under the area of personal financial functions, the evolvement of internationalized and de-regulated financial markets was a critical success factor in the short and long run. Individuals depended a lot on the money income that they earned from their hard work as well as the assets that they held in the securities markets so as to achieve their own material, financial and experiential functions. The experiential, material and financial functions of individuals evolves around the need to ensure a continuous livelihood over a long period, consumption in all stages of life, participation in saving or investment and professional achievement. The premises of these functions are continuously changed and modified throughout human life's, (Östman, 2009).

The theory of financial control is crucial to this study because control systems relate functions and visions to resources and where money is a catalyst indirectly or directly as well as where individuals have unique life dictated by physical and biological circumstances and the likely events of and interests in satisfying family and personal functions that are varied from time to time.

2.3 Empirical Review

This section reviews previous studies related to the study topic. It presents analyses of literature on financial technology and their effect on customer financial management in deposit taking Sacco's. The review is organized based on the specific objectives of this study and the variables under the study.

2.3.1 Lending Technology and Customer financial management

Wang, (2018), explains that over the past two decades, the retail lending industry has changed considerably as evidenced by the emergence of technology and the rapid growth of online, or FinTech, lending to small and medium sized businesses and consumers. The study points out that collection and processing of information has become the critical resource for making decisions relating to lending, thus allowing entities to achieve advantage in producing information. This in turn leads to competition

between technology firms and traditional retail lending. This means that the socially desirable goal of avoiding too much credit contraction during economic downturns is achieved through funding to make loans and is better served by traditional banks, owing to their surplus in form of deposit insurance and the liquidity given by the Federal Reserve in the system that is currently operational. Therefore, for the foreseeable future, deposit taking Sacco's will coexist as well as partner with FinTech lenders in the market for retail lending.

Technology based ("FinTech") lenders enjoyed an increase in their market share of mortgage lending in U.S. from 2 percent to 8 percent between the years 2010 and 2016. Using loan-level, market-wide data on U.S. mortgage originations and applications the researchers showed that FinTech lenders could process mortgage applications as faster as about 20 percent than other lenders, even under situations where they controlled for borrower, detailed loan, and geographic characteristics. However, it's worth noting that the faster processing did not come with higher default costs. FinTech lenders observe and adjust supply of loans more than proportionately as compared to other lenders in response to exogenous demand shocks in the mortgage market, thereby removing capacity constraints linked to traditional mortgage lending. Borrowers are allowed to refinance more in areas with more FinTech lending, more so when it is in borrowers best interest to do so, (Fuster & Vickery, 2018).

Fredriksson, (2016), studied on lending technologies. The study used Finnish privately held firm's unique data, and the researcher found a positive association between loan pricing and customer profitability in firms that are monitored and gauged using technology that supports transactions lending. The study also found that in firms that are monitored using technology supporting relationship lending, the profitability of the relationship in such firms is generated from sources other than loan pricing. Similarly, when the analysis of the bank's corporate analysis department was used as a way to mitigate the level of information asymmetry related to select lending technology, the role of quantified and available soft information in bank and the firm relationships is sensitized more in loan contracting as compared to hard information. This study also considered lending technologies with respect to profitability and not customer control over their financial data.

Muriithi, (2017), studied on lending technologies. The study was a case study involving multiple commercial banks in Kenya. The main objective of this study was to establish the role played by technologies that promote lending and the relationship between bank and their customers. Semi structured interviews were conducted on SME bank managers to collect the relevant data and content analysis was conducted. The study found out that commercial banks employ both transaction lending and relationship lending when dealing with the SME customer but more importantly pointed out that these lending schemes, that is relationship lending and transaction lending were employed and used concurrently. The study however focused on the commercial banks and the benefits that accrue to the commercial as they lend to the small and medium enterprises. The study fails to consider the customers aspect and how the lending technologies help the customers to control their financial data.

State, (2010), researched on electronic payment and service delivery to customer in Nigerian Banks. The study used a survey research design and mainly considered four commercial banks. Stratified sampling was used with a proportion of 100 respondents from the total target population. Questionnaires were administered randomly. Chi-square and regression analysis were used to determine the significance of the relationship between attributes. The study concluded that there was a significant impact of electronic payment on the services rendered by the banking industry in Nigeria. This led to better management efficiency, improved service delivery to customers, customer contentment, increased profit, and sustainability in Nigeria. This study however did not consider the effects of lending technology on customer financial management. The study only considered the impact of service delivery on services rendered by the banking industry failing to establish whether customers can control their financial data using lending financial technology.

2.3.2 Payment Technology and Customer financial management

According to European commission in Directive, (2013), electronic money is a claim stored electronically by the issuer, and which has monetary value and is given out once funds have been received, for the main reason of paying for bills, and is accepted by legal or natural persons except the issuer. Under this definition, electronic money means any type of electronically stored value that serves as an option to cash. Traditionally electronic money is distinguished from account held money in two important ways.

First, it does not earn interest often, and secondly it is often not covered and regulated under financial protections. Payment technology has led to more competition in markets using electronic payments, providing customers with more and better choices of accessing different types of payment services and service providers.

Shrier, Canale, & Pentland, (2017), states that financial infrastructure has been driven by the growing and ever changing introduction of mobile phones, to all developed nations in a number of emerging economies, and is offering a changing and dynamic pool of financial innovations. Mobile money also known as electronic money refers to a broad and wide spectrum of financial services that are technology enabled and can be accessed through a mobile or smart phone. Currently, the leading uses of most mobile money services includes but is not limited to bill payments, airtime purchases and remittances. On the other hand, account held financial services like withdrawals, bill payments or deposits can be referred to as mobile banking. Peer to peer money transfers that are done online makes it possible for consumers to easily and quickly send money to each other, without having to involve themselves with the tiresome and long process of transferring physical cash or writing and mailing a check. As long as there is a strong internet connection and perhaps international mobile roaming for authorization purposes, online money transfers is possible at any location at any time.

Kang, (2018), conducted a research on mobile payment in FinTech environment. The study focused on security challenges, trends and services. The study surveyed the recent and upcoming mobile financial technology payment services and grouped them based on the forms of service available to suggest security challenges and requirements to ensure that better and securer services could be provided in the future. First, the study defined the payments systems that have been in existent and the emerging FinTech payment services by doing a comparison between them. The researcher also analyzed and categorized recent FinTech payment services and classified FinTech service providers into Operating System makers, Hardware makers, deposit taking Sacco's and payment platform providers to show their common characteristics. Finally it explained the measures that FinTech payment services need to put into consideration and security challenges that the present and future mobile may bring along. The study concluded that financial technology payment services were encountered in the perspective of authorization, mutual authentication, privacy, integrity and availability. The study

focused on security challenges which is a major aspect of customer financial management.

Okiro & Ndungu, (2013), conducted a research on the impact of internet and mobile banking on performance of deposit taking Sacco's in Kenya. The study sought to establish the impact of internet-banking and mobile banking on performance where a survey was conducted on 30 deposit taking Sacco's in Nairobi. The study also identified and determined the extent of use of internet and mobile banking in deposit taking Sacco's. The study found that the most used internet banking service by the customers is inquiring for their account balances while the least is payment of bills through online methods. The mobile banking service that was mostly used was cash withdrawal whereas the least was mobile purchasing of commodities from the research, it can be seen that payment technology is least commonly used by customers. This however relates to the study at hand as it aids in establishing the relationship between payment technology and customer financial management in deposit taking Sacco's.

Xiao, Hedman, & Runnemark, (2015), researched on use of payment technology. The study was based on theory of consumption value perspective. This research strove to provide a theoretical explanation of the use of payment technology by investigating the way customers perceive on the various values of consumption with different payment technology and their decisions to choose a particular mode of technology. The research was a based on information from Northern European country known as Denmark that had established payment technologies in form of payment cards, cash and Internet banking. Following a focus group of defining and identifying consumption values associated with each payment technology, national statistics agency in the country then conducted a survey. Preliminary results showed that for the use of different payment technologies, different consumption values played a critical role. The study is related to this research since it focused on customer perception with regard to a particular technology of payment and decision on what technology to use.

2.3.3 Investment Technology and Customer financial management

Technology is affecting all activities that investors do in life every day. Investor's decisions and expectations of what and how to interact with their finances is experiencing a major shift. Experiences of technology based systems like Netflix using

artificial intelligence (AI), Amazon and machine learning have made consumers to feel more comfortable because they offer suggestions based on their viewing habits and past purchases. Electronic trading in the investment industry has become an increasingly critical and important sector of the fixed income market landscape in the past years. It has significantly contributed to modifications in the market structure, the nature of liquidity provision and the process of price discovery. The emergence of electronic trading has made it possible to use automated trading like high-frequency trading and algorithms in fixed income parts of cash bond markets and futures, (Wyman, 2018).

There are changes in the investment advisory services brought about by growth of automated wealth advisers which are capable of assisting investors without the help of a human adviser, as well as being used in combination with a human adviser. These changes in investment advisory services has one main objective of being able to provide investors with advices that meet them at their points of need and with lower costs and greater ease of access. In the area of block chain, financial record keeping and distributed ledger technology (DLT) new ways are being created to track, record, and store financial assets' transactions. Crypto currency bitcoin is an example of an early example of this trend although the technology is being assessed in a broader and wider set of applications,(Mack & Kissell, 2018).

According to Hockey, (2016), most investors (79%) claim that they're completely fine with technology using information and previous behaviors about them to make recommendations. Based on their past behaviors, they also find the recommendations useful (with 34% saying occasionally useful and 58% saying usually useful). Most investors in this case prefer analyzing all of their data in a computer ability to make the best recommendations. Investors want the most increased linking of their information to develop unique strategies and are open to companies using computer's ability to do so. They also believe that computers are able to do a smarter job of providing simple, minimized taxes, quick, tailored analyses, customized portfolios with regular updates and optimized returns.

2.3.4 Customer financial management

Customer control over their financial data has come along with emergence of technology. Over the last few years, advancements in technology has affected almost

every financial services firm. Financial advisors are turning in to mobile devices, tablets and integrated technologies to enable the industry compete in smarter ways and with greater efficiency. Immediate experiences and activities are affected by control systems that relate visions and functions to resources. Moreover the ability to fulfil functions, adapt to disturbances and escape from dysfunctions have been affected. Continuous evolution and customer tailored designs have led to changes in the control and structure systems. Systems that deal with control of finance basically raise issues about fairness and equality. It postulates that rewards should be given to anyone who contributes to the experiential, material and financial functions of others members of a certain group and that individual's performance and capability are decisive.

Mazer, (2018) points out that conversion and reach aspects should be addressed by customer's successful control. From the perspective of customer control, reach is an aspect that shows the many available options that customers can use to connect with their bank account through third party service provision. Current functionalities that were not feasible before, have been made possible for banking contexts and new transaction with emergence of technology.

2.4 Summary of Literature and Research Gap

Despite extensive studies by different researchers on the dimensions of technology in banking, little has been done on financial technology and customer financial management in deposit taking Sacco's. Financial technology comprises of services relating to: lending, payments and investment.

The summary of literature and the research gap is showed in the table below

Table 2.1: Summary of Literature and Research Gap

Source: (Researcher, 2019)

Author/year	Research Topic	Methodology	Findings	Research gap
State, (2010)	Effect of electronic payment on customer service delivery in Nigerian Banks	Survey design	There is a significant impact of electronic payment on services rendered by the Nigerian banking industry	The study only considered the impact of service delivery on services rendered by the banking industry failing to establish whether customers can control their financial data using lending financial technology
Okiro & Ndungu, (2013)	Impact of mobile and internet banking on performance of deposit taking Sacco's in Kenya.	Survey design	Balance inquiry is the most prevalent internet banking service while the least is online bill payment	Used survey study but fails to allow ascertaining wide spread opinions under natural conditions.

Xiao, Hedman, & Runnemark, (2015)	Use of payment technology	Theory based design followed by survey	For the use of different payment technologies, different consumption values matter	Considers the use of payment technology in isolation. The study does not link the use of payment technology to customer power to exercise control over their financial data
Fredriksson, (2016)	Lending technologies, loan pricing and customer profitability in SME lending.	Descriptive research	In firms that are monitored using relationship lending technology, the profitability of the relationship is generated from sources other than loan pricing. In addition, when the level of information asymmetry related to chosen lending technology is	Considers the SMEs profitability and does not consider the role of customer financial management.

			mitigated by the analysis of the bank's corporate analysis department, the role of quantified soft information in bank	
Muriithi, (2017)	Lending technologies and benefits of small and medium enterprise lending	Multiple case study	Commercial banks employ both relationship lending and transaction lending when dealing with the SME customer and that relationship lending is only employed together with transaction lending	The study fails to consider the customers aspect and how the lending technologies help the customers to control their financial data.

2.5 Conceptual Framework

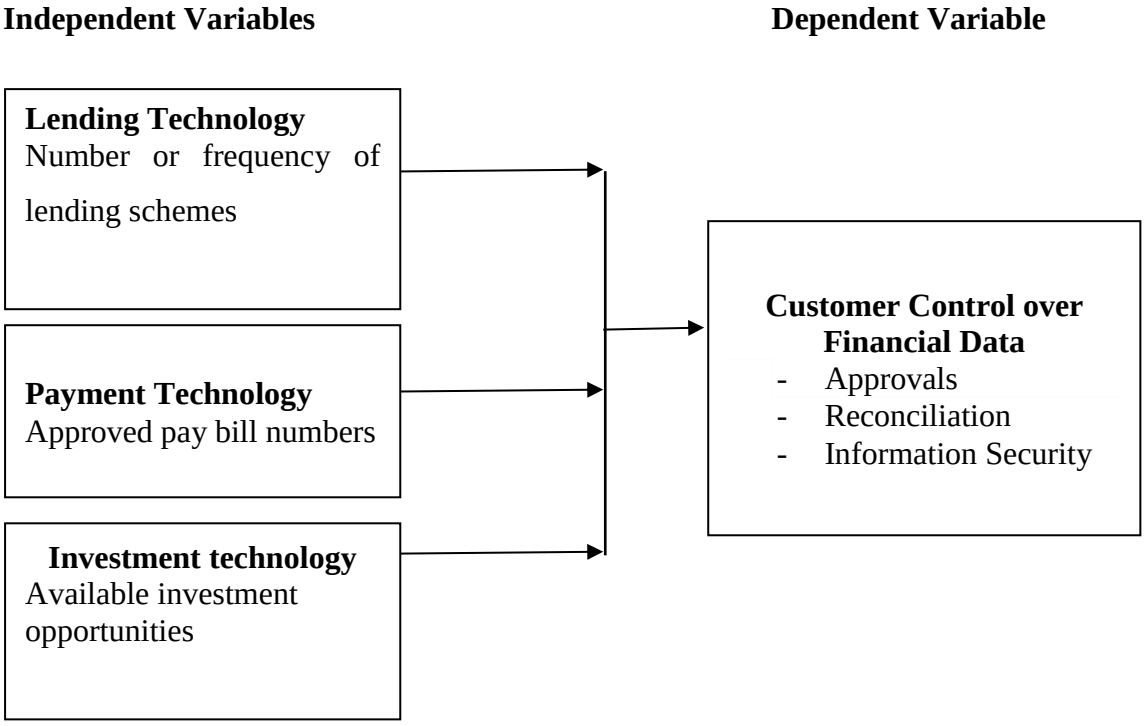


Figure 2.1: Conceptual Model

Source: (Researcher, 2019)

The conceptual framework above represent the relationship between the independent variables and the dependent variable under study. The framework is formulated from general and specific objectives of the study. It therefore highlights the relationship between financial technology and customer control over their financial data in deposit taking Sacco's. By this, the framework is used to present the key variables under financial technology including lending, payments and investments with regard to their frequency of use by customers in Boresha Sacco and Skyline Sacco, Eldama Ravine, Kenya. Consequently, the dependent variable, that is customer financial management, is characterized by approval, reconciliation and information security by the customer.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This section presents the fundamental component of the study as well as the procedures that were followed in collecting, managing and analyzing data. This basically comprises of; research design, empirical model, the target population, sample design, data collection instrument, data collection procedures and data analysis and presentation.

3.2 Research Design

The study adopted a descriptive survey research design. The descriptive design allowed simultaneous description of views, perceptions and beliefs of the respondents at a given point in time. A simple randomized ex-post facto design was used to investigate the relationship between financial technology and customer control over their financial data. This is where the variables that cannot be manipulated in the sense that they affect other variables were selected and analyzed and observations of the relationships between these variables was conducted in a natural setting. The design is most suitable in this study because it allowed ascertaining wide spread implications under natural settings.

3.3 Empirical Model

This section presents the generic term for activities that create the models under the study by observation and experiment

3.3.1 Operationalization and Measurement of Variables

This sub-section identifies and operationalize the key variables that is the independent and dependent variables of the study. The operationalized is based on how the variable had been used in the study and also gives the criteria of measurement.

Table 3.1: Operationalization and Measurement of Variables

Variable	Type	Operationalization	Measurement
Lending Technology	Independent	Frequency=1 Otherwise=0	Scale of 1-5
Payment Technology	Independent	Frequency=1 Otherwise=0requency	Scale of 1-5
Investment Technology	Independent	Frequency=1 Otherwise=0	Scale of 1-5
Customer control	Dependent	Reconciliations=1 Otherwise=0 Approvals=1 Otherwise=0 Information security=1 Otherwise=0	Scale of 1-5

Source: (Researcher, 2019)

3.4 Target Population

Population according to Kombo and Tromp, (2006), is a set of elements, individuals or objects that have at least one thing in common and from which samples are taken for measurement. According to the 2019 Annual General meeting reports, Skyline Sacco had 10 branches while Boresha Sacco had 11 branches. These Sacco's head offices are situated in Eldama Ravine and the study targeted the customers who visited Boresha Sacco and Skyline Sacco, Eldama Ravine head offices during the month of September 2019. Skyline Sacco head office has 20,000 customers while Boresha Sacco head office has 25,000 customers. The customers of interest were account holders in the Sacco's and have used financial technology to control their financial data.

3.5 Sampling Design

Simple random sampling procedure was used to select the size of the customers who represented the entire population of men and women visiting Boresha and Skyline Sacco's. This gave each customer in the population an equal and independent chance of being selected. According to Chase, Aquilano, and Jacobs, (2001) customers arrival

differ from time to time and if it's a small portion at a given time, it is termed as infinite population. In this study, the arrival population was considered to be infinite.

Cochran, (1977) developed the following mathematical function to help in determining the sample size that represents proportions.

$$n_0 = \frac{z^2 Pq}{e^2}$$

Where, $n_0$is the sample size that will represent the population, *z* is a critical value that is determined and is critical at a given level of confidence, *p* is the projected proportionate value of a known characteristic of the population, *q* = 1- *p* and *e* is the level of precision that is desired. The degree of variability of the population is not known hence we assume the maximum variability, which is equal to 50% (p = 0.5) and taking 95% confidence level with ±5% precision. Therefore, the calculation for required sample size was as follows:-

p = 0.5 and hence *q* =1- 0.5 = 0.5; *e* = 0.05; *z* = 1.96

So, $n_0 = \frac{(1.96^2)\ (0.5)\ (0.5)}{0.05^2}$

n_0 = 384.16 = 384

Thus the sample size was 384 customers of the two deposit taking Sacco's. 192 customers were sampled from each Sacco.

3.6 Data Collection Instruments

Primary data was collected using structured questionnaires. The questionnaires comprised of closed-ended questions to elicit facts or statements from respondents. The use of questionnaire was relatively quick in collecting information from the respondents. Additionally, potential information could be collected from a large portion of a group (Kothari, 2008). The questionnaires were divided into three sections. Section A contained the general information about respondents, section B was information on the trends of financial technologies accessible to the customers in deposit taking Sacco's and section C contained information on financial technology and customer financial management in deposit taking Sacco's in Baringo County, Kenya.

3.6.1 Validity of the Instrument

AL-Jumaily and AL-Jobori, (2011), argued validity means that "we are measuring what we want to measure". On the other hand, Kothari, (2004), defines validity as the extent to which a scale or set of measures accurately to represents the concept of interest.

Content validity was used in this study. Content validity is a measure of the degree to which data collected using a particular instrument represents the content of the concept being measured. The validity of the data collection instrument involved expertise of the supervisor for advice on the content validity of the instrument and also go through the questionnaires in relation to the set objectives and make sure that they contain all the necessary information needed. Concurrent Validity denotes results of the redesigned questionnaire were consistent with results of established measures.

3.6.2 Reliability of the Instrument

According to Kothari, (2004), Reliability means the consistency or repeatability of the measure. Reliability measures the degree to which a research instrument yields consistent results or data after repeated trials. In order to ensure the reliability of this research the researcher tested internal consistency using Cronbach's alpha formula and obtained a coefficient of 0.907. The general rule of thumb in research according to Orodho, (2003) is that the reliability should bear a coefficient of at least 0.7 to be considered as having adequate internal consistency, hence reliable.

3.7 Data collection Procedure

The researcher sought permission from the university to collect data from the respondents. Once permission was obtained, the researcher personally went to the field with the help of research assistants trained by the researcher to issue the questionnaires. The questionnaires were administered with the Sacco's administration permission. The questionnaires were issued to customers randomly so that they could fill them during the queuing process anywhere within the facility and repeat customers were skipped. The study was done by collecting data from different service counters every day for a month.

3.8 Data Analysis and Presentation

Data analysis was carried out through various steps which include; data editing, coding, classification, tabulation and finally presentation. The Data gathered was organized and processed using Statistical Package for Social Sciences (SPSS) version 21. To establish the relationship between financial technology and customer control over their financial data in deposit taking Sacco's, descriptive statistics were used by way of percentages, proportions and frequency distributions of responses to summarize the data. In order to

test the significance of the association between attributes, inferential statistics such as the Pearson Product-Moment correlation and Regression analysis were used.

3.8.1 Pearson moment correlation

Pearson Product Moment correlation coefficient ($-1 \leq r \leq 1$) was utilized to determine the extent to which financial technology practices influenced customer financial management in deposit taking Sacco's in Baringo County. The significance level ranges from 1% (stronger than others), 5% and 10% level of significance, (Khrawish, Siam, and Khrawish, 2011). However, for general reasons, this study used 5% significance level for all the tests statistics.

3.8.2 Multiple Regression Model

Regression analysis was done to determine the relationship between financial technology and customer financial management in deposit taking Sacco's in Baringo County, Kenya. The regression model was important in measuring the effect of using financial technology on customer financial management indicators. The basis of this regression model is to determine the effect of unit increase/ decrease in each financial technology indicator on the customer control indicators. The regression equation will be presented as:

$$C_c = \beta_0 + \beta_1 \times_1 + \beta_2 \times_2 + \beta_3 \times_3 + \varepsilon_i$$

Where, $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$ are known parameters

Cc is the customer control as a Dependent Variable

β_0 Is constant or the Cc intercept when the value of X is zero

X_1 lending technology

X_2 Payment technology

X_3 investment technology

ε_i is an error term

3.9 Ethical Consideration

This study was done under the permission of Kenyatta University letter of introduction and the National Commission for Science, Technology and Innovation (NACOSTI) research permit. The study also sought for informed consent from the respondents and the researcher assured them of their anonymity. The study was for academic purpose only and data collected was treated with utmost confidentiality.

CHAPTER FOUR

RESEARCH FINDINGS

4.0 Introduction

The chapter presents results of the study based on the formulated objectives in chapter one. The chapter analyses various variables involved in the study so as to investigate the inherent meaning of the research data obtained from the empirical study. Results are presented in tables, graphs and charts.

4.1 Reliability Test

Cronbach's alpha coefficient which is used to assess the internal consistency among research instrument items was used. Sekeran, (2006) posits that any values between 0.5 and 0.8 are adequate for internal consistency. This study adopted an alpha of 0.7 as lowest limit. The alpha values of the research instrument are shown in Table 4.1

Table 4.1 Reliability Test Results

Variable	Cronbach's Alpha	Conclusion
Lending technology	.907	Reliable
Payment technology	.736	Reliable
Investment technology	.893	Reliable

The reliability coefficients (α) of each variable are as follows: lending technology (0.907); payment technology (0.736); investment technology (0.893). The reliability coefficients of all the variables were above 0.70. This was consistent with (Sekaran, 2006) who argued that a value of 0.70 is recommended, and therefore the measurement scale had a high level of internal consistency.

4.2 Response Rate

The population of the study comprised of 384 respondents, however 281 respondents completed and returned the duly filled questionnaire, which was a response rate of 74%. This was an acceptable and adequate response rate. According to Mugenda and Mugenda, (2003), a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. The response rate demonstrates a willingness of the respondents to participate in the study. The questionnaire return rate results are shown in the Table 4.2 below.

Table 4.2 Response Rate

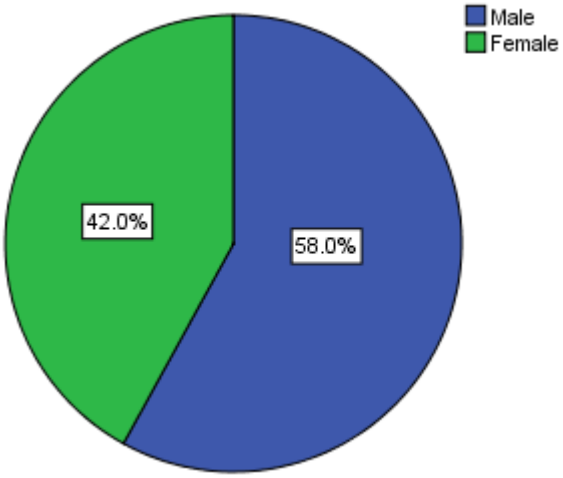
No. of questionnaires Issued	No. of questionnaires Returned	% Response rate
384	281	74%

4.3 Demographic information

Demographic information shows the statistic characteristics of human population in a sample size.

The gender of the respondents is shown in the figure below.

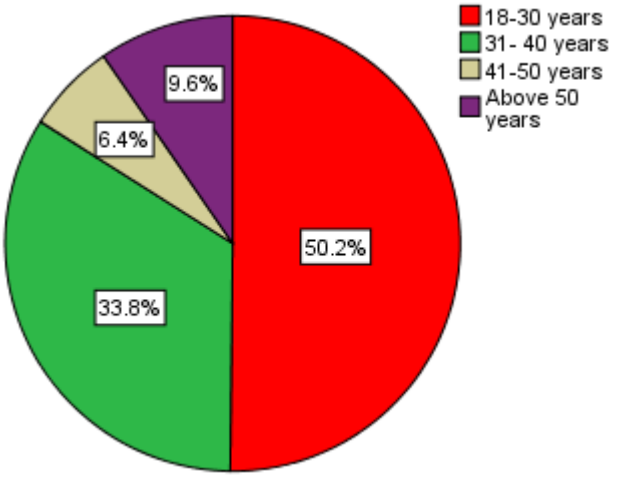
Figure 4.1 Gender of the respondents



In figure 4.1 the gender of the respondents was illustrated where fifty eight percent were male while forty two percent (42%) were female. This depicts most respondents were males which implies most customers were males compared with female.

The results of the age of the respondents are indicated in figure 4.2

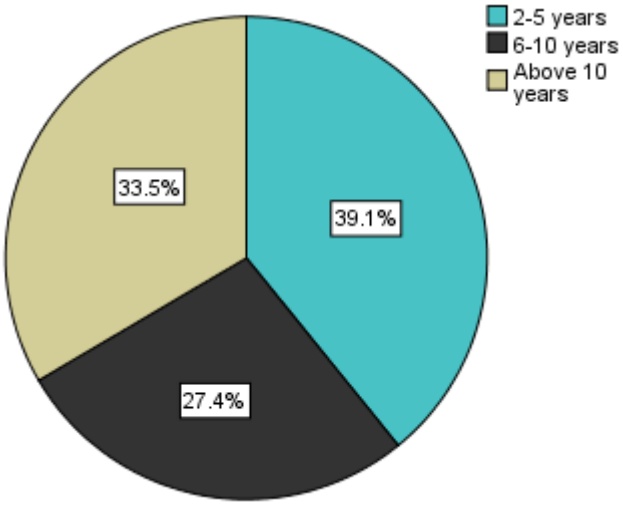
Figure 4.2 Age of the respondents



The second demographic information illustrates the age of the respondents where fifty point two percent (50.2%) of the respondents were 18-30 years, thirty three point eight percent (33.8%) were aged between 31-40 years while six point four percent (6.4%) of the respondents were aged between 41 and 50 years and nine point six percent (9.6%) of the respondents were aged above 50 years. This implies most respondents were young.

The customers were asked about the duration in years of being a customer in the Sacco and the findings are summarized in figure 4.3

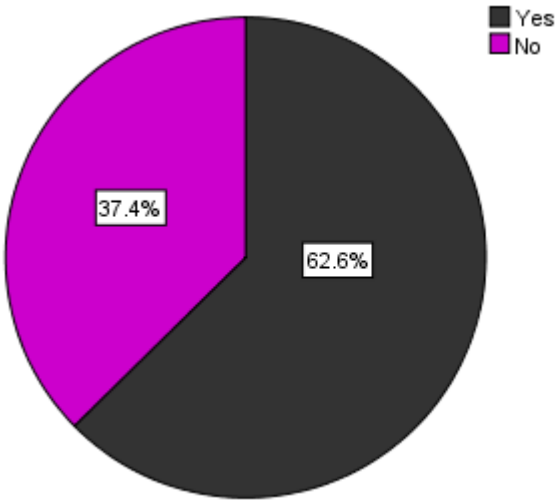
Figure 4.3 Duration being a customer in the Sacco



The third information determine the duration the respondents has been the customer of the Sacco where thirty nine point one percent (39.1%) of the respondents have been customer for 2 and 5 years, twenty seven point four percent (27.4%) have been customers for 6-10 years and thirty three point five percent (33.5%) have been customers for above 10 years. This depicts most respondents have been between 2 to 5 years and it implies most customers have not stayed for a long time with one Sacco.

The customers were asked whether they use financial technology to control their financial data and the findings are summarized in figure 4.4

Figure 4.4 Financial technologies is used to control financial data



The study also in figure 4.4 illustrates if financial technology in Sacco's is used to control and manage financial data where sixty two point six percent (62.6%) depicted yes that it is used to control data while thirty seven point four percent (37.4%) of the respondents indicated no. This depicts most customers in the Sacco's used technology in control and management of financial data.

4.4 Descriptive Statistics

The study used descriptive statistics for analysis of the variables. The study used a five-point Likert scale to measure the extent in which the use of lending technology, payment technology and investment technology influence customer financial management in deposit taking Sacco's. Mean scores, standard deviation, skewness and kurtosis were used for descriptive statistics. From a five point Linkert scale whereby:

1= strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree. A mean score of 1.0 - 1.80 depicted strongly disagree, 1.81- 2.60 indicates disagree while mean score of 2.61- 3.40 indicates neutral, 3.41 - 4.20 indicates agree and 4.21 - 5.0 indicates strongly agree (Warmbrod, 2014). Similarly, a standard deviation of above 1.0 would imply that there is low consensus, a standard deviation in between 0.5 and 1.0 would imply moderate consensus while a standard deviation of below 0.5 would imply a high consensus (Sekaran & Bougie, 2011).

4.4.1 Lending Technology and Customer financial management

Likert data collection instrument was used to collect primary data regarding the relationship between lending technologies and customer financial management in deposit taking Sacco's.

Table 4.3 Lending Technology and Customer financial management

	N	Mean	SD	Skewness	Kurtosis
I can access different lending schemes offered by my Sacco through my mobile devices	281	3.02	.003	.342	-.272
I can apply for loans at any time in any place	281	3.65	.770	-.210	-.268
Lending technology helps me regulate how I borrow	281	3.53	.815	-.018	-.495
Lending technology allows me to know the interests charged on my loans	281	3.05	1.182	.491	-.386
I often reconcile my financial data to know how much I still owe my Sacco through lending technology	281	3.75	.232	-.820	-.268
Valid N (listwise)	281				

Based on the findings in table 4.3 I can access different lending schemes offered by my Sacco through my mobile devices recorded a mean of 3.02 and a standard deviation of 1.003. The mean of 3.02 depicts that on average the respondents agrees that they access different lending schemes offered by their Sacco through their mobile devices and a standard deviation of .003 depicts that there was a moderate consensus among the respondents. It registered a skewness of 0.342 and a kurtosis of -0.272, which means the statement is normally distributed. A mean of score 3.65 and a standard deviation of 0.770 was achieved in respect to I can apply for loans at any time in any place. This

implied that the respondents tended to agree that they can apply for loans at any time in any place. A standard deviation of 0.770 was obtained concerning this metric and therefore implying that there was a moderate consensus amongst the respondents about this metric. The metric had a skewness of -0.210 and a kurtosis of -0.268 which means the statement is normally distributed. Concerning the lending technology helps me regulate how I borrow, a mean score of 3.53 and a standard deviation of 0.815 was achieved. This therefore implied that on average, the respondent agreed to this metric due to a mean of 3.53. A standard deviation of 0.815 was obtained about this metric and therefore implying that there was a moderate consensus amongst the respondents. The study also depicts a negative skewness of the variables from the mean and it applies for the kurtosis. For the case of the lending technology allows me to know the interests charged on my loans, a mean score of 3.05 and a standard deviation of 0.1.182 were achieve. A mean score of 3.05 implied that on average the lending technology allows the customers to know the interests charged on their loans. A standard deviation of 1.182 was obtained and this indicated that a moderate consensus amongst the respondents were in regards to this metric. The study also records a positive skewness from the means. Lastly, based on the findings in table 4.3, the I often reconcile my financial data to know how much I still owe my Sacco through lending technology had a mean of 3.75 which depicts that on average the respondent agree with the statement. A standard deviation of .232 depicted that there was a moderate consensus among the respondents that the customers often reconcile their financial data to know how much they still owe their Sacco through lending technology. It also recorded a negative skewness from the mean.

4.4.2 Payment technology and customer financial management

The second objective sought to establish the relationship between payment technology and customer financial management in deposit taking Sacco's. The findings are summarized in table 4.4 .

Table 4.4 Payment technology and customer financial management

	N	Mean	SD	Skewness	Kurtosis
I pay for my bills (electricity, water, Tv subscriptions etc) using payment technology designed by my Sacco	281	3.23	.581	.253	1.738
Payment technology enables me to repay my loans borrowed from the Sacco	281	3.26	.580	.347	1.048
Payment technology allows me to make approvals of how money moves out of my account	281	3.46	.499	.165	-1.987
I don't have any fears that my financial information can be misused whenever I use payment technology	281	3.37	.485	.525	-1.737
Payment technology helps me save on time and cost when paying my bills	281	3.60	.490	-.417	-1.840
Payment technology helps me not to make unnecessary payments	281	3.62	.486	-.494	-1.769
Valid N (listwise)	281				

The study established that on average the respondents pay for their bills (electricity, water, Tv subscriptions etc) using payment technology designed by their Sacco depicted by a mean of 3.23. A standard deviation of 0.581 was obtained in rating the same metric, which therefore implied that there was a moderate consensus among the respondents. This is because of most of the respondents giving responses around the mean. The metric had a skewness of 0.253 and a kurtosis of 1.738, which means the statement is normally distributed. In respect to the extent in which the respondents agrees that Payment technology enables them to repay their loans borrowed from the Sacco, a mean score of 3.26 and a standard deviation of 0.499 was achieved. A mean score in the range between 3.41 and 4.2 implied that on average respondents agree that Payment technology enables them to repay their loans borrowed from the Sacco. A standard deviation falling in the range between 0.5 and 1.0 implied that there was a moderate consensus among the respondents in rating this metric. The metric had a

skewness of -0.165 and a kurtosis of -1.987, which means the statement, is normally distributed. On the payment technology helps the respondents save on time and cost when paying their bills, a mean score of 3.60 and a standard deviation of 0.490 were achieved, basing on the mean the respondent agrees with the statement and a standard deviation of 0.82 shows that there was moderate consensus among the respondents. This implied that on average the respondents tended to agree with the statement.

4.4.3 Investment technology and customer financial management

The third objective states to establish the relationship between investment technology and customer financial management in deposit taking Sacco's, its descriptive statistics are illustrated in table 4.5.

Table 4.5 Investment technology and customer financial management

	N	Mean	SD	Skewness	Kurtosis
Investment technology helps me chose my asset investment wisely	281	3.01	.676	-.017	-.797
I can track my investments with my Sacco and other investments using investment technology	281	2.79	.592	-.119	2.885
I often access investment opportunities through investment technology	281	3.16	.624	-.123	-.509
Investment technology does not expose my investments to any information insecurity	281	3.34	.510	.277	-1.012
Valid N (listwise)	281				

The study sought to establish if Investment technology affect customer financial management. On this endeavor, the study established that on average the respondent agrees with the statement as indicated by the mean of 3.01. A standard deviation of 0.676 implied that there was relatively small spread of responses among the respondents and hence a moderate consensus due to a standard deviation that range between 0.5 and 1.0. The study also records a negative skewness from the means. The study further established that on average respondent agree that they can track their investments with their Sacco and other investments using investment technology. This metric achieved a standard deviation of 0.592 and therefore implying that there was relatively small spread of responses among the respondents and hence a moderate consensus. The study further stashed a negative skewness from the mean. In rating the extent in which

respondents agrees that, they often access investment opportunities through investment technology. A mean score of 3.16 was achieved, therefore implying that on average the respondent agrees that they often access investment opportunities through investment technology. There was also a moderate consensus in rating this aspect due to a standard deviation of 0.624, which is between 0.5 and 1. A mean of score 3.34 and a standard deviation of 0.510 was achieved in respect that investment technology does not expose the respondents investments to any information insecurity. This implied that the respondents tended to agree that the Investment technology does not expose their investments to any information insecurity. A standard deviation of 0.77 was obtained concerning this metric and therefore implying that there was a moderate consensus amongst the respondents about this metric. This study established that Investment technology does not expose the respondent's investments to any information insecurity.

4.5 Regression Results

This is used to make inference about the study population using data drawn from the population itself, usually on the basis of sample analysis and observation. This study used the Adjusted R-Square to show the goodness of fit of the regression model; this is because it only increases if the new term added improves the model by being relevant to the study, and decreases when the added predictor adds no relevance to the study. The coefficient of determination (R-Square) was not used as it shows some bias between the variables; it continually increases when new variables are added to the model with disregard of the relevance of those variables to the study. The results are shown as below

4.5.1 Correlation Analysis

According to Mwangi (2015) correlation matrix is a table showing correlation coefficients between sets of variables. Each random variable in the table is correlated with each of the other values in the table. This allows you to see which pairs have the highest correlation. Pearson's Correlation Matrix is used to test the degree of association between two or more variables, in terms of strength and direction, with values ranging from -1 (showing a perfect negative linear relationship) to +1 (showing a perfect positive linear relationship), and zero indicating no relationship between the variables. Correlation coefficients vary numerically between -1.0 and 1.0; the closer the correlation is to 1.0, the stronger the relationship between the two variables. A positive

correlation means that as one variable increases, the other increases, whereas a negative correlation means that when one variable increases, the other decreases.

Table 4.6 Correlation Analysis

		Customer financial management	Lending technology	Payment technology	Investment technology
Customer financial management	Pearson Correlation	1	.313**	.265**	.093
	Sig. (2-tailed)		.000	.000	.121
	N	281	281	281	281
Lending technology	Pearson Correlation	.313**	1	.206**	.027
	Sig. (2-tailed)	.000		.001	.658
	N	281	281	281	281
Payment technology	Pearson Correlation	.265**	.206**	1	.128*
	Sig. (2-tailed)	.000	.001		.032
	N	281	281	281	281
Investment technology	Pearson Correlation	.093	.027	.128*	1
	Sig. (2-tailed)	.121	.658	.032	
	N	281	281	281	281

**. Correlation is significant at the 0.01 level (2-tailed).

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

Correlation coefficient results on table 4.6 below shows that lending technology had a positive correlation coefficient r = 0.313, indicating a weak a positive correlation between the lending technology and customer financial management. Payment technology had a positive correlation coefficient r = 0.265, indicating a weak positive correlation between payment technology and customer financial management. Investment technology had a weak positive correlation of 0.093 between Investment technology and customer financial management.

4.5.2 Regression Analysis

The study used a multiple linear regression to establish how Lending technology, Payment technology and Investment technology influences the customer financial management. The model summary presented in the table below

Table 4.7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.378[a]	.143	.134	.28365

a. Predictors: (Constant), Investment technology, Lending technology, Payment technology

The model summary indicates that there was a weak relationship between the observed and predicted values of the dependent variable due to an R-value of 0.378. This implied that the model is relevant and can be applied in a study seeking to establish the effects of Investment technology, Lending technology, and Payment technology on Customer financial management. R Square of 0.143 implies that 14.3% of the variation in dependent variable was explained by the independent variables of the study. It was therefore established that 14.3% of the changes in the Customer financial management could be attributable to Investment technology, Lending technology, Payment technology. Adjusted R Square on the other hand showed the expected level of improvement of the model in adding more predictor variables in the model (Mugenda & Mugenda, 2003). This therefore implied that adding more predictor variable to the model would improve the model less than expected due to an Adjusted R-Square value of 0.134, which is less than the R Square. A standard error of estimate of 0.28365 implied that the regression model was accurate in its prediction since this value was low.

Table 4.8 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.721	3	1.240	15.415	.000[b]
	Residual	22.286	277	.080		
	Total	26.007	280			

a. Dependent Variable: Customer financial management

b. Predictors: (Constant), Investment technology, Lending technology, Payment technology

Based on the f-statistics and its associated p-value, it was established that the model provided goodness of fit of data due to F (0.000)=15.415 and p<0.05. This therefore implied that a model with Investment technology, Lending technology, Payment technology as its predictor variables was significant in its prediction more than a model with zero predictor variables. The study further sought to establish the significance of each independent variable in predicting the level of Customer financial management. These results are shown in Table 4.8.

Table 4.9: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.034	.133		22.901	.000
	Lending technology	.164	.035	.269	4.739	.000
	Payment technology	.088	.025	.201	3.517	.001
	Investment technology	.038	.035	.060	1.066	.287

a. Dependent Variable: Customer financial management

As per the SPSS generated table 4.9, the established regression equation was:

$$Y = 3.034 + 0.164X_1 + 0.088X_2 + 0.038X_3$$

Holding lending technology, payment technology and investment technology constant the customer financial management would be 3.034 units. Independent variables from the regression equation reveal that a unit increase in lending technology led to an increase in customer financial management by 0.164 units. This implies an increase in the lending technology would positively affect the customer financial management of the Sacco's; this depicts a positive relationship between the two variables. In addition, a unit increases in payment technology led to an increase of customer financial management by 0.088 units. This implies a positive relationship between the payment technology and customer financial management. In addition, a unit increase in investment technology led to an increase in customer financial management by 0.038 units; this depicts a positive effect of investment technology on customer financial management. The study used unstandardized beta coefficient.

4.6 Summary of Result Findings and Discussions

The results of the study show that there is a significant positive effect of lending technology on customer financial management of the Sacco's. The significance was concluded on the basis of the p value being less than the alpha value. The study therefore concluded that there is statistically significant effect of lending technology on customer financial management. The results of this study were consistent with empirical results for other empirical studies that were undertaken previously. Hernando & Nieto (2005) undertook a study to identify the impact of adoption of transactional websites on financial performance of 72 banks in Spain. The study found that there was a significant impact of adoption of transactions that are conducted through banks websites on financial performance. Closer home, a study conducted by Kariuki (2015) on the impact of technology on financial performance of commercial banks in Kenya, showed that the impact is felt in the long run since in the short run the commercial banks are still recuperating from the major investments in acquiring new technology. On the contrary, some empirical studies contradicted with the findings of this study.

Mohammad & Saad (2011) determined the impact of electronic banking on performance for banks in Jordan. The study found a negative impact between electronic banking and financial performance. The research attribute the relationship to increased risk exposure from electronic banking. Cheruiyot (2010) conducted a similar study but did not find a significant relationship of mobile banking and financial performance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary and discussions on the findings of the research as well as interpretations and relevance to established literature. It looks at the implications of the findings to the existing body of knowledge in the field of finance. It summarizes the findings starting with objectives of the study, the conclusion of the study, policy recommendations and ending with suggestions for future research

5.2 Summary of the Findings

The regression analysis that was undertaken by the study showed that there was a positive significant effect of financial technology on customer financial management in deposit taking Sacco's. The regression model that was used however was relatively weak as it only predicted 14.3% of the customer financial management. The correlation between financial technology and customer financial management is positive though relatively weak as the Pearson correlation was closer to zero than it was closer to one at 0.378. This therefore implied that adding more predictor variable to the model would improve the model less than expected due to an Adjusted R-Square value of 0.134, which is less than the R Square. A standard error of estimate of 0.28365 implied that the regression model was accurate in its prediction since this value was low.

The independent variables in the regression model were Lending technology, Payment technology and Investment technology.

Lending technology has a significant correlation with customer financial management as it is suggested that large Sacco's are able to enjoy from economies of scale. They are also able to attract and retain clients easier than smaller firms that have higher risks of going under.

Payment technology shows the level in which customers make payments for the services. The findings of the study are that increase in payment technology increases the customer financial management.

Investment technology had a weak positive correlation with customer financial management. The study further established that on average respondent agree that they can track their investments with their Sacco and other investments using investment technology.

5.3 Conclusions

The correlation analysis showed a positive correlation between financial technology and customer financial management. This means that they are both positively correlated to customer financial management though lending technology had a stronger correlation than payment and investment technology. It therefore follows that increasing financial technology would lead to increase in customer financial management. Increasing lending technology activity would result to a higher increase in customer financial management than increase in payment technology.

The regression model had a coefficient of determination (R Squared) of 14.3%, which means that the model could explain up to 14.3% of the variations in customer financial management. Other variations in the customer financial management represented by 85.7% are explained by other factors outside the model. It can therefore conclude that the model is fairly good in predicting customer financial management.

Payment technology had a positive correlation with customer financial management which showed that Sacco's customers enjoyed internet payment of services and thereby they could be able to remain loyal to their Sacco easily. The customers therefore have maximum use of internet such as mobile payments for the services.

The study also concludes that investment technology significantly affects customer financial management. Sacco's that intends to increase its customer financial management could invest in improving its use of financial investment technology since it would result in an increase in performance.

5.4 Recommendations

The findings of this study recommend that deposit taking Sacco's should invest in financial technology. The Sacco's should outline a strategy on how they can channel funds towards technological advancements as this will increase their operational efficiencies since the customers are able to control their financial data.

The study also recommends Sacco's to increase investment in mobile banking users, and the entire mobile banking technology. This is because the study found out that increase in financial technology increases customer financial management.

5.5 Suggestions for Further Studies

The study looked into the effect of financial technology on customer financial management in deposit taking Sacco's. A similar study could be done in other deposit taking Sacco's as well in order to determine whether the results are conclusive in a variety of populations or the results are unique to Sacco's.

REFERENCES

Arner, D. W. (2015). FinTech: Evolution and Regulation.

Auka, D. O., Bosire, J. N., & Matern, V. (2013). Perceived Service Quality and Customer Loyalty in Retail Banking in Kenya, *1*(3), 32–61.

Bates, R. (2017). Banking on the future : An Exploration of FinTech and COnsumer Interest, (July).

Chase, R. B., Aquilano, N. J., & Jacobs, F. R. (2001). *Operations management for competitive advantage*. Irwin/McGraw-Hill.

Cochran, W. G. (1977). Sampling techniques. 1977. *New York: John Wiley and Sons*.

Fenuga, O., & Oladejo, R. (2010). The Effect of Electronic Payment on Customer Service Delivery in Nigerian Banks. *International Journal of Economic Development Research and Investment Vol. 1, No 1, April 2010*, *1*(1), 227–239.

Fernández, S., Pablo, D. L., & Ortún, U. (2018). Digital transformation and competition in the financial sector.

Fredriksson, A. (2016). Lending technologies , loan pricing and customer profitability in SME lending.

Fuster, A., & Vickery, J. (2018). The Role of Technology in Mortgage Lending, (836).

Higgins, S. (2019). Financial Technology Adoption, (1530800).

Hockey, T. (2016). The Tech Effect : How the Digital Age Is Changing Investing.

Kang, J. (2018). Mobile payment in FinTech environment : trends , security challenges, and services. *Human-Centric Computing and Information Sciences*. https://doi.org/10.1186/s13673-018-0155-4

Khrawish, H., Siam, W. Z., & Khrawish, A. H. (2011). Determinants of Islamic bank profitability: evidence from Jordan. *Middle Eastern Finance and Economics*, (13), 43–57.

Kombo, D. K., & Tromp, D. L. A. (2006). Proposal and thesis writing: An introduction. *Nairobi: Paulines Publications Africa*, 10–45.

Kothari, C. (2008). *Research Methodology Methods and Techniques* (Second Rev). New Delhi: New Age International Limited.

Lee, K. R. (2007). Impacts of Information Technology on Society in the new Century, 1–6.

Mack, B. J., & Kissell, R. (2018). FinTech in Investment Management.

Manta, O. P. (2019). Financial Technologies (FinTech), Instruments , mechanisms and financial products, (January).

Mazer, R. (2018). Emerging Data Sharing Models to Promote Financial Service Innovation :, (June).

Muriithi, L. W. (2017). Lending technologies and benefits of small and medium enterprise lending : a multiple case study of commercial banks in Kenya.

Mutua, R. W. (2014). Effects of Mobile Banking on the Financial Performance of Commercial Banks in Kenya. *International Journal of Business and Management*, *2*(6).

Nakaso, H. (2016). FinTech – Its Impacts on Finance , Economies and Central Banking.

Ng'an'ga, A. (2014). Competitive Advantage and Information Technology at the Equity Bank Limited- Kenya.

Nyang'ate, L. (2015). Relationship between Banking Technologies and Financial Performance of Commercial Banks in Kenya. *International Journal of Economics Commerce and Management*, *III*(11), 784–815.

Okiro, K., & Ndungu, J. (2013). The Impact of Mobile and Internet banking on Performance of Fuinacila Institutions in Kenya, *9*(13), 146–161.

Open Banking Working Group and Innopay. (2017). Open Banking : advancing customer-centricity Analysis and overview Open Banking Working Group, (March).

Östman, L. (2009). Towards a General Theory of Financial Control for Organizations, (2009).

Robbins, Lord. (1966). The Theory of Economic Development in the History of Economic Thought. *Being the Chichele Lectures for 1966, Revised and Eetended*.

Rowlinson, M. (2010). Real Money and Romanticism. *Cambridge University Press*, 1–7.

Saleem, Z., & Rashid, K. (2011). Relationship between Customer Satisfaction and Mobile Banking Adoption in Pakistan. *International Journal of Trade, Economics and Finance, 2*(6).

Schindler, J. (2017). Finance and Economics Discussion Series Divisions of Research & Statistics and Monetary Affairs Federal Reserve Board , Washington , D . C . FinTech and Financial Innovation : Drivers and Depth.

Shrier, D., Canale, G., & Pentland, A. (2017). Mobile Money & Payments : Technology Trends.

Stamegna, C., & Karakas, C. (2019). FinTech (financial technology) and the European Union State of play and outlook, (February).

State, O. (2010). The Effect of Electronic Payment on Customer Service Delivery in Nigerian Banks. *International Journal of Economic Development Research and Investment, 1*(1), 227–239.

Wang, J. C. (2018). Technology , the Nature of Information , and FinTech Marketplace Lending, (18).

Wyman, O. (2018). Assessing the Impact of Big Tech on Venture Investment, (July).

Xiao, X., Hedman, J., & Runnemark, E. (2015). Use of Payment Technology : A Perspective Based on Theory of Consumption Value, 0–12.

Yogendrarajah, R. (2014). Financial Control and its ' impact on Organizationalm performance – An empirical study of J / Municipal Council Financial Control and its ' impact on Organizationalm performance – An empirical study of J / Municipal Council, (January 2011).

Yoris, & Robert. (2007). The Economics of Mobile Payments: Understanding Stakeholders issues for an Emerging Financial Technology Application. *Electronic Commerce Research Apllication*, (February).

APPENDICES

APPENDIX 1: Research Questionnaire

PART A: Respondent's profile

1. Your name (OPTIONAL)…… ……
2. Gender

   Male ( ) female ( )
3. Age
   a. 18-30 years ( )
   b. 31- 40 years ( )
   c. 41-50 years ( )
   d. Above 50 years ( )
4. How long have you been a customer to your Sacco?
   - 2-5 years ( )
   - 6-10 years ( )
   - Above 10 years ( )

5. Do you use financial technology to control your financial data?

   Yes ( )

   No ( )

SECTION B: LENDING TECHNOLOGY

1. What is the most important feature of the lending technology offered by your Sacco?

   .....

2. The following statements relate to lending aspects of financial technology. On a 5-point Likert scale (Where: 1 - Strongly disagree; 2 – Disagree; 3 – Indifferent; 4 – Agree; 5 – Strongly agree) indicate by ticking one, the extent to which the expression is applicable to you.

No.	Statement	Rating				
		1	2	3	4	5
1.	I can access different lending schemes offered by my Sacco through my mobile devices					
2.	I can apply for loans at any time in any place					

3.	Lending technology helps me regulate how I borrow					
4.	Lending technology allows me to know the interests charged on my loans					
5.	I often reconcile my financial data to know how much I still owe my Sacco through lending technology					

SECTION C: PAYMENT TECHNOLOGY

1. How would you describe your experience with payment technology such as use of pay bill numbers to make payments for your obligations? .....
2. The following statements relate to payment aspects of financial technology. On a 5-point Likert scale (Where: 1 - Strongly disagree; 2 – Disagree; 3 – Indifferent; 4 – Agree; 5 – Strongly agree) indicate by ticking one, the extent to which the expression is applicable to you.

No.	Statement	Rating				
		1	2	3	4	5
1.	I pay for my bills (electricity, water, Tv subscriptions etc) using payment technology designed by my Sacco					
2.	Payment technology enables me to repay my loans borrowed from the Sacco					
3.	Payment technology allows me to make approvals of how money moves out of my account					
4.	I don't have any fears that my financial information can be misused whenever I use payment technology					
5.	Payment technology helps me save on time and cost when paying my bills					

6.	Payment technology helps me not to make unnecessary payments					

SECTION D: INVESTMENT TECHNOLOGY

1. How do you feel about your Sacco's investment technology offered to you?
   ……
2. The following statements relate to investment aspects of financial technology. On a 5-point Likert scale (Where: 1 - Strongly disagree; 2 – Disagree; 3 – Indifferent; 4 – Agree; 5 – Strongly agree) indicate by ticking one, the extent to which the expression is applicable to you.

No.	Statement	Response				
		1	2	3	4	5
1.	Investment technology helps me chose my asset investment wisely					
2.	I can track my investments with my Sacco and other investments using investment technology					
3.	I often access investment opportunities through investment technology					
4.	Investment technology does not expose my investments to any information insecurity					

SECTION F: CUSTOMER FINANCIAL MANAGEMENT

1. What are the main reasons you prefer controlling your own financial data?
   ……
2. The following statements relate to customer financial management. On a 5-point Likert scale (Where: 1 - Strongly disagree; 2 – Disagree; 3 – Indifferent; 4 – Agree; 5 – Strongly agree) indicate by ticking one, the extent to which the expression is applicable to you.

No.	Statement	Response				
a)	**Reconciliation**	1	2	3	4	5
1.	I regularly do reconciliations of my financial data by myself.					

2.	I check my bank statement regularly to see if it matches with my personal financial records					
3.	I receive updates concerning my financial data to check if they are correct as at a given time					
b)	**Approval**					
1.	I get alerts from my Sacco to approve any payment, lending or investing transactions from my account					
2.	Any transaction through my account as a customer to the Sacco requires my approval					
3.	No payment can be made from my account without my approval					
4.	I approve all the transactions concerning my financial data anytime at any place					
5.	I have confidence that my Sacco cannot manipulate my financial data without my approval					
C	**INFORMATION INSECURITY**					
1.	Whenever I get alerts about what the Sacco has lend me, I fear that it may be seen by unauthorized persons					
2.	There are cases of my financial data information being sent to the wrong person					
3.	I have fear that I can make a wrong payment through payment technology					
4.	I have to change my passwords regularly for financial data security purpose					