INFLUENCE OF SERVICE DIGITALIZATION ON THE PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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DECLARATION

This research project is my original work and has not been submitted for the award of a degree in any university.

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D61/84222/2015

This research project has been submitted for examination purposes with my approval as the University Supervisor.

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University Supervisor

DEDICATION

I dedicate this project to my loving daughter, Lyzelle Njeri for always inspiring me to be the best. To my loving parents for their prayers and support throughout my education life. Their understanding and encouragement to study up to the highest level possible that gave me valuable strength to do this Master of Business Administration (MBA) up to completion.

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ABBREVIATIONS AND ACRONYMS

ATM - Automatic Teller Machine

POS- Point of Sale

IT- Information Technology

ICT- Information and Communications Technology

CBK- Central Bank of Kenya

KBA- Kenya Bankers Association

IB- Internet Banking

MB- Mobile Banking

SIM- Subscriber Identity Module

ROA- Return on Assets

ROE- Return on Equity

ROI- Return on Investment

ABSTRACT

The banking industry in Kenya has seen tremendous growth during the last few years. There has been growth in assets, deposits, products and profitability. Competition has also intensified both from local banks and international banks as a result of new entrants into the industry and heighted innovations. The competition impacts on the wealth of companies and consumers affecting the banks' financial performance. This study sought to establish the level of digitalization and the influence of service digitalization on the performance of commercial banks in Kenya. Specifically, the study sought to establish how ATMs, internet banking and mobile banking influence the performance of commercial banks in Kenya. Theories the study was based on were Disruptive Innovation Theory and Innovation Diffusion Theory. A descriptive cross-sectional design was adopted for this study and the population for this study was commercial banks in Kenya. The study used both primary and secondary data. Primary data was obtained from respondents through the use of structured questionnaires. Documented previous research done by other scholars, CBK journals, media circulations, newsletters, internal circulars, banks reports as well as their websites were used to obtain secondary data. Descriptive statistics was used to analyze the information obtained. Linear regression analysis was used to evaluate the relation between the independent variables ATMs, internet banking and mobile banking, against the dependent variable, performance. The inferential findings from the correlation and regression analysis showed that ATMs, internet banking and mobile banking had positive effect on the performance of commercial banks in Kenya. The study concludes that ATMs, internet banking and mobile banking led to increased earnings, higher growth in market share, reduced costs, faster delivery of banking services, high quality services among Kenyan banks, enhanced customer experience, more accurate records, improved convenience in business delivery time, faster services and enhanced banks' image. The study recommends that commercial banks should incorporate all the main platforms of service digitalization so as to operate both effectively and efficiently in order to enhance the overall performance.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The banking industry in Kenya has seen tremendous growth during the last few years. There has been growth in assets, deposits, products and profitability. Growth has been a resultant of a stable regulatory environment, technology, increased financial inclusion and emergence of alternative channels of distribution (Cytonn, 2018). The banks have moved from traditional banking to modernized banking with an objective to better address the complex needs of both their customers and those due to globalization challenges. Commercial banks in Kenya dominate the banking industry, currently being a total of 42 commercial banks. This comprises of publicly owned institutions and privately-owned institutions. Publicly owned institutions are only 3 while privately-owned institutions comprise of 25 locally controlled banks and 15 with foreign ownership (CBK, 2017). However, out of the total 42 commercial banks, 2 are currently under receivership and one is under statutory management hence the number of operational commercial banks is currently 39. The commercial banks are important as they facilitate funds to flow from surplus units to deficit units while offering a full range of financial services (Kimutai and Jagongo, 2013). They play an important and active responsibility in the country's development in economy.

The number of commercial banks has increased over the last few years. Competition has also intensified both from local banks and international banks (Osoro, 2015). The competition impacts on the wealth of companies and consumers affecting the financial performance of the banks.

The Kenyan banks particularly commercial banks have had to adapt to the changes in the global market in an attempt to keep up with the trends and changing consumer needs. This has also been fueled by the effects of globalization. In order to succeed, the commercial banks have been forced to adopt digitalization.

Gartner (2015) defined digitalization as the usage of digital technologies with the intention of changing a business model, creating value producing opportunities and provision of new revenue. Digitalization entails movement to a digital business. It influences social interactions, business models and business operations while transforming working through the acquisition of digital skills that has become a prerequisite for individual, industry and regional success.

Organizations have implemented digitalization through the use of computers, automation and adoption of other information technology. Digitalization enables organizations to meet the needs of their consumers, enhance productivity, improve products standards and manage costs. The banks that have been able to be innovative and adopt digitalization have been able to compete better. Digitalization has become an essential aspect in banking industry to the extent that the banks that have been unable to keep up perform poorly.

This study is based on the Disruptive Innovation theory and the Innovation Diffusion theory. The Disruptive Innovation theory as postulated by Christensten (1995) is the process by which innovation transforms an existing market or sector that is characterized by high cost and complication, through the introduction of simplicity, accessibility, convenience and affordability. It stipulates that banking technology is disruptive in that its adoption tends to trade-off traditional banking.

Innovation Diffusion theory as coined by Clarke (2003) describes the adoption patterns, explains the mechanism and predicts if the new invention will be success and how it will be successful. It explains how internet and mobile banking innovations can be successfully adopted and integrated in commercial banks operations.

1.1.1 Service Digitalization

The banking landscape is evolving and is characterized by a shift from traditional banking to modern banking. Banks have had to rethink their business model so as to enhance their customer experience and ways of remaining competitive. Convenience, speed and flexibility have become standard expectation of the rapidly changing customer-bank relationship. Successful organizations are those that keep pace with their customers' needs and demands. To achieve this banks have been forced to invest in appropriate technological capabilities through service digitalization (Kamra, 2014).

Traditional banking methods entailed end-to-end banking systems that were time consuming and inconvenient. Moreover, there has been a substantial decline in the sources of funds that banks rely on particularly the public demand deposits. This has in turn influenced the financial profitability of the banks relying on traditional banking model (Edward et al, 1995). This has triggered the increased adoption of new banking models that leverage on technology if banks have to maintain their financial position and competitiveness. Edward et al (1995) further postulates that the economic forces have bolstered the technological innovations in the banking space that has seen innovations in the form of new products from banks amid the increased competition in the industry. Modern banking has embraced service digitalization that have simplified the processes.

Service digitalization has been adopted to cater to both the banks' external and internal environments. The external environment has been taken care of by enhancing customers' experience while the internal environment has been taken care of by provision of an effective and efficient operating model.

Commercial banks have adopted service digitalization through use of mobile banking, automation, internet banking and personal finance management tools (Cytonn, 2017). Nyangosi (2008) noted that many Kenyan banks have come up with mobile banking, online banking together with other electronic banking services to boost means of reaching out to distributed consumers with the intent to enhancing accessibility and affordability of financial services to the unbanked population. The ATMs which are computerized telecommunications devises, provide banks' customers with a mode of financial transactions in a public place where they don't interact with bank staff. ATMs are used for cash withdrawals, cash deposit, balance enquiry, generating mini-statement etc. Online banking refers to banking services being delivered over the internet while mobile banking involves the delivery of a financial service using mobile phones through a mobile network (Cronin and Taylor, 2008).

Through service digitalization, banks have enjoyed improved efficiency, cost savings, faster processes both internally and externally, and accurate performance that is reliable. There has been improved customer experience as transactions can be done at any time using mobile banking and online banking platforms. There has been increased outreach to customers due to increased banking convenience and increased productivity as more tasks can be accomplished in less time (Nyangosi, 2008).

1.1.2 Organizational Performance

Organizational performance is the achievement by a firm seen through measures such as achieved targets, the achievement time, enhanced efficiency and improved effectiveness. This is evaluated by use of both financial and non-financial terms.

According to Ramanujam and Venkatraman (1986) performance can be measured through financials such as return on a firm's investment, growth of sales and profit over a defined period, organization effectiveness and overall business performance. Financial performance can be measured through evaluation of efficiency and effectiveness of controls that result in cost savings.

On the other hand, evaluation using non-financial terms can be achieved through analysis of quality of goods and services offered, customer satisfaction, retention and loyalty. Arora and Nyangosi (2008), observed that ATM is among the most widespread optional means of Kenyan banking. They conducted a survey that concluded that 92 per cent of total banked Kenyans prefer ATM banking as the best model. It was noted that ATMs have gained popularity among services because of their convenience, providing customers with around the clock access to banking services. Mobile banking has also gained popularity over the recent years as it offers convenient accessible banking alternatives.

1.1.3 Commercial Banks in Kenya

The Companies Act, the Banking Act and the Central Bank Act govern Kenya's banking industry. The Central Bank of Kenya (CBK) is the banker of other banks being charged with regulation for all banks in the country. CBK issues several prudential guidelines that also govern the banking industry.

The CBK is under the Ministry for Finance docket and plays the role of formulation and implementation of the monetary policy, liquidity fostering, controlling solvency and ensuring that the country's financial system performs well. It is the lender of last resort. The Kenya Bankers Association (KBA) forms an umbrella for the banks and is concerned with the sector's interests and addresses issues facing the members. In 1995, banking in Kenya was liberalized through the lifting of exchange controls, (CBK, 2009).

The industry faces several challenges that impact on operations and performance having undergone many regulatory and financial reforms in the recent past. This include the requirement for banks to ensure their interest capping law in 2016. Global crisis has also affected banking particularly in the mobilization of deposits, reduction in trade and decline in interest margins. Irungu (2013) noted that due to the reforms, there have been very important changes in the sector that have inspired entry into the market by foreign banks.

The banking industry in Kenya constitutes of 52 institutions that includes 1 mortgage finance company, 42 commercial banks and 8 deposit taking microfinance institutions (CBK, 2015). The sector's asset size totaled to Kes 2,330.3billion by 2012 registering a 15% year-over-year increment (Nassi, 2014). By the end of 2015, the asset base had grown to Kes 1.3 trillion. Commercial banks dominate the industry. They are important as they facilitate funds to flow from surplus units to deficit units while offering a full range of financial services. Their main functions include safe keeping of clients' money; facilitation of money transfer from one account to another; provision of lending services; foreign exchange services; investment services; safe keeping of valuables; provision of financial advice and acting as trustees.

They are important in the economy as they provide employment opportunities both directly and indirectly and lead to growth of Gross Domestic Product (GDP) in the country (Wanjiru and Njeru, 2014).

The number of commercial banks has increased over the last few years. Competition has also intensified both from local banks and international banks as a result of enhanced innovation in the market and entry by new players. To keep up with the competition, maintain and increase market share, banks have been forced to adopt digitalization as a strategic tool. New cost efficient models have been adopted through the use of technology. This has influenced the banks service delivery, products offered, operations and business model. These include mobile banking, online banking, internet banking, ATM's and POS channels.

1.2 Research Problem

Commercial banks have not been spared from the effects of globalization. The market is constantly evolving and characterized by changing consumer needs. The sector has become increasingly competitive and the banks have been forced to develop internal and external models that improve operational efficiency, produce products that satisfy their clientele as well as build long-term customer relationship. The banks have embraced digitalization, through adoption of various technology that has enabled them to boost their revenues, cut costs and enhance the overall management of business. Furthermore, to counter the major challenge that cuts across the industry of similarity of products and services offered, there has been need to differentiate through the use of technological innovations.

Adoption of digitalization is a concept that has revolutionized the banking industry playing a major role in the transition from traditional banking to modern banking.

Banks have become more innovative, responsive, effective and efficient in their operations thus a competitive advantage. Through the use of technology, the banks have had new product development, reduced lead time in service delivery and improved customer satisfaction as well as expansion across borders. Use of technology is appealing to service providers as it reduces labour cost, standardizes delivery of services and expands the delivery options (Parasuraman and Grewal, 2000).

The studies that have been conducted to determine the use of digitalization as a strategic tool in several industries are numerous. Reiner (2016) conducted a forum on the social effects of digitalization stating that digitalization has as much impact of currency or even the written word. The focus was to determine the technological developments, challenges and repercussions with a purpose to help solve real problems and spur the development and implementation of new solutions in various industries such as mining, shipping and agriculture. It was noted that digital transformation is changing in every field that involves measurement, diagnosis and control.

Tatiana (2017) in her survey on digitalization of society: the Internet Economy observed that companies are constantly changing their traditional ways of creating and delivering value through new organizational designs adapted to the technological innovations such as cloud, analytics, mobile and social. It was concluded that digitalization is inevitable and the companies wishing to survive in the digital age, have to start thinking in a digital way and create business models that reflect that thought. Greif (2015) studied the effects of digitalization on employment and service industries with a focus of determining the impact on the organization and employment opportunities. The findings were digitalization brings about both positive and negative consequences.

The positive impact include increasing workers' autonomy and enhancing their work life balance while the negative impact include putting welfare systems and the quality of employment under strain.

Alexa (2016) studied on digitolution: the impact of digitalization on the future with an objective to determine how changes in business would evolve as things progress and the impact on businesses, society and the planet.

The findings were digitalization makes sticking to a business strategy hard as all success can be irrelevant as a result of new digital innovation. Digitalization innovates entire systems, not only a product or service. It was concluded that today, the size of a business doesn't matter but what matters is its agility and capability to re-invent itself that gives the company a sustainable competitive advantage. Rajat (2016) studied the impact of digitalization on banking with an intention of determining how the launch of innovative products, creation of new business models, rapid adoption of new technologies and the constant changes in the regulations impact on the sector. The study results indicated that digitalization is bound to have a disruptive impact on the entire banking value chain and needs to be supported by efficient change management and value chain analysis to minimize negative business impact.

Other scholars who have studied commercial banks in Kenya include Salat (2016) who researched on technology as a strategic approach to improve performance in banking industry, a case of branchless banking models in Kenya. Voreza (2017) studied digitalization and supply chain risk among commercial banks in Kenya and Mugusia (2012) studied technology and competitive advantage of commercial banks in Kenya.

It is thus evident from the studies above that it has not yet been determined how Kenyan commercial banks are influenced by service digitalization. This study tries to find answers to the following research question: How does service digitalization affect the performance of commercial banks in Kenya?

1.3 Research Objectives

i. To establish the level of digitalization in Kenya's commercial banks.

ii. To evaluate the influence of digitalization on the performance of commercial banks in Kenya's banking industry.

1.4 Value of the Study

The findings of this study will be useful to banks in the country. The management will use the information in their planning and implementation as well as in making strategic decisions. The study will equip managers with skills to analyze issues affecting the bank with regards to digitalization and technology enabling them to innovate, develop and maintain products, models and structures that give them competitive advantage.

Policy makers will benefit from the findings of this study by making informed policy formulations and regulations as to aspects affecting banks. Bodies such as CBK and Kenya Bankers Association will have a better understanding of the banks digitalization enhancing success in the industry through the development of appropriate framework.

Scholars will benefit from the findings of this study as there will be an addition to the knowledge that exists on technology and digitalization of commercial banks in Kenya. It will provide reference for future studies in the area and inform future scholars on areas for further studies.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter outlines the concept of digitalization and its impact on the performance of commercial banks in Kenya. It summarizes relevant literature done by scholars in the same field in Kenya and across the globe. It covers theoretical and empirical literature review that are related to digitalization and performance of commercial banks.

2.2 Theoretical Framework

Studies related to commercial banks and how they are affected by digitalization and technology are numerous. This study focuses on commercial banks in Kenya and how their performance has been influenced by digitalization. The study is based on the Disruptive Innovation theory as coined by Christensten (1995) and the Innovation Diffusion theory by Clarke (2003).

2.2.1 Disruptive Innovation Theory

Clayton Christensten (1995) came up with the Disruptive Innovation theory which describes the process through which while at the bottom of the market, a product or service starts initially in simple ways and moves relentlessly up the market to eventually displace already well-known opponents. When products which have previously been accessible to those with a lot of money or skills. The features of businesses at their initial stages are simple products, low gross margins and small target markets that may not be very attractive as compared to existing products in the market. The unattractiveness even to other firms, creates an opportunity at the bottom of the market for the emergence of new disruptive competitors.

Zeleny (2009) was of the opinion that high technology is disruptive technology saying that what is being disrupted is the support network of the high technology. The theory as coined by Christensten (1995) explains the manner by which an existing industry is transformed by innovation. It discusses of innovations that makes products to be affordable and accessible to the larger population. Larson (2016) further elaborates Christensten's theory saying that disruption is a process, rather than a product or service. In the banking industry, the theory is important in exploring the type of technology a bank adopts (Salat, 2016). According to the theory, technology used by the banks tends to change the old ways of doing business, making the bank to have enhanced products, service delivery, speed of offering services, more outreach to clients that previously could not access banking services and eventually the bank achieves a competitive advantage.

2.2.2 Innovation Diffusion Theory

Everett M. Rogers developed this theory in 1962 seeking to explain the manner in which new ideas and technology are developed, why they are developed and the rate at which they spread. An innovation is anything that is perceived to be new, such as an idea, a practice or an object, by either an individual or a unit of adoption. Peterson and Mahajan (1985) described diffusion of innovation as the process through which innovation is conversed via particular means for a certain duration between particulars of social arrangements. Rogers (2003) explains the patterns of technology adoption, mechanism used and a prediction if the new invention will be successful and how it will be successful.

The theory further explains how over a certain period of time, technological innovations gets to be communicated via particular channels among members of a particular social system. It was noted how innovations in the banking industry such as internet and mobile banking have been accepted by consumers and have been successful.

Servic (2004) observed that not all inventions are accepted easily even if they are noble. Sometimes it takes long for it to be adopted. Banks do not implement all innovations despite them being good. Adoption and implementation depends on various factors (Rogers, 2003). If a bank perceives the new technology to be beneficial, then it is accepted.

2.3 Digitalization in the Banking Industry

Sassen (1998) describes the rise of globalization as a process which has both facilitated and has also been facilitated by, the expansion of economies beyond national borders due to digitalization. Due to both digitalization and globalization, economies have been eroded of national sovereignty, the conceptions of place and materiality have been reshaped as well as circulations of people, capital, commodities and culture. Castells (2010) describes digitalization as one of the most defining characteristics in contemporary era. Digitalization goes beyond the aspect of digitization. Digitization is merely the conversion of analogue data into digital bits whereas digitalization involves modification of a business model by use of digital technologies in order to generate new revenue and create value producing opportunities (Gartner, 2015).

In the banking industry, there has been vast digitalization that has enhanced the shift from traditional to modern banking. The key models adopted have been Automated Teller Machines (ATMs), mobile banking and internet banking. According to Berger, et al. (2001) ATMs have greatly influenced the branch networks of banks.

The ATMs which are computerized telecommunications devises, provide banks' customers with a mode of financial transactions in public places where they don't interact with bank staff. ATMs are used for cash withdrawals, cash deposit, balance enquiry, generating mini-statement etc. The first ATM was introduced in Kenya in 1989 by Standard Chartered Bank. Today, banks have more ATMs than branches. Through the use of visa cards, most ATM card holders can conduct transactions using ATMs different from their issuing bank (Calomiris et al. 2001). Mugusia (2012) noted that installation of ATMs by banks is competitive driven in that if one bank installs an ATM, competitors also do the same in order to retain their customers.

Zhang and Prybutok (2005) urge investment in technology during the electronic age, by service providers in order to safeguard their future. Parasuraman and Colby (2001); and Bauer et al. (2005) observed that there are fundamental changes in companies' interaction with clients due to the competition. Internet banking is an ideal model for bringing about improved organizational performance and building competitive advantage for the organization that adopts it (Zeithaml, 2000). As such banks have adopted online banking which refers to using the internet to bank. Online banking is a noble way of provision of banking services (Cronin, 2010).

Dabholkar (1994) postulated that there is greater control whenever a client has direct contact with technology, for instance, when the customer uses internet banking. It was further observed that there is high impact with regards to quality attributes whenever a client freely chooses service delivery that uses technology.

Consumers consider speed and efficiency as the most important quality factors having a positive perception driven by believe that technology offers fast and efficient service

delivery than employees do (Weatherall et al., 1984). Other important factors in determination of technology based services by consumers are user-friendliness and reliability (Gummesson, 1991).

E-banking entails the provision of products and services from the bank by use of electronic networks such as internet, wireless communication networks, ATMs and telephone or mobile banking. E-banking is basically an electronic customer interface that serves as an alternative distribution channel for banks products and services. Kaleem and Ahmed (2008) noted that the main benefits of e-banking are; delivery time, costs of transaction and inconvenience. Deutsche (2000) considered internet banking to be part of PC (personal computer) banking that also entails online banking. A contrast was also done between internet banking and online banking.

Cronin and Taylor (2008) define mobile banking as a financial service delivered using mobile phones through a mobile network. The services offered are diverse and include deposits, withdrawals, money transfers as well as saving of money and payments. Hamdi and Helmi (2011) noted that cell phones today by use of SIM or memory card, have the ability to store money which is in form of information and perform transactions that are real time virtually such as cash transfer to different people. Mobile banking shortly known as m-banking makes use of mobile phones that are used by the highest number of people globally.

According to Sujan (2009) as long as there is a linkable bank account, users can store money in virtual accounts accessible via their mobile phones. Mobile banking is also referred to as phone banking, tele-banking or m-banking.

Shaikh and Karjaluoto (2015) observed that by use of a mobile device such as a tablet, cell or smart phone, users can perform similar transactions as those done using internet banking. Coursaris and Hassanein, (2002) noted that m-banking is a subclass of m-commerce, and m-commerce is a subclass of e-commerce. M-banking users can now perform transactions from anywhere at any time due to the improvements of mobile platform technologies. Kim et al. (2009) and Hoehle et al. (2012) postulated that by use of m-banking, there is time reduction and expenses incurred by users while carrying out financial transactions by themselves without the need of visiting the bank or calling banks' call center.

2.4 Digitalization and Performance

Various studies have been conducted to establish the correlation between the performance of commercial banks and adoption of digital technologies. Gakure and Ngumi (2013) noted that bank profitability is significantly influenced by bank innovations. Their study affirmed that the increased earnings and reduced costs among Kenyan banks can be ascribed to technological innovations arising from internet banking and mobile banking. The researchers advocated for more incentives in order to trigger more investment towards technological innovations if such innovations are to influence banks' incomes significantly. This will increase the effectiveness of technology in banking. Mwania and Muganda (2011) observed that financial innovation is a major contributor to bank performance. Kombe and Wafula, (2015) found that faster delivery of banking services and high quality services was brought about by the banks adopting ICT as opposed to cost cutting. An increase in bank size is a function of technological innovations (Radecki, Wenninger, and Orlow, 1997). This is through creation of new services enabling the organization to enjoy economies of scale.

Technological advances lead to improved revenue scale efficiencies as evidenced by improved services and quality that cause an increase in revenue as alluded to by Berger, Humphrey, and Pulley (1996). However, the relation between scale and bank profit efficiency are uncertain, with large banks enjoying profit efficiency at times, small banks on another time while sometimes about the same for small and large banks (Berger et al, 1997). Technology enables banks to easily reach clients who are far away without having to resort to the traditional brick and mortar infrastructure model. This aides in cutting down costs and possible risks associated with running a physical branch. These sentiments on managerial diseconomies of scale and geographical expansion are posed by Cyrnak et al (2000) who evaluated the effects of distance on banks efficiency.

Further, adoption of ICT in banks has led to positive outcomes like enhanced customer experience, more accurate records, improved convenience in business delivery time, faster services and enhanced banks' image (Agboola, 2006). ATMs have the ability to perform more transactions per unit of time than tellers thus lower ATM cost compared to teller transactions cost. This leads to increased bank profitability (Laserman, 1990). Agboola (2006) observed banks are no longer interested in a lot of personal contact with clients thus the wide promotion of ATM cards. Some banks penalize customers by charging them more transactional fees for services obtained at the banks as opposed to those done at an ATM. A survey done by Fananopo (2006) on Nigerian banks found that roll out initiatives using interswitch network led to a 93 percent increase in debit card transactions as compared to previous years.

Mwatsika (2014) conducted a study on banks in Malawi and found that ATMs are the second most popular access channel to banking products in the country.

The study further established that customers were satisfied with ATM banking in Malawi. According to Newman (2001) and Rust el al (1994), customer satisfaction is an antecedent of customer retention which gives an organization increased sales. This in turn leads to increased market share and improved corporate image (Newman, 2001). ATMs are one of the replacements of the labour intensive transaction system that is effected using paper-based payment instruments (Ogbuji et al, 2012). Through the use of an ATM, a customer is able to conduct banking transactions from other ATM machines while responses to customers' requests are done instantly.

Banks achieve high productivity through the use of ATMs. According to Rose (1999) by using ATMs, banks have been found to record higher productivity numbers compared when they use human tellers. Human tellers give transactions of about 4,300 while ATMs give about 6,400 transactions monthly. An investigation on the contribution of ATMs on banks profitability by Abdullah (1985), Katagiri (1989) and Shawkey (1995) found that investment in ATMs leads to an increment in deposit accounts in terms of their value and volume, and a reduction in transaction costs, staff and branches hence improved bank profitability.

An investigation on how Kenyan commercial banks were influenced by financial performance through mobile banking by Muyoka (2014) where a significant relationship was found to co-exist between the two variables.

A study by Juma (2012) focusing on mobile banking and growth concluded that a positive correlation exists between ICT and growth of commercial banks whereby the banks that have embraced ICT have a higher growth in market share.

The effect of commercial banks in Spanish were affected by financial performance through mobile banking was studied by Hernando and Nipto (2007). The findings were that the banks that are able to attract more customers are those that implement mobile banking. This leads to increased customer deposits and high financial performance. A study conducted by Oruro and Ndungu (2013) on how Kenyan financial institutions were influenced by financial performance through mobile banking established that customers' deposits increase as a result of adoption of mobile banking and internet banking thus enhanced financial performance by the banks.

Giannakoudi (1999) noted that the banks' distribution channel has been transformed due to the development of internet banking. Through the use of internet banking there is enhancement of services delivered to clients. According to Gerrard and Cunningham (2003), when banks have internet banking their customers can access account information at anytime from anywhere thus enhancement of efficiency in the banks rendering services to customers.

Developing countries such as Kenya have the potential to experience expeditious growth in markets, with such growth having the probability to continue until the markets mature (Bhuian, 1997). Kasekende (2008) also notes that such countries as they continue to experience market growth could become competitive since business organizations focus on information technology in order to improve performance. Digitalization affects both processes and skill levels thus, internal communication within the organization is as well influenced by internet technology (Proenca and Rodrigues, 2011).

The low business volumes among the Internet de novo banks can be attributed to the low profitability in such banks as compared to conventional de novo banks (De Young, 2005).

Similar findings were also reported by Delgado, Hernando, and Nieto (2006) who reported technology-based scale economies among the European Internet banks. According to Berger et al (2003), ICT investments lead to improvements in cost which in turn cause increase in productivity and organization related benefits in the form of 'back-office technologies. For instance, reduced operational costs, front-office technologies and improved quality of banking products and services.

Kozak (2005) analyzed the US's ICT investments value of return on asset (ROA) in the banking sector. It was established that the value of ROA had increased by 51% due to revenue generation for banks. A similar study by Osei and Harvey (2011) was conducted analyzing the relation between ICT investment and bank business performance. It was found that investment in ICT increased profitability in terms of realized ROA and ROE for banks that had high ICT level adoptions than for those that had lower adoption levels.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapters explains the research methods that were applied in the study. The topics covered were research design, target population, sample, data collection and data analysis.

3.2 Research Design

This study adopted a descriptive cross-sectional design. The research design as defined by Kerlinger (1986) is the manner by which investigations are done in a study so as to obtain accurate feedback through effective planning and structure. It is the study strategy and the procedure through which the strategy is carried out.

A descriptive cross-sectional design was chosen as it determines and reports the way things are thus advantageous as it is used in unaffected natural environment which allow respondents to answer in their own time frame. It describes possible behaviour, attitudes, values and characteristics. This design ensures comprehensive explanation is obtained with minimal bias in the collection of data and reduction of errors when interpreting collected data.

3.3 Population of the Study

Kenya's commercial banks were this study's population. According to CBK (2017), there were 43 institutions in the banking industry by end of June 2016. This were privately held institutions that included 39 commercial banks and one mortgage finance institution while publicly owned institutions were 3. Out of the 39 privately owned banks, 24 are locally owned while 15 have foreign ownership. However, of the total 24 local banks, as at end of June 2016, 3 banks were non-operation as two were under receivership and one under statutory management.

The banks are further ranked into three categories which are Tier I, Tier II and Tier III. Banks belonging to tier 1 are those that have a balance sheet of more than 40 billion. 6 banks make up this tier and collectively control 49.9% of the market. Tier II banks are the banks that have between Ksh 10-40 billion total assets. These are currently 16 in number and collectively control 41.7% of the market. Tier III is the last tier and comprises of banks with less than 10 billion in total assets. 21 small banks constitute the tier III and together they control 8.4% of the market (Ken, 2016).

Since the population under study was small, a census was conducted and all the banks were studied. This was appropriate as it gave the researcher an opportunity to have an intensive study about the problem while gathering knowledge. It was also appropriate due to its high accuracy.

3.4 Data Collection

Primary and secondary data were both used in the study's data collection. Structured questionnaires were used to obtain primary data from respondents. The questionnaire was developed based on key background information of the respondents, an analysis on the digital platforms that the study was evaluating which are ATMs, mobile banking and internet banking, and performance measures of the influence of the digital platforms on bank performance. The use of questionnaires was considered as appropriate because they were inexpensive and flexible to administer and enable the researcher to gather information from a large population.

The questionnaires were initially pre-tested by the researcher and crucial amendments done before the actual questionnaires were sent out to the respondents in the field.

This were administered to head of departments, managers, and ICT staff based in head office as well as the customer service personnel. The respondents chosen were deemed to play a major role in influencing choice of technology to invest in Banks and were aware of the effects of the chosen technology. In each bank, at least 3 respondents participated. This was important in order to ensure that the population was well represented and objectivity, reliability and accuracy was achieved. The researcher self-administered the questionnaires while dissemination was through email and hand delivery.

Secondary data was obtained from documented previous research done by other scholars, CBK journals, media circulations, newsletters, internal circulars, banks reports as well as their websites. The secondary data is useful as it supplemented the primary data. The secondary data enabled the researcher to gather more information from documented sources thus easing ability to carry out further research. In addition, use of secondary data helped to enhance the focus of primary data collection since the secondary data, enabled the researcher to identify additional information collected and research gaps that needed to be addressed.

3.5 Data Analysis

Data Analysis is the process through which data is gathered, modeled and transformed with an objective of gathering useful information, suggesting conclusion and supporting decision making. The information obtained was analyzed using descriptive statistics.

Linear regression analysis was used to evaluate the relation between the independent variables ATMs, internet banking and mobile banking, against the dependent variable, performance. Presentation of the findings was done using frequency tables, percentages, mean scores and standard deviation.

In order to show correlation between the variables being digitalization (ATMs, internet banking and mobile banking) and performance a regression model that has the following equation was used:

$Y = \beta o + \beta 1X_1 + \beta 2X_2 + \beta 3X_3$

Where:

Y - Organizational Performance

X1 - Automatic Teller Machine

X2 – Internet banking

X3 - Mobile Banking

βo = Y- Intercept

$\beta 1$-$\beta 3$ = Regression Coefficients

CHAPTER FOUR: ANALYSIS AND PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

The research methodology shows how the results of the findings are represented in this chapter. The results for the performance of commercial banks in Kenya are presented in this chapter. The research instrument used in this study were questionnaires. The questionnaires were designed using the objectives of the study.

4.1.1 Response Rate

One hundred and seventeen (117) questionnaires were administered to the head of departments, managers, and ICT staff based in head office in the selected commercial banks in Kenya as well as the customer service personnel. A total of ninety eight (98) were properly filled and returned, representing a response rate of 83.8% as shown on Table 4.1.

An excellent response rate is 70%, 60% rate is good and 50% is adequate according to Mugenda and Mugenda (2013), for analysis and reporting. The researcher self-administered the questionnaires while dissemination was done through email and hand delivery so as to attain a high response rate.

4.2 General Information of the respondents

The demographics of the respondents' and background information are discussed in this section. The study results are presented in table 4.1.

Table 4. 1: General Information of the Respondents

Attribute		Frequency	Percentage
Gender	Male	56	57
	Female	42	43
Total		**98**	**100**
Age	20-30 Years	18	18
	31-40 Years	45	46
	41-50 Years	25	25
	51-60 Years	11	11
Total		**98**	**100**
Length of Continuous Service	Less than 5 years	3	3
	5-10 Years	61	62
	Over 10 Years	34	35
Total		**98**	**100**
Respondents Department	Management	9.8	10
	ICT	28.42	29
	Customer Service	59.78	61
Total		**98**	**100**

Source: Research data, 2018

On the gender, the study established that 57% of the respondents who were the most were male whereas 43% were female. This shows that most of the head of departments, managers, and ICT staff based in head office as well as the customer service personnel were of male gender. On the respondents' age, the study found out that 46% were between 31 and 40 years and were the majority, 25% were between 41 and 50 years, 18% were between 20 and 30 years while 11% were between 51 and 60 years. Most of the head of departments, managers, and ICT staff based in head office as well as the customer service personnel were between the age of 31 and 40. On the length of continuous service in the bank, the study found out that a majority of the respondents 62% had worked in the banks for a period of between 5 to 10 years, 35% had worked over 10 years while 3% had worked for less than 5 years.

This indicates that the respondents were well experienced to respond to the research questions. On the respondents' work departments, the study found out that, 61% of the respondents who were the majority worked in the customer service department, 29% worked in the information technology department whereas 10% worked in the management department.

4.3 Digitalization in Banks

This section presents findings on the digitalization of banks.

4.3.1 Automatic Teller Machines

The study aimed to determine the extent to which the bank used Automatic Teller Machines as a form of digitization. The study results are presented by table 4.2.

Table 4. 2 Automatic Teller Machines

Automatic Teller Machine	Mean	Std. Deviation
The bank offers 24 hrs. ATM services to its customers	4.09	.787
The bank has facilitated availability of a wide variety of services due to use of ATMs	4.13	.693
The bank has been able to offer flexibility to its customers through the use of ATMs	4.04	.763
ATM is convenient to both customers and the bank	4.16	.716

Source: Research data, 2018

The findings of the study show that the Automatic Teller Machines was convenient to both customers and the bank, the bank had facilitated availability of a wide variety of services due to use of Automatic Teller Machines, the bank offered 24 hours Automatic Teller Machines services to its customers and the bank had been able to offer flexibility to its customers through the use of Automatic Teller Machines to a great extent as shown by mean scores of 4.16, 4.13, 4.09 and 4.04 respectively.

4.3.2 Internet Banking

The study aimed to determine the extent to which the bank used Internet Banking as a form of digitization. The study results are presented by table 4.3

Table 4. 3 Internet Banking

Internet Banking	Mean	Std. Deviation
The bank provides an online platform for banking transactions	3.99	.751
The bank has facilitated flexibility in its operations due to use of internet banking	4.03	.586
The bank has facilitated availability of a wide variety of services due to internet banking	4.07	.858
Internet banking is convenient to both customers and the bank	4.13	.009

Source: Research data, 2018

According to the findings, internet banking was convenient to both customers and the bank, the bank had facilitated availability of a wide variety of services due to internet banking, and the bank provided an online platform for banking transactions to a great extent as shown by mean scores of 4.13, 4.07, 4.03 and 3.99 respectively.

4.3.3 Mobile Banking

The study sought to establish the extent to which the bank used Mobile Banking as a form of digitization. The study results are presented by table 4.3.

Table 4. 4 Mobile Banking

Mobile Banking	Mean	Std. Deviation
The bank provides a mobile platform for banking transactions	4.02	1.067
There is personalized banking by customers through their mobile phones e.g. cash deposit and withdrawals, checking balance	4.08	.935
Mobile banking is convenient to both customers and the bank	4.12	1.075

Source: Research data, 2018

Tabulations in Table 4.4 show that mobile banking was convenient to both customers and the bank, there was personalized banking by customers through their mobile phones e.g. cash deposit and withdrawals, checking balance and the bank provided a mobile platform for banking transactions to a great extent as shown by mean scores of 4.12, 4.08 and 4.02 respectively.

4.4 Bank Performance

The study aimed to establish the extent to which the bank various digital platforms have influenced the bank performance due to digitalization. The results are presented in table 4.5.

Table 4. 5: Performance Measures

Performance Measures	Mean	Std. Deviation
The volume of sales has increased in the last 3 years	3.83	3.394
Operating expenditure has reduced in the last 3 years	3.92	1.013
Market share has increased compared to those of close competitors	4.01	.939
Bank's customer base has increased over the last 3 years	3.74	1.084
Bank-customer satisfaction has increased in the last 3 years	4.05	.052
Increased customer loyalty over the last 3 years	3.98	.157
Enhanced uptake of bank's products by customers	3.89	.143
Enhanced employee productivity	3.71	.937
Enhanced employee-manager relationships due to reduced level of customer complains	3.76	1.046

Source: Research data, 2018

As per the findings in Table 4.5, bank-customer satisfaction had increased in the last 3 years, market share had increased compared to those of close competitors, increased customer loyalty over the last 3 years, operating expenditure had reduced in the last 3 years, enhanced uptake of bank's products by customers, the volume of sales had increased in the last 3 years, enhanced employee-manager relationships due to reduced level of customer complains, bank's customer base had increased over the last 3 years and enhanced

employee productivity to a great extent as shown by mean scores of 4.05, 4.01, 3.98, 3.92, 3.89, 3.83, 3.76, 3,74 and 3.71 respectively.

4.5 Digitalization and Bank Performance

The samples that the study uses draws its conclusions from the use of inferential statistics as a technique which also helps in generalizing of the populations. The relationship between the variables assessed in this study were done through multiple regression and Pearson's product moment correlation analysis. In order to determine the predictive power of the influence of service digitalization on the performance of commercial banks in Kenya, the equation $Y= \beta 0+ \beta 1X_I+ \beta 2X_2+ \beta 3X_3+\varepsilon$ was used.

4.5.1 Correlation Analysis

When a study uses more than one variable, then the use of Correlation as a statistical measure is the best to determine their relationship. The relationship's significance is also shown. The relationship's magnitude and direction are also showed by correlation analysis. Both the independent and dependent variables were showed how they related to each other through Pearson Product moment correlation. The independent and dependent variables matrix were showed through correlation matrix in Table 4.6.

Table 4. 4.6 Correlation Matrix

Correlations					
		organizational Performance (Percentage)	Automatic Teller Machine	Internet banking	Mobile Banking
Performance (Percentage)	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	98			
Automatic Teller Machine	Pearson Correlation	.611**	1		
	Sig. (2-tailed)	.000			
	N	98	98		
Internet banking	Pearson Correlation	.144**	.251	1	
	Sig. (2-tailed)	.317	.079		
	N	98	98	98	
Mobile Banking	Pearson Correlation	.581**	.306*	-.234	1
	Sig. (2-tailed)	.000	.031	.102	
	N	98	98	98	98
**. Correlation is significant at the 0.01 level (2-tailed).					
*. Correlation is significant at the 0.05 level (2-tailed).					

Source: Research data, 2018

The independent and dependent variables correlation matrix are shown in the table above. According to Table 4.6, there is a moderate strong relationship between financial performance and Automatic Teller Machine of magnitude 0.611. There is a weak relationship between financial performance and internet banking of magnitude 0.144 and there is a moderate weak relationship between financial performance and mobile banking of magnitude 0.581. A weak relation was found between the variables. However, there was a significant p-value ($p<0.005$) at 95% confidence level in two of the factors.

The significance values for relationship between financial performance and Automatic Teller Machine and Internet banking p <0.005. This implies that the three independent variables (ATMs, internet banking and the mobile banking) were moderately correlated with financial performance.

4.5.2 Regression Analysis

Variable relationships are showed by the statistical process through regression analysis. When a study uses more than one variable, then the use of Correlation as a statistical measure is the best to determine their relationship. The relationship's significance is also shown. The factors Automatic Teller Machine; Internet banking and Mobile Banking were found to have impacts on the profitability and financial performance of the Kenya's commercial banks as shown by the multiple regression model. How the two variables affect and relate to each other is determined by the summary of the model in the ability's regression line.

Table 4. 4.7 Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.781[a]	.610	.575	5.88308
a. Predictors: (Constant), Automatic Teller Machine; Internet banking and Mobile Banking				

Source: Research data, 2018

There was influence of dependent variable by the independent variable as shown by an Adjusted R Square =0.575. A high relationship was also determined between the two variables (Adjusted R Square = 0.575).

The collective study of three independent variables (Automatic Teller Machine; Internet banking and Mobile Banking, explained only 57.5% of the variation in the bank's financial performance as represented by the Adjusted R Square.

The ANOVA statistics model was found to be statistically significant as the findings indicated. The (p) value of 0.000 supports this probability. The reported p value was less than the significance level of 0.05 and hence the overall model was a good fit.

Table 4. 4.8: ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	2436.325	3	609.081	17.598	.000[b]
	Residual	1557.476	95	34.611		
	Total	3993.801	98			
a. Dependent Variable: Financial Performance (Percentage)						
b. Predictors: (Constant), Automatic Teller Machine; Internet banking and Mobile Banking						

Source: Research data, 2018

0.000 is the significance value as shown by table 4.8 as the results show (which is less than <0.05) which shows that Kenyan commercial banks' performance was affected by various factors. A P-value < 0.05, is an indication that the overall model was a good fit.

A key output of a regression coefficient is regression analysis. Regression analysis shows the relation between the independent and dependent variable and the interpretation of the variance proportion. Table 4.9 below shows these results;

Table 4.9: Regression Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	-14.572	11.655		-1.250	.218
	Automatic Teller Machine	.119	.023	.548	5.258	.000
	Internet banking	-.260	.124	-.216	-2.100	.041
	Mobile Banking	.413	.115	.374	3.600	.001
a. Dependent Variable: Financial Performance (Percentage)						

Source: Research data, 2018

The regression function extracted using the unstandardized betas is as follows

$(\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon})$:

$$Y= -14.572+0.119X_1-0.260X_2+0.413\ X_3$$

According to the regression function, holding all factors constant at zero, the coefficient for banks financial performance will be -14.572. Automatic Teller Machine, Internet banking and Mobile Banking values were found to have a significant influence on the financial performance of commercial banks (β =-0.119, P-value (0.000<0.05), (β =-0.260, P-value (0.001<0.041), (β =-0-0.236, P-value (0.07>0.00) respectively.

4.6 Discussion of Findings

The study found that the ATM was convenient to both customers and the bank, the bank had facilitated availability of a wide variety of services due to use of ATMs, the bank offered 24 hours ATM services to its customers and the bank had been able to offer flexibility to its customers through the use of ATMs to a great extent.

These findings were supported by a study done by Gakure and Ngumi (2013) and Mwania and Muganda (2011) who observed that bank profitability is significantly influenced by bank innovations. Their study affirmed that the increased earnings and reduced costs among Kenyan banks can be ascribed to technological innovations arising from mobile banking and online banking. Financial innovation is a major contributor to bank performance. Faster delivery of banking services and high quality services was brought about by the banks adopting ICT as opposed to cost cutting (Kombe and Wafula, 2015).

The study found that internet banking was convenient to both customers and the bank, the bank had facilitated availability of a wide variety of services due to internet banking, and the bank provided an online platform for banking transactions to a great extent; that mobile banking was convenient to both customers and the bank, there was personalized banking by customers through their mobile phones e.g. cash deposit and withdrawals, checking balance and the bank provided a mobile platform for banking transactions to a great extent. These findings concur with the findings of Kela (2016) who stated that internet banking is the gateway to other mobile applications and technological advances created by digitalization.

The findings also concurred with those of Pohjola (2015) who argued that there is greater control whenever a client has direct contact with technology, for instance, when the customer uses internet banking. It was further observed that there is high impact in the form of quality attributes whenever a client freely chooses service delivery that uses technology. Consumers consider speed and efficiency as the most important quality factors.

These findings are further related to the findings of mobile pay (2016) which argued that mobile services offered are diverse and include deposits, withdrawals, money transfers as well as saving of money and payments. Hamdi and Helmi (2011) noted that cell phones today by use of SIM or memory card, have the ability to store money which is in form of information and perform transactions that are real time virtually such as cash transfer to different people. Mobile banking shortly known as m-banking makes use of mobile phones that is used by the highest number of people globally.

The study also found that bank-customer satisfaction had increased in the last 3 years, market share had increased compared to those of close competitors, increased customer loyalty over the last 3 years, operating expenditure had reduced in the last 3 years, enhanced uptake of bank's products by customers, the volume of sales had increased in the last 3 years, enhanced employee-manager relationships due to reduced level of customer complaints, bank's customer base had increased over the last 3 years and enhanced employee productivity to a great extent. These findings were in line with Berger, Humphrey, and Pulley (1996) who argued that technological advances lead to improved revenue scale efficiencies as evidenced by improved services and quality that cause an increase in revenue.

However, the relation between scale and bank profit efficiency are uncertain, with large banks enjoying profit efficiency at times, small banks on another time while sometimes about the same for small and large banks. Technology enables banks to easily reach clients who are far away without having to resort to the traditional brick and mortar infrastructure model. This aides in cutting down costs and possible risks associated with running a physical branch (Berger et al, 1997).

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presented the data findings summary on the influence of service digitalization on the performance of commercial banks in Kenya. The chapter begins with the summary of the study. Next, the chapter provides the study conclusion and lastly the recommendations made.

5.2 Summary of Findings

The study found that the ATM was convenient to both customers and the banks and the banks had facilitated availability of a wide variety of services due to use of ATMs. The banks offered 24 hours ATM services to their customers.

The study also found out that internet banking was convenient to both customers and the banks since the banks had facilitated availability of a wide variety of services due to internet banking. The study further found out that there were personalized banking by customers through their mobile phones e.g. cash deposit and withdrawals and checking balances.

The study also found that bank-customer satisfaction had increased in the last 3 years. Market share had also increased compared to those of close competitors and there was increased customer loyalty over the last 3 years. The study established that operating expenditure had reduced in the last 3 years due to enhanced uptake of bank's products by customers. The bank's customer base had also increased over the last 3 years.

5.3 Conclusion

The conclusion by the study is that ATMs, internet banking and mobile banking led to increased earnings, reduced costs, faster delivery of banking services, high quality services among Kenyan banks, enhanced customer experience, more accurate records, improved convenience in business delivery time, faster services and enhanced banks' image.

The study also concludes that there exists a significant relationship between ATMs, internet banking, mobile banking and performance of commercial banks in Kenya whereby the banks that had embraced ICT, mobile banking and the ATMs had a higher growth in market share.

5.4 Recommendations

The study recommends that the commercial banks should incorporate all the main platforms used in service digitalization. Organizations should also understand the main platforms used in service digitalization. This will ensure that the organization operates effectively and efficiently because the customers will be able to access all the services they require through the platforms.

Banks must be ready to acquire the right technology so as to have more transactions and thus more profits rather than concentrating in competing with other banks. The implementation of e-commerce and internet banking should be made affordable enough for the banks to implement. The Central Bank of Kenya must stipulate standards that will be easy for the banks to implement. The growth of innovation technology needs more training and development of manpower, therefore the bank must put more efforts to ensure that this is well implemented.

Banks should be given more incentives in order to trigger more investment towards technological innovations as such innovations influence banks' incomes significantly. This will increase the effectiveness of technology in banking. Digitalization affects both processes and skill levels thus, internal communication within the organization is as well influenced by internet technology. The banks should therefore ensure that they improve their level of digitalization.

5.5 Limitations of the study

Several limitations were experienced during the study. Most respondents were unwilling to provide performance related data. They needed full disclosure as to the use of the information obtained from them. The researcher also experienced challenges in obtaining corporation from the respondents with some refusing to respond to the questionnaire and others ignoring the researcher. The researcher however, countered the challenges of non-response by doing hand deliveries, having contact person(s) in each bank to assist in dissemination of the questionnaire and use of the introduction letter from the university to gain trust from respondents.

5.6 Suggestions for Further Research

A comprehensively integrated framework is shown by the outcome of this research to understand how amount and level of service digitalization, and influence of service digitalization affected the performance of commercial banks in Kenya. However, more research efforts are needed to evaluate the effect of these factors in other companies as a lot of emphasis was placed in the commercial banks only in order to compare findings.

Future studies should also look into how aspects like demographics influence performance of commercial banks in Kenya in order to widen the scope of study. There is further need for use of other data collection instruments example focus group discussion where the respondent's will not be limited on their responses in order to capture the various groups' arguments in relations to the topic under discussion.

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APPENDIX I: Introduction Letter

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

DATE 15/11/2018

TO WHOM IT MAY CONCERN

The bearer of this letter ANNE WANJIKU MWAURA

Registration No D61/84223/2015

is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

15 NOV 2018

PROF. JAMES M. NJIHIA
DEAN, SCHOOL OF BUSINESS

APPENDIX II: Questionnaire

This questionnaire is meant to collect data regarding the influence of digitalization on the performance of commercial banks in Kenya.

Instructions: Kindly provide answers for each set of question and tick appropriately.

Confidentiality: The responses you provide will be kept strictly confidential. No reference will be made to any individual(s) or institution in the report of the study.

SECTION A: BACKGROUND INFORMATION

1. Name of the commercial bank (Optional): ……

2. Gender: Male ( ) Female ( )

3. Age: 20-30 ( ) 31-40 ( ) 41-50 ( ) 51-60 ( )

4. Length of continuous service with the bank

a) Less than five years ( )
b) 5-10 years ( )
c) Over 10 years ( )

5. Department

a) Management ( )
b) Information Technology ( )
c) Customer Service ( )

SECTION B: DIGITALIZATION IN BANKS

To what extent does this bank make use of the following digital platforms in its operations? Use a scale of 1 to 5, where: 1-No extent, 2-Low extent, 3-Moderate extent, 4-Great extent and 5-Very great extent

Digitalization Channels	**1**	**2**	**3**	**4**	**5**
1. ATMs					
The bank offers 24 hrs. ATM services to its customers					
The bank has facilitated availability of a wide variety of services due to use of ATMs					
The bank has been able to offer flexibility to its customers through the use of ATMs					
ATM is convenient to both customers and the bank					
2. Internet Banking					
The bank provides an online platform for banking transactions					
The bank has facilitated flexibility in its operations due to use of internet banking					
The bank has facilitated availability of a wide variety of services due to internet banking					
Internet banking is convenient to both customers and the bank					
3. Mobile Banking					
The bank provides a mobile platform for banking transactions					

There is personalized banking by customers through their mobile phones e.g. cash deposit and withdrawals, checking balance					
Mobile banking is convenient to both customers and the bank					

SECTION C: DIGITALIZATION AND BANK PERFORMANCE

To what extent have the following digital platforms influenced the performance of the bank? Use a scale of 1 to 5, where 1= Strongly Disagree 2= Disagree 3=Neutral 4= Agree and 5= Strongly Agree.

	Performance Measures	**1**	**2**	**3**	**4**	**5**
i.	The volume of sales has increased in the last 3 years					
ii.	Operating expenditure has reduced in the last 3 years					
iii.	Market share has increased compared to those of close competitors					
iv.	Bank's customer base has increased over the last 3 years					
v.	Bank-customer satisfaction has increased in the last 3 years					
vi.	Increased customer loyalty over the last 3 years					
vii.	Enhanced uptake of bank's products by customers					
viii.	Enhanced employee productivity					
ix.	Enhanced employee-manager relationships due to reduced level of customer complains					

THANK YOU FOR YOUR TIME

APPENDIX III: List of Commercial Banks in Kenya

1. African Banking Corporation Limited
2. Bank of Africa Kenya Limited
3. Bank of Baroda (K) Limited
4. Bank of India
5. Barclays Bank of Kenya Limited
6. Charterhouse Bank Limited – (under – statutory management)
7. Chase Bank (K) Limited – (in receivership)
8. Citibank N.A Kenya
9. Commercial Bank of Africa Limited
10. Consolidated Bank of Kenya Limited
11. Co-operative Bank of Kenya Limited
12. Credit Bank Limited
13. Development Bank of Kenya Limited
14. Diamond Trust Bank Kenya Limited
15. DIB Bank Kenya Limited
16. Ecobank Kenya Limited
17. Equity Bank Kenya Limited
18. Family Bank Limited
19. First Community Bank Limited
20. Guaranty Trust Bank (K) Ltd
21. Guardian Bank Limited
22. Gulf African Bank Limited

23. Habib Bank A.G Zurich
24. I & M Bank Limited
25. Imperial Bank Limited – (in receivership)
26. Jamii Bora Bank Limited
27. KCB Bank Kenya Limited
28. Mayfair Bank Limited
29. Middle East Bank (K) Limited
30. M-Oriental Bank Limited
31. National Bank of Kenya Limited
32. NIC Bank Kenya
33. Paramount Bank Limited
34. Prime Bank Limited
35. SBM Bank Kenya Limited
36. Sidian Bank Limited
37. Spire Bank Ltd
38. Stanbic Bank Kenya Limited
39. Standard Chartered Bank Kenya Limited
40. Trans-National Bank Limited
41. UBA Kenya Bank Limited
42. Victoria Commercial Bank Limited

Source: (CBK, 2017)