EFFECT OF MOBILE BANKING ON FIRM PERFORMANCE: A CASE OF EQUITY BANK KENYA LIMITED IN NAIROBI COUNTY CENTRAL BUSINESS DISTRICT

BY

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STUDENT'S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University-Africa in Nairobi for academic credit.

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This project is presented for examination with my approval as the appointed supervisor.

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ABSTRACT

The purpose of the study was to investigate the effects of mobile banking on firm performance in the banking sector in Kenya using Equity Bank in Nairobi County as the case study. Specifically, the study sought to evaluate the effect of mobile banking service reliability on firm performance; assess the effect of mobile banking service cost on firm performance and assess the effect of mobile banking service accessibility on firm performance.

Descriptive research design was used to describe the independent variables whereas explanatory research design was used to describe the link between the independent and dependent variables used in the study. Service reliability, service cost and service accessibility were the independent variables whereas firm performance measured in terms of microfinance loan uptake was the only dependent variable in the study. Purely primary data was used in the study. Questionnaires were used to collect the said primary data. A total of 45 equity bank employees from 3 branches within Nairobi County’s Central Business District representing top management, middle level management and lower-cadre employees were sampled using purposive sampling technique. Statistical Package for Social Sciences (SPSS) version 22 was used to analyze data. Results were presented in form of figures and tables. Regression analysis was used to explain the extent with which changes in the dependent variable could be explained by changes in the independent variable.

Using Pearson’s product moment correlation analysis, the study concluded that there was a significant positive correlation between mobile banking service reliability and firm performance because r=0.754. The study further revealed that the major reliability elements which have a significant effect on firm performance include customer satisfaction, accuracy, timeliness, consistency and use of mobile technology. It is therefore recommended that Equity Bank should strive to maintain higher standards of these elements within its workforce. Besides, Equity Bank may wish to evaluate the functions and compatibility of mobile banking applications it uses. This will enable the bank improve service delivery to its customers through prompt response to mobile banking users’ or customers’ demands.
As regards the effect of mobile banking service cost on the Bank’s performance, the study findings indicated that there was a moderate positive correlation between the two variables at 0.514. It is therefore recommended that the firm should strive to improve its cost elements such as reduction of operational costs, lowering cost of credit and adopt use of technology and financial innovation.

Concerning the effect of mobile banking service accessibility on firm performance, the study concluded that there was a significant positive correlation of 73.3% between the two variables. The study further revealed that the major accessibility elements which have a significant effect on firm performance include adoption of technology such as mobile banking in remote places which has made it possible even for the low-income earners to be able to access financial services through financial inclusion. It is therefore recommended that the firm should strive to maintain higher standards of financial inclusion in its operations. Equity Bank should come up with innovative products that are affordable to all. In addition, the Bank needs to come up with an application that enhances safety and privacy while at the same time boosting the bank’s operations, availability and accessibility. This is possible via digital banking.

Since this was a case study involving one bank, critics may argue that the sample size was limited in scope to enable the researcher get a more representative view of say, firms in the entire banking sector that Equity Bank which is the subject of the study falls. Further research in this area should consider increasing the sample size so that better results can be achieved. More research should also be done on the various elements of reliability, cost and accessibility such as timeliness, consistency, customer satisfaction, accuracy etc.
ACKNOWLEDGEMENT

To God, for giving me the grace and strength for having come this far. I also wish to acknowledge my supervisor Mr. Kepha Oyaro for leading and guiding me through the drafting and completion of this project. Last but not least, I acknowledge all lecturers who taught and equipped me with the relevant knowledge throughout my MBA.
DEDICATION

I dedicate this proposal to my family for the support, encouragement and love. God bless you all.
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Banking is one of the sectors which has experienced technological innovations in the recent past. It is however worth noting that it is difficult to develop new services and products in the banking market as is the case in many financial markets. Thus, the new innovations in the sector including mobile banking is of great importance. Technological advancements in the banking sector such as telephone banking, automated teller machines, internet banking and mobile banking have had a significant influence on delivery of existing products and services to customers. The greatest advantage attributed to mobile banking today is the convenience associated with it. Customers can enjoy banking services anywhere with internet connectivity without necessarily visiting a conventional bank branch. Consequently, banks have taken electronic-based services which are increasing by the day to customers (Akhisar, Tunay & Tunay, 2015).

Mobile banking entails use of telecommunication devices such as mobile networks to make banking services accessible to customers. It has made it possible even for the low-income who could not access conventional banking enjoy financial services (Muluka, Kidombo, Munyolo & Oteki, 2015). Mobile banking is a cost effective and secure means of transfer of money electronically. The system has shaped competitiveness in the financial sector through innovation in service delivery within the sector. Often customers’ new services are tailored towards extending scalability in terms of the location, time, days of mobile cash transfer for both banks and customers. Traditional banking has been overthrown by the new technological innovations associated with mobile banking in in the financial sector today. The cooperation between banks and telecommunication companies has made mobile banking a playing field for competitors in the financial sector (Masamila, 2014).

Mobile banking and its associated payment services have significantly grown and have surpassed other forms of electronic money transfers. This is mainly attributed to the massive growth in cell phone usage in recent years (Simiyu & Oloko, 2015). Between 2015 and 2019, Kapron (2018) predicted that the volume of electronic payments worldwide would grow from 450 billion US Dollars to 1,080 billion US Dollars. Mobile banking offers several benefits which have a positive influence on the consumer’s social,
economic and cultural aspects. For instance, electronic funds transfer can save time that would be wasted visiting a conventional bank branch to make payments for both public and private sectors. Although mobile banking has become the fastest growing electronic transfer mode of payment in recent years, it should be remembered that the system has been around for slightly over two decades now. In the first decade around the year 2000, mobile banking was only successful in a few countries while adoption in many other parts of the world appeared to be slow. Despite of concerted efforts being made in the United States of America and the European Union to adopt mobile banking, Japan and Korea were the most successful countries among the developed countries, and Kenya and the Philippines among the developing countries (Kongaut & Lis, 2017).

Over the decades, there is an overtly remarkable scalability of digital technologies in the banking sector. Telecommunication technologies are gradually changing businesses as a single medium offering varieties of financial functions such as money transfers, bill payment and loans repayment. Alternatively, telecommunication technologies have also changed the growing markets in the world hence adopting new banking models delivering these digital technologies (Kamel, 2005). Conversely, Information and Communication Technology (ICT) capability provides alternative financial services mechanisms into the integration of massive macro and micro payments technologies access to the banking services. At present, banking sector involve partnerships between banks and telecommunications providers (Mavhiki, Nyamwanza & Shumba, 2015).

In the past few years, mobile banking has become a popular means of funds transfer. The innovation has become popular in both developed and developing countries. For instance, Swish service in Sweden, MobilePay service in Denmark, Samsung Pay service in South Korea and Apple Pay service in many other countries. Empirical studies have proved that technology-based products such as mobile banking have a positive effect on firm costs. This move will improve a firm’s profitability measured in terms of return on investment especially in the short time. This is not necessarily the case in developing or less developed countries with inadequate technological infrastructure where customers prefer traditional branch-based banking (Kongaut & Lis, 2017).

Around the globe, the banking sector is enriching the technology innovation in commercial profit growth. The revolution of technology innovation has paved way on the scalability of the mobile access to the banking services. The perceived traditional banking
untailored financial services and businesses that limited access of deposits and loans, which access rendered a high fee charges and low demand of banking services. In the unprecedented global competitiveness of financial markets, furthermore innovate for survival responding to the dynamics and challenges by adopting new strategies to meet the continued untapped population to the banking services (Reguia, 2014).

In the United Kingdom, a study was conducted to analyze customers’ views on the relationship between digital banking, customer satisfaction, experience and loyalty on firms’ financial performance. The study established a positive relationship between the variables. The study further revealed that banks in the United Kingdom ought to target passive customers and turn them into promoters thus, improving their profit margins (Mbama, 2018).

Using a sample of 23 countries comprising of both developed and developing economies, Akhisar et al., (2015) investigated the relationship between mobile banking and firm performance. The study covered a 9-year period between 2005 and 2013. The study findings revealed that mobile banking had a significant positive relationship with firm performance. The higher the number of credit cards issued, or the higher the ratio of automated teller machines to the number of bank branches, the higher the firm profitability. However, the number of points of sale terminals and the number of customers using mobile banking services had a negative relationship with firm performance due to differences in customers’ socio-cultural characteristics and differences in electronic banking infrastructure in different countries used in the study. In addition, high infrastructure and advertising costs in some of the developing countries were responsible for the negative relationship. Almost in every country sampled, customers were familiar with electronic banking applications such as automated teller machines whose services have tremendously reduced operational costs in banks hence improved profitability. Lagged profitability ratios on the other hand, produced notable results in the estimated dynamic models. These variables also showed that profit persistence was high. The profit persistence was due to exogenous variables. Generally, banking services in both developed and developing countries had a significant effect on the overall firm performance when the results are evaluated collectively.
In Nigeria, Obiekwe and Anyanwaokoro (2017) study established a positive relationship between mobile banking and firm performance. Similar revelations were exhibited by Mustapha (2018) study on the Nigerian banking sector which on the other hand, contradicted the autoregressive and random walk processes which essentially implied that investors should be concerned with the firm’s current resources and not be disturbed by its previous performance.

In Kenya, Simiyu and Oloko (2015) while studying the interrelationship between mobile money transfer and the growth of small and medium sized firms in Kenya’s Kisumu city, found out that customers were much aware of the already existing mobile money transfer services surveyed. In addition, the study showed that increased use of electronic money transfer in the city. The study concluded that mobile banking had a positive link with the growth of small and medium size firms in Kisumu since most traders in the city relied on it as opposed to the formal banking system for their day-to-day operations. The study also established that majority of respondents in the study had a deep understanding of the functions of mobile banking though had reservations regarding cost of the service. The study concluded that mobile money users were not very conversant with mobile banking transactions especially regarding loan applications and repayment. These people would probably prefer the normal banking system over mobile banking when in need of advances or other forms of business loans applicable to them.

Equity bank started as a building society in October 1984 proving mortgage finance to low-income earners. The society had a modest house with a brown roof as its logo which resonated well with its target market. The society was determined to start small but steadily making gains towards achieving their dream of better life for its members. For a long time before equity bank was founded, majority of Africans who were low-income earners could not access financial services such as bank loans because of the red tape associated with conventional banking then. Low-income earners were viewed as risky people who could not easily be advanced loans. Equity Bank demystified this myth by committing itself to empowering its low-income customers by transforming their lives and livelihoods through financial inclusion. The bank introduced a business model that is anchored on accessibility, convenience and flexibility which has transformed it into an all-inclusive financial service provider whose presence is now being felt not only in Kenya, but East Africa as a whole (Mbithe & Kilika, 2017). The bank’s business model
and its leaders’ visionary leadership style has continued to earn both local and international recognition. The model is now being studied in some of the internationally established business schools in the world. Other developing countries especially in Asia and Africa have also shown interest in the model. In 2010, equity bank established a Foundation. This creative avenue has transformed the bank’s concept of corporates social responsibility and philanthropy. While Equity Group Foundation champions the socio-economic transformation of the people of Africa and seeks partnerships along six cluster thematic areas, Equity Bank provides the infrastructure of delivery hence reducing the operational costs for the Foundation and increasing the rate of re-turn on any social investment. The bank’s six social thematic areas of focus to be precise are: financial literacy and access, education and leader-ship development, agriculture, innovation, health and environment (Githinji, 2015).

1.2 Statement of the Problem

Most previous studies carried out in Kenya comparing the interrelationship between mobile banking and firm performance have exhibited significant positive relationship between independent and dependent variables. These studies include: Ngaruiya, Bosire and Kamau (2014) study on the effect of mobile money transfer on sales of small and medium size enterprises in Nakuru; Ronoh and Omwenga (2017) study on Kenya Commercial Bank; Kathuo, Rotich and Anyango (2015) study on commercial banks in general and Too, Ayuma and Kemboi (2016) study of commercial banks in Kapsabet town.

Other studies on the other hand have shown the existence of negative relationship between mobile banking and firm performance. These studies include: Iravonga and Miroga (2018) study on small size and medium enterprises in Kakamega whose R value was -0.660 and Siddik, Sun, Kabiraj, Shanmugan and Yanjuan (2016) study on the effect electronic banking on financial performance of commercial banks in Bangladesh which showed that electronic banking was positively correlated with the banks’ return on equity with a two-year time lag but negatively correlated with the same ratio within the first year of adoption.

The mixed relationship exhibited by the above-mentioned previous studies about the effect of mobile banking on firm performance constitute a knowledge gap worth
investigating. Besides, the researcher is not aware of any study specifically targeting Equity bank branch network within Nairobi County’s Central Business District which compares the effect of mobile banking measured in terms of reliability, cost and accessibility on firm performance measured in terms of loan uptake. This study is therefore intended to fill this gap.

1.3 General Objective
The main objective of this study was to determine the effect of mobile banking on financial performance in the banking sector in Kenya with equity bank branches in Nairobi County Central Business District as the case study.

1.4 Specific Objectives
The following were the specific objectives of this study:

1.4.1 To examine the effect of reliability of mobile banking services on firm performance.
1.4.2 To determine the effect of cost of mobile banking services on firm performance.
1.4.3 To evaluate the effect of accessibility of mobile banking services on firm performance.

1.5 Significance of the Study
The beneficiaries of this study will be:

1.5.1 Equity Branches and Top Management
The study will be beneficial to the bank branches of Equity Bank which will be able to respond to the challenges affecting customers using mobile banking in accessing microfinance loans in Kenya. This will help the top management in Equity Bank understand the current trends in mobile banking in a bid to formulate policies which will enable to respond customers’ needs and expectation in accessing microfinance loans.

1.5.2 Microfinance Institutions
The study will help other microfinance institutions understand the benefits of using mobile banking for customers to access microfinance loans.
1.5.3 Customers
The study will help customers gain an in-depth understanding of the mobile banking and benefits of using mobile banking to access microfinance loans.

1.5.4 Researchers and Other Banks
This study will be an integral to other researchers and academia undertaking further research in mobile banking technologies, possibility other banks. In practice, the study will be of significance to the banks in gaining understanding on the current status of mobile banking from all players; the agents, customers, banks and the regulator the Central Bank of Kenya and Kenya Bankers Association. In addition, the study will be integral to the banks in knowing how their customers are benefiting using mobile banking to access microfinance loans on reaching the untapped segments of the unbanked.

1.6 Scope of the Study
The study sought to establish the interrelationship between mobile banking and firm performance: A Case of Equity Bank Kenya Limited in Nairobi County’s Central Business District. The study targeted 3 branches of the bank in Nairobi County. The limitation of this study was that it was restricted only to the selected branches. The other limitation was that some respondents were unwilling to give out information about the firm under study. The researcher assured the respondents that the information being sought will be treated with utmost confidentiality and for academic purposes only.

1.7 Definition of Terms
1.7.1 Mobile Banking
According to Bharti (2016), mobile banking may be defined as the act of making financial transactions using a mobile device such as a cell phone or a tablet. This activity can be as simple or as complex as a bank sending usage activity to a client’s cell phone or paying bills or sending money abroad respectively. The major advantage of mobile banking is its ability to bank money anywhere any time. Its greatest undoing relates to security concerns and a limited range of capabilities when compared to banking in person or on a computer.
1.7.2 Micro-finance

Micro-finance or also referred as Micro-credit is banking the un-bankable by offering collateral financial services at a reasonable cost to the customers, including credit and savings. While most microfinance institutions often provide lending services, many of them also offer additional services, such as checking and savings accounts, and micro-insurance products; and some go an extra mile to provide financial and business education. The goal of microfinance is to give impoverished or low-income people access to financial services (Drasarova & Srnec, 2016).

1.7.3 Service Reliability

When used in relation to mobile banking, reliability is the degree of consistency of electronic banking. The consistency is reliable when it gives the same repeated result under the same conditions (Asfour & Haddad, 2014).

1.7.4 Service Cost

Micheni, Lule and Muketha (2013) defines service cost as an amount paid by a customer to a service provider for services rendered. In a business environment, cost is usually measured in monetary terms. All expenses are costs, but not all costs such as acquisition costs of fixed assets are expenses.

1.7.5 Service Accessibility

Accessibility refers to individualized attention to the consumers or users who are able to get services without hindrance to the time constraints, location and organization bureaucracy when it is needed. It entails availability of service when most needed (Worku, Tilahun & Tafa, 2016).

1.7.6 Financial Inclusion

Financial inclusion is a situation where individuals and business enterprises have access to useful and affordable financial services and products that meet their needs and are delivered in a sustainable and responsible way. In short, financial inclusion may be
defined as the availability and equality of opportunities to access financial services (Williams, Adegoke, Adetoso, & Dare, 2017).

1.8 Chapter Summary
This chapter presented the background on effect of mobile banking on performance of Equity Bank Kenya Limited in Nairobi County Central Business District. The chapter also highlighted the problem statement, general and specific objectives of the study. In addition, the chapter highlighted the significance and scope of the study as well as defined key terms used in the study. Chapter two reviewed the literature on previous similar studies. Chapter three discussed the methodology used in the study. In chapter four, results and findings were presented, whereas chapter five gave the summary, conclusions and recommendations of the study.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction
This chapter presented a review of the literature on prior studies on the effect of mobile banking on firm performance. The chapter was further broken into sections. Section 2.2 looked at the effect of mobile banking service reliability on firm performance. Section 2.3 was about the effect of mobile banking service cost on firm performance. Section 2.4 analyzed the effect of mobile banking service accessibility on firm performance. Finally, section 2.5 summarized the entire chapter.

2.2 Effect of Mobile Banking Service Reliability on Firm Performance
The reliability dimension of mobile banking concerns the ability with which the service organization can deliver the service dependably and accurately. Reliability involves processes entailing confidence on decisions that ensure consistency of performance and credibility. The characteristics of reliability involve offering services by safeguarding the consistent of services, and always the services are delivered on timely basis. Reliability is one vital decision-making processes in the banking industry, which has a significance effect of customer-centered viewpoints on banks sector performance and dependability (Aghdaie & Faghani, 2012). Conversely, the customers’ affirmative to the wide spectrum of services in the banking industry constructs in delivering what consumers need in order to benefit the consumer satisfaction has a significant effect on consumer loyalty and repatronization of products and services (Saha, Hasan & Uddin, 2014).

2.2.1 Mobile Banking Microfinance Business Models
There are primarily two bank-based models namely: the bank-focused model and bank-led model. Bank-focused model is concerned with banks having autonomous arrangements to make use of mobile device for financial transactions. The bank enters into an agency agreement with the telecommunication mobile operators. Penetration of mobile banking by the bank is categorized by offering customer tailored financial transactions through mobile phone applications and enabling the customers access the financial services without necessarily visiting a banking hall facility (Ritho & Jagongo,
The bank-based model elaborates the banks’ adoption decisions as more convenient and reliable for targeting the already established customers by offering financial transactions at a lower cost. The model uses customers’ mobile phones or internet banking penetration to the conventional branch-based banking system such as credit cards and automated teller machines. This is the case with Eazzy 247 Equity Bank’s mobile banking platform (Cudjoe, Anim & Nyanyofio, 2015).

Bank-led model which is also referred to as joint venture is a non-conventional branch bank that uses mobile phone applications. The customers’ penetration of banks’ financial services is characterized by a wide scalability of financial delivery services, very distinctive from the bank-focused model. Bank-led model uses correspondence agreement between the bank and non-bank agent. It is relatively cheaper than the bank-focused model, hence ideal to target the larger unbanked population in small and medium urban and semi-urban population, and rural communities. However, both models are similar because they are autonomous to the customers’ accounts. An example of bank-led model offered by Equity bank is M-Kesho. Others are: Hello Money of Barclays Bank, SIM-ple banking of National Bank of Kenya and Mobi-bank of Kenya Commercial Bank (Ritho & Jagongo, 2015).

There are various lending models used in the lending sector around the world. The study reviewed 14 credit lending models described as credit unions, community banking, cooperatives, associations, bank guarantees, small and medium businesses, individuals, village banking, NGOs, women groups, intermediaries and individual. These models are usually identified as informal financial services which have historically preceded the modern banking system. Conversely, these models are pre-dominant in low-income households where access to formal financial services are unattained by the unbanked population (Shaaban, 2019). The existences of these models traces its roots to studies conducted in India, Thailand, Philippines, Indonesia and Sri Lanka and a wide literature review from the previous studies in other countries and scholars (Srinivas, 2015).

Credit Associations model formed by low income households from poor communities were aimed at pooling financial resources for micro-saving, micro-credit and micro-insurance for the contributing communities. The targeted communities are formed from different religious, gender, political and cultural orientations. In this case, self-help groups are inclusively oriented to establish credit associations. Bank Credit model
guarantees are capital guarantee schemes formed by external or internal guarantee. The external guarantees are international organization donors or government agency that pool resources to cater for to the bank microloans scheme. The internal guarantees are usually individuals or groups that pool their savings collectively and use bank credit guarantee model to borrow from the pooled savings. Examples of Bank credit guarantees include African Microfinance (Mauritius), Bellwether Microfinance Fund in India, Latin America Bridge Fund, Microfinance Credit Guarantee Facility in Pakistan (Srinivas, 2015).

Community credit banks and village credit banks models are typical of credit associations’ model usually formed by the community members who pool their savings collectively with the aim to improve the living standards through income generating projects. Village credit banks are typical form of community credit bank whereby the initial loan comes from external sources, establish their mandate and constitution, appoint their own officers, and allocate the loans to the members (Ksoll, Lilleor, Lonborg, & Rasmussen, 2015). Social collateral refers to peer pressure credit model that use moral collateral obligations for eligibility of loans on members’ performance of repayment of the loan (Al-Mamun, 2012).

SERVQUAL model which stands for Service Quality Gap, is a significant instrument in reviewing quality service which has a significant effect on firm performance for the customer in the services industries. The original model which was established in 1985, comprises of ten dimensions: Tangibility, Reliability, Responsiveness, Competency, Courtesy, Credibility, Safety, Access, Communication and Comprehension of the user (Buttle, 1996). These ten dimensions were delivered from 12 focus groups in services industries investigated in retail banking, credit cards, securities brokerages, repairs and maintenance services industry. Later in 1991, the 10 dimensions of the SERVQUAL model were restructured to five dimensions namely: reliability, responsiveness, assurance, empathy and tangible (Prakoso et al., 2017).

Some previous studies have been conducted on the effect of SERVQUAL model in relation to firm performance. They include: Aghdaie and Faghami (2012) study on the relationship between qualities of mobile banking services and financial performance of Iranian banks, Lin and Shih (2013) study on Chinese banks and Roy, Khan and Hossain (2016) study on Bangladeshi banks.
2.2.2 Relationship Between Mobile Banking and Quality Service

Reliability dimension can influence adoption of mobile banking. Service availability and reliability are major factors enabling customers access mobile banking any day, anytime and anywhere. Banking industry adopts services reliability model by ensuring credible mechanism to ensure accurate financial services that have a positive effect on firm performance. Banks ultimately plan to ensure consistency in firm performance in the long run. In this case, if the mobile users cannot access the services as it was intended to benefit the customers, then without any doubt the customers lose confidence with the mobile banking (Abili, Thani, Mokhtarian & Rashidi, 2011). Therefore, the reliability dimension in a bank should be measured on the mobile banking ability to help banks access microfinance loans and also solving previous customers’ problems that make them not access these loans.

Previous studies on reliability have established that service reliability has a positive relationship with firm performance (Hussain, Nasser & Hussain, 2014). This means that when customers identify that services offered by banks are reliable and convenient their loan uptake increases. When this happens, the firm is able to record improved results associated with interest income in respect of loans borrowed. Arasli, Mehtap-Smadi and Katircioglu (2005) studied “Customer Service Quality in the Greek Cypriot Banking Industry” using 3 dimensions of SERVQUAL model (reliability, tangibles and responsiveness-empathy), the study concluded that reliability had the highest impact on overall customer satisfaction and firm performance. This means that when customers rank services as highly reliable, they are satisfied, and their utilization will be higher compared to services that are not reliable.

Jamal and Anastasiadou (2009) studied SERVQUAL dimensions of service quality to establish whether relationship exists between reliability, tangibility and empathy on customer loyalty and eventually improved firm performance among bank customers in Greece. Their findings found a strong positive correlation between these variables and firm performance. Besides, customer satisfaction was also correlated with customer loyalty.

Sulieman (2013) studied the reliability dimension of service quality model on customer satisfaction and firm performance in the housing sector in Jordan. The study found that
reliability dimension predicted 55.7% of the variation of the levels of firm performance. Jabnoun and Khalifa (2005) studied a customized measure of service quality in the United Arab Emirates conventional and Islamic banks. The study found that among the components of service quality model, service reliability was a major component of service quality which had a significant influence on firm performance. Therefore, to increase service utilization, it’s imperative to ensure that service is reliable to the customer.

In Ghana, Amoah-Mensah (2010) study on the customer satisfaction in the banking industry in Ghana and Spain using service quality model found that in Spain only reliability explained overall firm performance while in Ghana reliability was the most predictor of firm performance among other predictors. In Ethiopia, a study was carried out to determine the relationship between the customer satisfaction and perceived service quality in the telecommunication industry. The study established that reliability, empathy and network quality had a significant positive effect on the overall firm performance (Negi, 2009).

2.3 Effect of Mobile Banking Service Cost on Firm Performance

World over, the business environment has changed due to the stiff competition among industry players and the financial sector is no exception. Competition amongst the financial institutions has pushed them towards becoming more innovative. These innovations include introduction of credit cards, internet banking, ATMs, mobile banking and agency banking (Asante-Gyabaah, Oppong & Idun-Baidoo, 2015). Although financial institutions continue to invest in rolling out conventional branches that are supported by several delivery channels, the low-income earners still face major challenges to access formal financial services for credit. Customers from remote locations spend a considerable amount of money as transport expense in order to access a branch. Besides, consumers waste a lot of time that would be utilized in other productive activities commuting. To curb the cost challenge, several central banks in different parts of the world have introduced legislations that allow financial institutions to contract the services of third-party retail networks as agents (Lotto, 2016).
2.3.1 Transaction Cost Innovation Theory

Antonenko and Baev (2017) contend that the overriding factor in as far as financial innovation is concerned is the reduction of transaction cost. Financial innovation is associates with advance in technology which results in reduction in transaction costs. Generally, reduction in transaction costs may stimulate financial innovation thus improving a firm’s financial services. Financial innovation reduces transaction costs. In this study, innovation theory is relevant because the use of internet-connected Information Technology for instance, can significantly reduce a firm’s transaction costs through efficient management, coordination and use of information. Internet or mobile banking may further lower a firm’s transaction costs because it provides off-site access to the organization’s internal database and other relevant information sources. Consequently, reduction of a firm’s operation costs through such measures as internet banking or agency banking and mobile banking may have a positive effect on a firm’s profitability (Lotto, 2016). Transaction cost innovation theory argues that innovation is crucial if a firm wants to maximize profits. However, along the way, some restrictions may impede the profit maximization objective. These may include policy issues and internal organizational management. Kiplangat and Tibbs (2018) study observed that innovation was positively correlated with firm performance due to increased number of customers which is responsible for high liquidity which has an indirect influence on a firm’s financial performance. However, the relationship was directly related to transaction costs.

In the past one decade, there has been an increase in the remote access of financial services that go beyond the conventional branch network which may be achieved using mobile phones. In many countries, mobile banking has played a crucial role to reach people especially the low-income earners which would not be reached by conventional banking thus enhancing financial inclusion. One of the main challenges associated with financial exclusion concerns the aspect of cost (Damodaran, 2013). These costs relate to those associated with servicing low value accounts, the costs incurred to extend physical infrastructure to remote areas, and finally, the cost both in monetary and time factor incurred by customers in the remote areas mentioned earlier on to reach bank branches (Ozili, 2018).

A study was conducted in Europe covering four countries namely; the United Kingdom, Italy, Finland and Spain between 1995 and 2004 to compare the performance of various
online banking models. The study showed that those firms which had adopted internet banking reported better performance measured in terms of return on assets and return on equity. Besides, they managed their costs with reasonable levels for the little income they generated. The study further revealed that it was difficult to distinguish internet banks from banks that adopted both click and mortar strategies. Individual country specific features defined the differences across banks. The study also found that adoption of internet banking gave targeted firms in the study a competitive edge as incorporated in their business models. The study concluded that these banks’ management was generally capable of handling their personnel and other costs. The strategy of financial institutions to incorporate internet banking reflects competitive edge in their business models. In the final analysis, personnel expenses were found to be comparatively low while information technology costs proved disproportionately high (Arnaboldi & Claeys, 2008).

Today, financial institutions are faced with the several challenges ranging from stiff competition in the market to debt crises. Since customers are more knowledgeable now than ever before, their impatience has increased considerably. Hence, the introduction of mobile banking in the financial sector has added to the challenges facing financial institutions as they have no option but to either embrace the new technology or lose out in business. Mobile banking in Nigeria, for instance, has considerably transformed the financial sector. Daniyan-Bagudu, Khan and Abdul-Hakim (2017) in a study to investigate the effect of mobile banking on Nigerian commercial banks established a positive relationship between the price of mobile banking services and firms’ financial performance. The study further established that mobile banking helped to promote confidence and efficiency in the financial system, hence winning public trust. In another study, Adewoye (2013) established that mobile banking improved service delivery in banks measured in terms of service cost, convenience, time saving, quick transaction alerts.

Until recently, accessing financial services from conventional banks was a tall order in Rwanda because conventional banking mainly targeted the salaried and middle-class people with more disposable income. However, since 2012, the country experienced tremendous progress in the financial sector when agency banking was introduced. King’ang’ai, Kigabo, Kihonge and Kibachia (2016) in a study to investigate the interrelationship between agency banking and banks’ financial performance found out
that regulation of agency banking had a positive effect on the banks’ financial performance. The study also established that low transaction costs attributed to agency banking had a positive effect on the firms’ financial performance.

In Kenya, Okombo (2015) while studying the effect of electronic banking on firms’ financial performance established a positive relationship between low transactional costs due to electronic banking and the financial performance of deposit taking micro finance institutions. This implied that the lower the transactional costs the better the financial performance of the microfinance institutions. The study revealed that there were various ways in which low transaction costs influenced the firms’ financial performance. For instance, through access to bank account, through bank account access over non-working hours, use of electronic banking to interlink various products, virtual access of financial information in absence of physical branch, and reduced stationery costs. Achieng and Ingari (2015) in a study to review effect of cost on adoption of mobile banking in Kenya Commercial Bank’s Kilindini branch established that cost was a major factor hindering people from adopting mobile banking. Similar findings were exhibited by Ritho and Jagongo (2015) in their study regarding commercial banks in Kenya. These studies however disagreed with Kombe and Wafula (2015) study which revealed that the effect of information communication technology adoption on banks’ performance was significantly correlated with quality improvements and time reductions, rather than cost reductions as reported by many authors. The study used Kenya Commercial Bank as the target population and case study.

2.3.2 Constraint-Induced Financial Innovation Theory
Constraint-induced financial innovation theory views financial innovation from microeconomics standpoint, which is commonly viewed as representative. Some scholars however argue that this theory emphasizes on “innovation in adversity” so much that it may not be very useful in expressing financial innovation phenomenon adequately. When a firm faces financial challenges, it may not be able to execute all available innovative projects at its disposal (Achieng, Karani & Nasieku, 2015). However, Kombe and Wafula (2015) disagrees with this contention and argues that financial innovation can lessen or remove the constraints imposed on firms. Business organizations facing imperfections for instance entry or regulation barriers have the greatest incentive to be innovate enough so that they can boost profits due to the high shadow costs attributable to such constraints.
2.3.5 Information Asymmetry

Asymmetric information leads to moral hazard and adverse selection problems. Asymmetric information problem which occurs before the transaction takes is associated with lack of information regarding the lender’s characteristics. This phenomenon is referred to as adverse selection. Moral hazard on the other hand takes place after the transaction has occurred. It is linked with incentives at the lenders’ disposal that may push them to behave opportunistically (Nyoni, 2018).

In the United Kingdom, a study was conducted to investigate the interrelationship between information asymmetry, financial structure and firm value. The study revealed that information asymmetry had a significant negative relationship with firm value. However, leverage significantly moderated the extent of the adverse relationship. The study also showed that information asymmetry had more significant negative relationship with firm value in the post-crisis period than in the pre-crisis period (Fosu, Danso, Ahmad & Coffie, 2016). In Rwanda, Chantal, Namusonge and Shukla (2018) study on effect of information asymmetry on financial performance of commercial banks gave a total opposite view. The study revealed that there existed a significant positive correlation between information asymmetry and both moral hazard and adverse selection because the R coefficient between moral hazard and asymmetric information was 0.980 and 0.986 respectively.

2.4 Effect of Mobile Banking Service Accessibility on Firm Performance

Access is a way to ensure there is easiest use of a service. Therefore, customer service experience entails five main areas of measurement ensuring improvement of service quality. The first area is the customer intention of meeting his/her needs by identifying the products or services that can meet his/her intended needs, which can be met immediately from the services providers. Second area, the pace of immediate feedback from the team of the company, third area, the means of service delivery offered by the company, and four area, the location of the service for easier access by customers and the last area, a sense of confidence and reassurance affirming the customers safety when accessing services (Okiro & Ndung’u, 2013).
2.4.1 Innovation in Mobile Banking

Mobile phones technology affects the lives of billions of people of all walks of life around the world. The ever-changing technology in the mobile phone industry has continued to offer opportunities to millions and millions of people who previously did not have bank accounts to access financial services (Abu-Shanab & Haddad, 2015). Lack of access to financial services by the vulnerable especially low-income earners may be attributed to motivating financial institutions to come up with innovations such as mobile banking. For this innovation to work, the low-income earners in society only need to have access to a cell phone (Mago & Chitokwindo, 2014).

Mago and Chitokwindo (2014) further contend that although in the recent past, innovations in microfinance aimed at expanding financial access to many including the low-income earners who do not have accounts with financial institutions, attention is now shifting towards having this group of people enjoined into the formal banking systems. This move will enable these people save with financial institutions and even be able to borrow loans. In this regard, mobile banking will bring financial services close to the previously ‘unbanked’ clientele hence financial inclusion. Despite of the obvious benefits attributed to mobile banking, the big question as to whether low-income customers will adopt this technology at a scale sufficient to make economic sense remains a topic worth researching.

World over, access to financial services has proved a challenge to the vulnerable groups especially the un-employed and low-income earners in general. These groups have been excluded from active participation in as far as the financial sector is concerned. Financial institutions compete to the extent that they end up closing branches in remote areas due to viability challenges posed to the financial institutions in those areas (Damodaran, 2013). According to Muritala and Fasanya (2013), most poor people in the world continue to face challenges in accessing sustainable financial services hence the urgent need to address this concern. There is consensus on the need to come up with products and innovations in the financial service sector that do not discriminate against any sector of the economy including the poor. Financial inclusion therefore may be defined as is a situation where financial services are accessible to all including the low-income earners. These people are usually excluded due to access barriers. Abimbola, Olokoyo, Babalola and Farouk (2018) defines financial inclusion as delivery of financial services to the vast
majority including low-income earners at an affordable cost. The financial services referred to in this case include insurance, savings, credit, payments and remittance services. Thus, the main objective of financial inclusion is to cast the net wide to bring on board even the low-income people into the financial services bracket.

Ala and Ngugi (2013) argue that the major advantage associated with the use of mobile money transfer is the reduced risk of dealing with cash such as losses due to outright theft or lack of cash reaching the intended beneficiary because of lack of transparency on the part of third parties such as friends or bus involved in the courier services. These informal means of cash transfer are costly considering the delay periods sometimes associated with such transactions. To ensure that financial services are made accessible to majority of the citizens, financial authorities such as the Central Bank of Kenya and the Ministry of Finance are driving calls for financial institutions and especially commercial banks to come up with innovative products that are affordable to all.

International Telecommunication Union by the end of 2010 estimated that 90 percent of the world’s population had been placed under mobile phone coverage with close to 5.3 billion people enjoying mobile phone services worldwide. In developed countries, the market for mobile phones usage is getting saturated, leaving developing countries to report significant levels of growth (ITU, 2010). It is important to note that rapid advancements in technology is not directly proportional to economic prosperity. Thus, access to mobile phone coverage does not necessarily mean better living. As of 2005, the World Bank estimated that 2.5 billion people, or approximately 40 percent of the world’s population, lived on not more than two dollars of income per day (Ferreira & Ravallion, 2008). Although the spread of technology per se may not be considered an indication of increased wealth distribution, however, significant opportunities exist for employing innovations such as mobile banking to advance international development goals geared towards reducing world poverty (Metre, 2011).

2.4.2 Financial Inclusion Through Mobile Banking

The speedy pace of accessing the service not only limits customers to working hours but can access the services 24 hours in a day. An assurance is a formal arrangement in form of contractual, regulations, feedback and guarantees between the two parties.
Additionally, assurance dimensions also ensure employees have gained knowledge to gauge trust to the customers on the services. Customers can access the services with the acknowledgment that mobile banking can result to risks associated and also opportunities (Baganzi & Lau, 2017). Mobile banking has provided comfortable and secure access to conventional banking services.

In the United States of America for instance, the introduction of the Community Reinvestment Act (CRA) by the American government was aimed at combating the issue of ‘unbanked’ households. Within CRA regulated areas, lending to Americans of Black and Hispanic origins has improved. However, some reports indicate that some lenders have fallen outside the regulatory powers of the CRA in some low-income communities (Getter, 2015). A study by Schmidt (2007) in the USA found that among the 10 service quality dimensions, access is one of the dimensions that is positively correlated with satisfaction despite people ethnic group. In the UK, Mukhtar (2015) found that in the electronic banking operations, accessibility and reliability are major dimensions needed for effective customer service which has a direct relationship with firms’ financial performance.

Bahia and Nantel (2000) study in Canada involving 115 bank customers found that six service quality dimensions access, reliability, tangibles, assurance, services portfolio and effectiveness are important aspects to be considered when management wants to ensure better firm performance. In Australia, the government partially sold its telecommunication firm Telstra to raise some 70 million Australian Dollars to provide banking and other financial services to the ‘unbanked’ communities through its Rural Transaction Centre (RTC) set up in stores, post offices or stand-alone facilities run by the local authorities. The programme is said to have benefited 100 communities and many more are applying for similar funding (Mcdonnell & Westbury, 2002). In developing countries such as Brazil, India, South Africa and Kenya, financial inclusion has been a major issue. These countries have adopted mobile banking primarily to give banking access to the unbanked sector. In Kenya for instance, a mobile money transfer platform commonly known as MPesa was launched in 2007 to address the issue of the unbanked in Kenya (Mas & Radcliffe, 2011).
While studying the use of mobile banking services aimed at improving financial access in India, Philippines, Kenya and Haiti, Metre (2011) established that mobile banking had a positive effect on access of financial services among low-income and poor populations. The study further revealed that innovations have proven that banks and mobile network operators can cooperate and create business models that will make mobile banking services a success thus improving a firm’s overall bottom-line.

A study by Adams, Bashiru and Abdulai (2016) investigating customer satisfaction in the banking industry in Ghana found that sales performance is improved by customer easy access to available quality services. Mago and Chitokwindo (2014) in a study to assess the effect of mobile banking on financial inclusion in Zimbabwe’s Masvingo district established that due to access barriers, low-income earners and the unemployed people are excluded from financial services offered by financial institutions. The study further revealed that the unemployed and low-income earners are willing to adopt mobile banking because of its accessibility, convenience, cheapness, easy to use and secure.

Al-Fawzan (2005) study on how to expand Saudi bank sales found that the management should concentrate on the accessibility dimension. Accessibility in the banking sector can be achieved by ensuring that services meet the customer expectations. Albarq (2013) study among local Saudi banks in Riyadh also found that accessibility is an important dimension of SERVQUAL model. However, to enhance utilization of services, the banking management should ensure that systems supporting the services are stable, efficient and cost effective to its users so that maximum profits can be realized. When these components are met customer satisfaction and loyalty improves which translates to better financial performance for the firm.

Lymeropolous, Chaniotakis and Soureli (2006) study also found that service provider success measured in terms of profitability is dependent on whether customers are satisfied with services provided and systems used are customer friendly. In Jordan, a study was conducted to determine the effect of mobile banking on firm performance. The study used the following seven dimensions of customer satisfaction: accessibility, privacy, flexibility, reliability, safety, efficiency and ease of navigation. Using a sample of 360 customers from four commercial banks in Jordan namely: HSBC Bank, Union Bank, Jordan Ahli Bank and Capital Bank, the study established that privacy and accessibility
are the most influential of the seven mobile banking dimensions in terms of determining the firm’s profitability (Asfour & Haddad, 2014).

In Kenya, Muluka, Kidombo, Munyolo and Oteki (2015) proposed that to improve firm performance, banks need to put mechanism that rewards customers who utilize these services and help accessing these services promptly. Kariuki-Njogu, Njeru and Olweny (2017) investigated the extent to which mobile banking technology was adopted in the Kenyan agricultural sector as a factor affecting the level of agricultural credit demanded by agricultural households. Using data from sampled dairy farmers, the research investigated the link between an individual’s use of electronic banking technology and the possibility of accessing a bank loan through the mobile-banking platform. Specifically, certain social-demographic factors were theorized to moderate the interrelationship between credit access and mobile-banking technology adoption. The study was based on the mere fact that the world is swiftly and steadily transiting from an industrial-based to a knowledge-based technological working environment for sustainable growth and development. Using a sample of 243 households within the target group engaged in dairy farming, the study findings showed that the adoption of technology influenced both the level of credit demanded by the dairy farmers from the targeted commercial banks in the research, credit access and firm performance.

2.5 Chapter Summary
Chapter two has reviewed the literature on the relationship between mobile banking and firm performance. The chapter analyzed the effect of mobile banking service reliability, mobile banking service cost and mobile banking service accessibility on firm performance. The next chapter discussed the research methodology used in the study.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction
This chapter presented the research methodology that was used in conducting the study. It highlighted the research design, population and the sampling design employed, data collection methods, research procedures and data analysis method used in the study. According to Daniel (2018) research methodology refers to the systematic development and use of scientific procedures, methods and techniques to address a research problem.

3.2 Research Design
Research design may be defined as a systematic method used to answer the specific objectives in the study (Rahi, 2017). In this study, a case study form of descriptive research design was used because the study was limited to a specific area of study, which in this case was equity bank. Descriptive research design when used in research attempts to describe the causal relationships that exists between the variables used in the study. The three independent variables used in this study that represent mobile banking were: reliability, cost and accessibility while financial performance was measured in terms of loan uptake.

3.3 Population and Sampling Design
3.3.1 Population
A population may be defined as a well-identified group of people or elements which the researcher uses to make inferences about the study under investigation (Goldstein et al., 2015). The target population for this study comprised of 45 employees of Equity Bank’s three branches within Nairobi County’s Central Business District namely: Community, Harambee Avenue and Moi Avenue branches. This target population was selected because their employees had a better understanding of the effect of mobile banking on firm performance. This target population played a crucial role in providing relevant mobile banking information that influence loan uptake by the bank’s customers.
3.3.2 Sampling Design

3.3.2.1 Sampling Frame

A sample frame refers to the set of cases drawn from the population which should be current, complete and relevant (Digaetano, 2013). In this study, the sampling frame constituted employees who manage mobile banking services at the targeted Equity Bank’s three branches within Nairobi County’s Central Business District. The sample frame for this study consisted of 15 employees in each of the 3 branches of the Bank namely: Community, Harambee Avenue and Moi Avenue branches.

3.3.2.2 Sampling Technique

Sampling technique may be defined as the process of selecting subjects in the sample (Taherdoost, 2016). Stratified random sampling method was used in this study. The technique entailed dividing the target population into mutually exclusive groups, that is, various job groups and random samples drawn from each group. The researcher then selected individuals from each job group representing senior, middle level and lower cadre employees.

3.3.2.3 Sample Size

A sample size is a smaller part of the actual population. The sample size should be representative enough for it to be considered (Chander, 2017). This study employed Yamane (1967) formula of determining the appropriate sample size of finite population when the researcher is collecting continuous variables data. The formula was denoted as follows:

\[ n = \frac{N}{1 + Ne^2} \]

Where \( n \) denoted the target sample size, \( N \) denoted the target population, \( e \) represented the level of precision which according to this study was pegged at 0.05 or (5%) significance level.
Using Equity Bank employee base at the 3 branches with an average of 15 employees per branch, N=45.

\[
n = \frac{45}{(1+45*(0.05^2))}
\]

\[
n = \frac{45}{(1+0.1125)} = 40
\]

\[
n = 40
\]

Thus, a sample size of 40 employees was considered representative of the total population as illustrated in the Table 3.1 below.

**Table 3.1: Sample Distribution**

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Population</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior Level Management</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Middle Level Management</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Lower Level Management</td>
<td>25</td>
<td>22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>

**3.4 Data Collection Methods**

Paradis et al., (2016) defines data collection method as a logical process used by researchers to collect data. According to this study, primary data was used. Relevant information for the study was collected using questionnaires. Questionnaires were appropriate for this study because they were able to obtain most opinions from the respondents. In addition, questionnaires were used to administer both closed and open-ended questions with multiple choices using a quantitative data approach. The questionnaires were structured into three sections viz; section one: personal information, section two captured data on mobile banking service reliability; section three captured data on mobile banking service cost; section four highlighted mobile banking service accessibility.

**3.5 Research Procedures**

The questionnaire was pre-tested to establish its validity and the need to make any adjustments necessary. After piloting, the revised questionnaire was emailed to all
respondents. The respondents were given one week to respond. Thereafter, the researcher reviewed the filled questionnaires to establish whether all the questionnaires issues were returned. The returned questionnaires were coded to avoid the possibility of double-coding and run through the Statistical Package for Social Sciences (SPSS) software for analysis.

3.6 Data Analysis Methods

According to Ibrahim (2015), data analysis is the systematic processing and interpretation of raw data gathered in a research using modeling analysis methods. It entails computing data by entering it into computer statistical packages such as the Statistical Package for Social Sciences (SPSS). In this study, responses were coded and analyzed to make meaningful conclusions. The quantitative data was then analyzed and interpreted using descriptive statistics models such as the mean, standard deviation, frequencies and percentages whereas inferential statistics such as regression and correlation were used to conduct tests of significance at 5% level of significance. The dependent variable in the study was firm performance measured in terms of microfinance loan uptake while independent variables were reliability, accessibility and cost dimensions of mobile banking.

3.7 Chapter Summary

This chapter focused on the research methodology that was used in the study. It discussed the research design, population and sampling design, data collection methods, research procedures and the data analysis. The next chapter presented the results and findings of the study.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

This chapter gave the background information regarding the study respondents in general. The chapter was further broken into sub sections according to study’s specific objectives. Section 4.3 presented findings on the relationship between mobile banking service reliability on firm performance at Equity Bank. Section 4.4 provided findings on the second specific objective, relationship between mobile banking services cost and firm performance. Section 4.5 gave findings on the effect of mobile banking services accessibility on firm performance. Data findings were finally presented in form of tables and percentages for easier interpretation.

4.2 Demographic Information

4.2.1 Response Rate

The researcher managed to collect 25 dully filled questionnaires from the respondents. Out of a sample size of 40, this was 62.5% return rate which was representative enough and good for generalizations. Baruch (1999) argued that a response rate of at least 50% is representative and good enough for a research.

4.2.2 Gender of the Respondents

The study sought to establish the gender representation of the targeted respondents. The results are shown in Figure 4.1 below. Majority of the respondents were male at 80 percent followed by female at 20 percent.

![Respondents' Gender](image)

Figure 4.1: Respondents’ Gender
4.2.3 Age of the Respondents
The study sought to determine the age distribution of the respondents. The study revealed that most of the respondents were over 35 years of age at 36 percent followed by those in the age category of between 31 and 35 years at 28%. The third category comprised the respondents aged between 26 and 30 years at 20%. The last group of respondents at 16% representation were aged at between 20 and 25 years as illustrated in Figure 4.2 below.

![Respondents' Age](image)

**Figure 4.2: Respondents’ Age**

4.2.4 Respondents’ Education Levels
The study also sought to assess respondents’ educational levels. It was established that majority of them were graduates at 60 percent, followed by undergraduates at 24 percent. Diploma holders were last at 16 percent as illustrated in Figure 4.3 below.

![Respondents' Level of Education](image)

**Figure 4.3: Respondents’ Level of Education**
4.2.5 Management Levels
The study sought to establish the respondents’ job cadres. Majority of them were mid-level managers at 64%, followed by lower level employees at 32%. Senior level managers were the fewest at 4% of the total workforce as illustrated in Figure 4.4 below.

![Management Levels](image)

**Figure 4.4: Management Levels**

4.2.6 Weekly Loan Uptake
The study sought to ascertain the respondents’ loan uptake per week. Majority of them took loans of not more than Kenya shillings 1 million per week. Those who took loans between Kenya shillings 5 million and 10 million were 24% just as those whose loan uptake was over Kenya shillings 10 million. Those who took loans in the range of Kenya shillings 1 million to Kenya shillings 5 million were the least at 12% as illustrated in Figure 4.5 below.

![Weekly Loan Uptake](image)

**Figure 4.5: Weekly Loan Uptake**
4.3 Effect of Mobile Banking Service Reliability on Firm Performance

The first specific objective of the study was to investigate the effect of mobile banking services reliability on firm performance at Equity Bank. Statistics of the variables used in the study are presented in Table 4.1 below. The average value that supports the argument that service reliability ensures accuracy in service delivery is 4.60 with a standard deviation of 0.50. The mean for the argument that service reliability in mobile banking ensures consistency and reliability in firm performance was 4.36 with a standard deviation of 0.70. The mean in support of the argument that reliability in mobile banking services is cost-effective and timely was 4.48 with a standard deviation of 0.77 while that in support of the argument that mobile banking service reliability improves customer satisfaction was 4.88 with a standard deviation of 0.33. On the fact that bank-focused model of financing utilizes mobile device technology to deliver financial services at a lower cost, the mean was 4.00 with a standard deviation of 1.00. As regards the argument that bank-led model of financing relies on mobile phone technology to serve more customers faster, the mean was 4.28 with a standard deviation of 0.79. Use of eazzy 24/7 to tap more customers especially the low-income earners thus improving bank profitability had a mean of 4.20 with a standard deviation of 0.87. 8. As regards the contention that bank-led and bank-focused models of microfinance are autonomous to the customers’ accounts reliability which had a positive effect on firm performance, the mean was 3.80 while the standard deviation was 0.87. The average mean for use of service quality model in reviewing quality the reliability of services to customers 3.52 with a standard deviation of 0.77. The overall average mean for service reliability as a dimension of quality service to customers which has a significant effect on firm performance was 4.04 with a standard deviation of 0.61.
Table 4.1: Effect of Mobile Banking Service Reliability on Firm Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service reliability ensures accuracy in service delivery.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>40%</td>
<td>60%</td>
<td>4.60</td>
<td>0.50</td>
</tr>
<tr>
<td>Reliable delivery of mobile banking services ensures consistency and reliability in firm performance.</td>
<td>0%</td>
<td>0%</td>
<td>12%</td>
<td>40%</td>
<td>48%</td>
<td>4.36</td>
<td>0.70</td>
</tr>
<tr>
<td>Reliability ensures that service delivery is timely and cost effective.</td>
<td>0%</td>
<td>0%</td>
<td>16%</td>
<td>20%</td>
<td>64%</td>
<td>4.48</td>
<td>0.77</td>
</tr>
<tr>
<td>Reliable service delivery improves customer satisfaction.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>12%</td>
<td>88%</td>
<td>4.88</td>
<td>0.33</td>
</tr>
<tr>
<td>Bank-focused model of financing utilizes mobile device technology to deliver financial services at a lower cost</td>
<td>0%</td>
<td>4%</td>
<td>36%</td>
<td>16%</td>
<td>44%</td>
<td>4.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Bank-led model of financing relies on mobile phone technology to serve more customers faster.</td>
<td>0%</td>
<td>4%</td>
<td>8%</td>
<td>44%</td>
<td>44%</td>
<td>4.28</td>
<td>0.79</td>
</tr>
<tr>
<td>Bank-led model of microfinance e.g eazzy 24/7 has been used to tap more customers especially the low-income earners.</td>
<td>0%</td>
<td>4%</td>
<td>16%</td>
<td>36%</td>
<td>44%</td>
<td>4.20</td>
<td>0.87</td>
</tr>
<tr>
<td>Bank-led and bank-focused models of microfinance are autonomous to the customers’ accounts hence reliable.</td>
<td>0%</td>
<td>4%</td>
<td>36%</td>
<td>36%</td>
<td>24%</td>
<td>3.80</td>
<td>0.87</td>
</tr>
<tr>
<td>Service Quality (SERVQUAL) model is used in reviewing quality service reliability for customers in the service industries.</td>
<td>0%</td>
<td>4%</td>
<td>52%</td>
<td>32%</td>
<td>12%</td>
<td>3.52</td>
<td>0.77</td>
</tr>
<tr>
<td>Service reliability is a dimension of quality service.</td>
<td>0%</td>
<td>0%</td>
<td>16%</td>
<td>64%</td>
<td>20%</td>
<td>4.04</td>
<td>0.61</td>
</tr>
</tbody>
</table>
4.3.1 Correlation between Mobile Banking Service Reliability and Firm Performance

Pearson’s product moment correlation was conducted to analyze the statistical relationship between mobile banking service reliability and firm performance. Table 4.2 below indicates that there was a strong positive correlation between the two variables at 1% level of significance because $r=0.754$. Since $p<0.05$, this indicates that the independent variable, mobile banking service reliability is a good predictor of the dependent variable, firm performance.

Table 4.2: Correlation between Mobile Banking Service Reliability and Firm Performance

<table>
<thead>
<tr>
<th>Reliability</th>
<th>Pearson Correlation</th>
<th>Reliability</th>
<th>Firm Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>.754**</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>25</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Firm Performance</td>
<td>Pearson Correlation</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.754**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>25</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

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

4.3.2 Regression between Mobile Banking Service Reliability and Firm Performance

Regression analysis was conducted to establish the linear relationship between mobile banking service reliability and firm performance. Adjusted $R^2$ or the coefficient of determination tells us the extent to which the independent variable is used to explain variation in the dependent variable. From the results in Table 4.3 below, the value of adjusted $R^2$ is 0.55. This implies that 55% variation in firm performance could be explained by mobile banking service reliability. Other factors other than the independent variable were responsible for 45% variation in the dependent variable. The correlation coefficient $R$ of 0.754 shows that there was a strong positive correlation between the study variables.
### Table 4.3: Mobile Banking Service Reliability Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.754a</td>
<td>0.569</td>
<td>0.55</td>
<td>0.27967</td>
</tr>
</tbody>
</table>

a Predictors: (Constant), Reliability

### 4.3.3 ANOVA between Mobile Banking Service Reliability and Firm Performance

The ANOVA (Analysis of variance) Table 4.4 below indicates the significance with which the regression model could be used to predict the outcome variable. The statistical significance (p-value, 0<0.05). Using the F-distribution table, 1 tailed test, 23 df at 5% level of significance, F-calculated, 4.279< F-critical value of 30.348. Both p and F critical values indicated that the model of regression was significant and hence a good predictor of the dependent variable.

### Table 4.4: Mobile Banking Service Reliability and Firm Performance Anova

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>2.374</td>
<td>1</td>
<td>2.374</td>
<td>30.348</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>1.799</td>
<td>23</td>
<td>0.078</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>4.172</td>
<td>24</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Dependent Variable: Firm Performance

b Predictors: (Constant), Mobile Banking Service Reliability

### 4.3.4 Coefficients for Mobile Banking Service Reliability and Firm Performance

The findings presented in Table 4.5 below show that the regression equation was: Firm Performance = 1.421+0.666 Reliability. The influence of mobile banking service reliability was reported at beta or r = 0.754. This value was greater than the Sig. p value at 0, therefore significant. p< 0.05, and thus this factor is significant. The Unstandardized Coefficients B column gives the coefficients of the independent and dependent variables in the regression equation. Using the t-distribution table, t-table value (1 tailed-test, 23 df, α =0.05) of was 1.7139< t-critical value of 5.509. Mobile banking service reliability had a statistically significant effect on the financial performance of Equity Bank. This is because a unit increase in the independent variable results to 5.509 increase in the Bank’s financial performance.
<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>1.421</td>
<td>0.523</td>
</tr>
<tr>
<td>Reliability</td>
<td>0.666</td>
<td>0.121</td>
</tr>
</tbody>
</table>

a Dependent Variable: Firm Performance

### 4.4 Effect of Mobile Banking Service Cost on Firm Performance

Table 4.6 below presents the summary statistics of the effect of mobile banking services cost on firm performance. The average value in support of the argument that mobile banking reduces operational costs was 4.48 with a standard deviation of 0.71. The mean to the effect that Cost of credit is lower in mobile banking compared to traditional banking was 3.68 with a standard deviation of 1.31. The mean in support of the argument that mobile banking does not include extra costs such as cost of transport as there are no physical branches to be visited by customers was 4.36 with a standard deviation of 0.81. The researcher established that the average at which mobile banking is viewed as a means by which financial institutions capitalize on technology to reduce operational costs was 4.64 whereas the standard deviation was 0.49. On the argument that financial innovation reduces transaction costs, the mean was 4.08 with a standard deviation of 1.08. The table also shows that on average innovation is paramount if a firm wants to maximize shareholders’ wealth with a mean of 4.44 and a standard deviation of 0.87. The respondents also indicated that the average with which mobile banking helps check borrower’s creditworthiness hence reduced risk of default stood at 3.44 with a standard deviation of 1.23. The table further shows that at an average of 2.84, mobile banking could be used against the firm to benefit individuals through information asymmetry. A mean of 3.36 indicated that advancing loans to uncreditworthy customers may have a negative effect on firm performance. Lastly, a mean of 3.60 indicated that improper utilization of borrowed funds has a negative effect on firm performance. It had a standard deviation of 1.22.
Table 4.6: Effect of Mobile Banking Services Cost on Firm Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile banking reduces operational costs.</td>
<td>0%</td>
<td>0%</td>
<td>12%</td>
<td>28%</td>
<td>60%</td>
<td>4.48</td>
<td>0.71</td>
</tr>
<tr>
<td>Cost of credit is lower in mobile banking compared to traditional banking.</td>
<td>4%</td>
<td>24%</td>
<td>8%</td>
<td>28%</td>
<td>36%</td>
<td>3.68</td>
<td>1.31</td>
</tr>
<tr>
<td>Mobile banking does not include extra costs such as cost of transport as there are no physical branches to be visited by customers.</td>
<td>0%</td>
<td>4%</td>
<td>8%</td>
<td>36%</td>
<td>52%</td>
<td>4.36</td>
<td>0.81</td>
</tr>
<tr>
<td>Mobile banking is a means by which financial institutions capitalize on technology to reduce operational costs.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>36%</td>
<td>64%</td>
<td>4.64</td>
<td>0.49</td>
</tr>
<tr>
<td>Financial innovation reduces transaction costs.</td>
<td>0%</td>
<td>12%</td>
<td>16%</td>
<td>24%</td>
<td>48%</td>
<td>4.08</td>
<td>1.08</td>
</tr>
<tr>
<td>Innovation is paramount if a firm wants to maximize shareholders’ wealth.</td>
<td>0%</td>
<td>4%</td>
<td>12%</td>
<td>20%</td>
<td>64%</td>
<td>4.44</td>
<td>0.87</td>
</tr>
<tr>
<td>Mobile banking helps check borrower’s creditworthiness hence reduced risk of default.</td>
<td>12%</td>
<td>8%</td>
<td>20%</td>
<td>44%</td>
<td>16%</td>
<td>3.44</td>
<td>1.23</td>
</tr>
<tr>
<td>Mobile banking can be used against the firm to benefit individuals through information asymmetry.</td>
<td>16%</td>
<td>12%</td>
<td>52%</td>
<td>12%</td>
<td>8%</td>
<td>2.84</td>
<td>1.11</td>
</tr>
<tr>
<td>Advancing loans to uncreditworthy customers may have negative effect on firm performance.</td>
<td>0%</td>
<td>20%</td>
<td>36%</td>
<td>32%</td>
<td>12%</td>
<td>3.36</td>
<td>0.95</td>
</tr>
<tr>
<td>Improper utilization of borrowed funds has a negative effect on firm performance.</td>
<td>8%</td>
<td>8%</td>
<td>28%</td>
<td>28%</td>
<td>28%</td>
<td>3.60</td>
<td>1.22</td>
</tr>
</tbody>
</table>
4.4.1 Correlation between Mobile Banking Service Cost and Firm Performance

Pearson’s product moment correlation was conducted to analyze the statistical relationship between mobile banking service cost and firm performance. Table 4.7 below indicates that there was a moderate positive correlation between the two variables at 1% level of significance because $r=0.514$. Since $p<0.05$, this indicates that the independent variable, mobile banking service cost is a good predictor of the dependent variable, firm performance.

Table 4.7: Correlation between Mobile Banking Service Cost and Firm Performance

<table>
<thead>
<tr>
<th></th>
<th>Cost</th>
<th>Firm Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.009</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Firm Performance</td>
<td>Pearson Correlation</td>
<td>.514**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>0.009</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>25</td>
</tr>
</tbody>
</table>

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

4.4.2 Regression between Mobile Banking Service Cost and Firm Performance

Regression analysis was conducted to establish the linear relationship between mobile banking service cost and firm performance. Adjusted $R^2$ or the coefficient of determination tells us the extent to which the independent variable is used to explain variation in the dependent variable. From the results in Table 4.8 below, the value of adjusted $R^2$ is 0.232. This implies that 23.2% variation in firm performance could be explained by mobile banking service cost. Other factors other than the independent variable were responsible for 76.8% variation in the dependent variable. The correlation coefficient $R$ of 0.514 shows that there was a moderate positive correlation between the two variables.

Table 4.8: Mobile Banking Service Cost Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>$R$</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.514a</td>
<td>0.264</td>
<td>0.232</td>
<td>0.36546</td>
</tr>
</tbody>
</table>

a Predictors: (Constant), Cost
4.4.3 ANOVA between Mobile Banking Service Cost and Firm Performance

The ANOVA (Analysis of variance) in Table 4.9 below indicates the significance with which the regression model could be used to predict the outcome variable. The statistical significance (p-value, 0.009<0.05). Using the F- distribution table, 1 tailed test, 23 df at 5% level of significance, F-calculated, 4.279< F- critical value of 8.24. Both p and F critical values indicated that the model of regression was significant and hence a good predictor of the dependent variable.

**Table 4.9: Mobile Banking Service Reliability and Firm Performance Anova**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>1.101</td>
<td>1</td>
<td>1.101</td>
<td>8.24</td>
<td>.009</td>
</tr>
<tr>
<td>Residual</td>
<td>3.072</td>
<td>23</td>
<td>0.134</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4.172</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Dependent Variable: Firm Performance
b Predictors: (Constant), Cost

4.4.4 Coefficients for Mobile Banking Service Cost and Firm Performance

The findings presented in Table 4.10 below show that the regression equation was: Firm Performance = 2.921+0.371 Cost. The influence of mobile banking service cost was reported at beta or r = 0.514. This value was greater than the Sig. p value at 0.009, therefore significant. p< 0.05, and thus this factor is significant. The Unstandardized Coefficients B column gives the coefficients of the independent and dependent variables in the regression equation. Using the t- distribution table, t-table value (1 tailed-test, 23 df, α =0.05) of was 1.7139< t- critical value of 2.871. Mobile banking service cost had a moderate positive effect on the financial performance of Equity Bank. This is because a unit increase in the independent variable results to 2.871 increase in the Bank’s financial performance.

**Table 4.10: Coefficients (Mobile Banking Service Cost and Firm Performance)**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Std. B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>2.921</td>
<td>0.481</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cost</td>
<td>0.371</td>
<td>0.129</td>
<td>0.514</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.871</td>
<td>0.009</td>
</tr>
</tbody>
</table>

a Dependent Variable: Firm Performance
4.5 Effect of Mobile Banking Service Accessibility on Firm Performance

Table 4.11 below presents the summary statistics of the effect of mobile banking services accessibility on firm performance. The average value in support of the argument that mobile banking has made it easy for low-income earners to access financial services was 4.52 with a standard deviation of 0.71. The mean to the effect that the ever-changing technology in the mobile phone industry has improved accessibility of financial services was 4.64 with a standard deviation of 0.49. The mean in support of the argument that financial inclusion has made financial services accessible to all including the low-income earners was 4.32 with a standard deviation of 0.63. The researcher established that the average at which financial inclusion refers to the delivery of financial services to the vast majority including low-income earners at an affordable cost was 4.24 whereas the standard deviation was 0.60. On the argument that insurance, savings, credit, payments and remittance services are some of the financial services that can be accessed through mobile banking, the mean was 4.36 with a standard deviation of 0.70. The table also shows that on average, the main objective of financial inclusion is to bring more people into the financial services bracket with a mean of 4.28 and a standard deviation of 0.74. The respondents also indicated that the average with which mobile banking accessibility stimulates economic growth stood at 4.48 with a standard deviation of 0.82. Table 4.11 further shows that at an average of 4.08, mobile banking service accessibility may be used to advance development goals geared towards reducing poverty in an economy thus allowing business to make profit for services rendered. A mean of 4.12 indicated that mobile banking has provided comfortable and secure access to financial services at a fee to the service provider. Lastly, a mean of 3.24 indicated that through mobile banking, customers can access several accounts and be able to control them online with minimal risk of losing money. The corresponding standard deviation was 1.33.
Table 4.11: Effect of Mobile Banking Service Accessibility on Firm Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>SD</th>
<th>D</th>
<th>N</th>
<th>A</th>
<th>SA</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile banking has made it easy for low-income earners to access financial services.</td>
<td>0%</td>
<td>0%</td>
<td>12%</td>
<td>24%</td>
<td>64%</td>
<td>4.52</td>
<td>0.71</td>
</tr>
<tr>
<td>The ever-changing technology in the mobile phone industry has improved accessibility of financial services.</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>36%</td>
<td>64%</td>
<td>4.64</td>
<td>0.49</td>
</tr>
<tr>
<td>Financial inclusion has made financial services accessible to all including the low-income earners.</td>
<td>0%</td>
<td>0%</td>
<td>8%</td>
<td>52%</td>
<td>40%</td>
<td>4.32</td>
<td>0.63</td>
</tr>
<tr>
<td>Financial inclusion also refers to the delivery of financial services to the vast majority at an affordable cost</td>
<td>0%</td>
<td>0%</td>
<td>8%</td>
<td>60%</td>
<td>32%</td>
<td>4.24</td>
<td>0.60</td>
</tr>
<tr>
<td>Insurance, savings, credit, payments and remittance services are some of the financial services that can be accessed through mobile banking.</td>
<td>0%</td>
<td>0%</td>
<td>12%</td>
<td>40%</td>
<td>48%</td>
<td>4.36</td>
<td>0.70</td>
</tr>
<tr>
<td>The main objective of financial inclusion is to bring more people into the financial services bracket.</td>
<td>0%</td>
<td>0%</td>
<td>16%</td>
<td>40%</td>
<td>44%</td>
<td>4.28</td>
<td>0.74</td>
</tr>
<tr>
<td>Mobile banking accessibility stimulates economic growth.</td>
<td>0%</td>
<td>4%</td>
<td>8%</td>
<td>24%</td>
<td>64%</td>
<td>4.48</td>
<td>0.82</td>
</tr>
<tr>
<td>Mobile banking service accessibility may be used to advance development goals geared towards reducing poverty in an economy.</td>
<td>0%</td>
<td>0%</td>
<td>24%</td>
<td>44%</td>
<td>32%</td>
<td>4.08</td>
<td>0.76</td>
</tr>
<tr>
<td>Mobile banking has provided comfortable and secure access to financial services at a fee to the service provider.</td>
<td>0%</td>
<td>4%</td>
<td>24%</td>
<td>28%</td>
<td>44%</td>
<td>4.12</td>
<td>0.93</td>
</tr>
<tr>
<td>Through mobile banking, customers can access several accounts and be able to control them online with minimal risk of losing money.</td>
<td>8%</td>
<td>24%</td>
<td>32%</td>
<td>8%</td>
<td>28%</td>
<td>3.24</td>
<td>1.33</td>
</tr>
</tbody>
</table>
4.5.1 Correlation between Mobile Banking Service Accessibility and Firm Performance

Pearson’s product moment correlation was conducted to analyze the statistical relationship between mobile banking service accessibility and firm performance. Table 4.12 below indicates that there was a strong positive correlation between the two variables at 1% level of significance because \( r=0.733 \). Since \( p<0.05 \), this indicates that the independent variable, mobile banking service accessibility is a good predictor of the dependent variable, firm performance.

Table 4.12: Correlation between Mobile Banking Service Accessibility and Firm Performance

<table>
<thead>
<tr>
<th>Accessibility</th>
<th>Pearson Correlation</th>
<th>Firm Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>.733**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Firm Performance</td>
<td>.733**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>25</td>
<td>25</td>
</tr>
</tbody>
</table>

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

4.5.2 Regression between Mobile Banking Service Accessibility and Firm Performance

Regression analysis was conducted to establish the linear relationship between mobile banking service reliability and firm performance. Adjusted \( R^2 \) or the coefficient of determination tells us the extent to which the independent variable is used to explain variation in the dependent variable. From the results in Table 4.13 below, the value of adjusted \( R^2 \) is 0.517. This implies that 51.7% variation in firm performance could be explained by mobile banking service accessibility. Other factors other than the independent variable were responsible for 48.3% variation in the dependent variable. The correlation coefficient \( R \) of 0.733 shows that there was a strong positive correlation between mobile banking service accessibility and Equity Bank’s financial performance.
Table 4.13: Mobile Banking Service Accessibility Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.733a</td>
<td>0.537</td>
<td>0.517</td>
<td>0.28981</td>
</tr>
</tbody>
</table>

a Predictors: (Constant), Accessibility

4.5.3 ANOVA between Mobile Banking Service Accessibility and Firm Performance

The ANOVA (Analysis of variance) in Table 4.14 below indicates the significance with which the regression model could be used to predict the outcome variable. The statistical significance (p-value, 0<0.05). Using the F- distribution table, 1 tailed test, 23 df at 5% level of significance, F-calculated, 4.279< F- critical value of 26.678. Both p and F critical values indicated that the model of regression was significant and hence a good predictor of the dependent variable.

Table 4.14: Mobile Banking Service Accessibility and Firm Performance Anova

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>1</td>
<td>2.241</td>
<td>26.678</td>
<td>.000b</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>23</td>
<td>0.084</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>24</td>
<td>4.172</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Dependent Variable: Firm Performance
b Predictors: (Constant), Accessibility

4.5.4 Coefficients for Mobile Banking Service Accessibility and Firm Performance

The findings presented in Table 4.15 below show that the regression equation was: Firm Performance = 0.934+0.805 Accessibility. The influence of mobile banking service accessibility was reported at beta or r = 0.733. This value was greater than the Sig. p value at 0, therefore significant. p< 0.05, and thus this factor is significant. The Unstandardized Coefficients B column gives the coefficients of the independent and dependent variables in the regression equation. Using the t- distribution table, t-table value (1 tailed-test, 23 df, α=0.05) of 1.7139< t- critical value of 5.5165. Mobile banking service accessibility had a statistically significant positive effect on the financial performance of Equity Bank. This is because a unit increase in the independent variable results to 5.165 increase in the Bank’s financial performance.
Table 4.15: Coefficients (Mobile Banking Service Accessibility and Firm Performance)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>0.934</td>
<td>0.651</td>
<td>1.434</td>
</tr>
<tr>
<td></td>
<td>Accessibility</td>
<td>0.805</td>
<td>0.156</td>
<td>0.733</td>
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</tbody>
</table>

a Dependent Variable: Firm Performance

4.6 Chapter Summary

The chapter analyzed data received from the field and presented it in form of tables and figures. The next chapter, which is chapter five discussed the study findings, analyzed and interpreted those findings. The chapter also provided conclusions and recommendations for further studies based on the specific objectives discussed in the study.
CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This chapter provided the summary, conclusions and recommendations based on the study findings in chapter four.

5.2 Summary of the Study
The study investigated the effect of mobile banking on the performance of Equity Bank Ltd. Specifically, the study sought to address the following specific objectives: effect of mobile banking service reliability, cost and accessibility on firm performance. The study utilized primary data information obtained from 25 dully filled questionnaires out of a target population of 40 respondents. This was 62.5% response rate which was acceptable and representative enough for generalizations. Descriptive research design was used in the study. The target population for this study comprised of 45 employees of Equity Bank’s three branches within Nairobi County’s Central Business District namely: Community, Harambee Avenue and Moi Avenue branches. This target population was selected because their employees had a better understanding of the effect of mobile banking on firm performance. This target population played a crucial role in providing relevant mobile banking information that influence loan uptake by the bank’s customers. Stratified random sampling technique was used to select the sample size of the study. The sample size of the study was 25 respondents who formed 62.5% of the target population. Questionnaires were used to collect the primary data used in the study. Descriptive statistics such as the mean scores, standard deviation, frequency distribution and percentages were computed. Statistical package for social sciences (SPSS) version 22.0 was used. These statistics were useful to the researcher because they described the characteristics of the variables under review. Inferential statistics mainly correlation and regression analysis were used to explain the causal relationship that existed between the independent and dependent variables in the study.

The study addressed the first specific objective regarding effect of mobile banking service reliability of firm performance. Using regression analysis, the study established the existence of a strong positive correlation between the two variables. The correlation
coefficient $R$ was 0.754. Other factors do not seem to play a greater role in affecting firm performance other than the ones mentioned in the study such as accuracy in service delivery, consistency, timely and customer satisfaction. Other mobile banking service reliability attributes with low correlation with firm performance include bank-led and bank-focused models of microfinance and use of Service Quality (SERVQUAL) model in reviewing quality service reliability for customers in the service industries.

As regards the effect of mobile banking service cost, the study findings indicated a moderate positive correlation which stood at 51.4%. Cost attributes such as reduction in costs and use of technology have a greater influence on firm performance because their means were higher. The third and last specific objective of the study attempted to address the effect of mobile banking service accessibility on Equity Bank’s performance measured in terms of loan uptake. The study established that the correlation between these two variables was significantly positive at 73.3%.

5.3 Discussion

5.3.1 Effect of Mobile Banking Service Reliability on Firm Performance

The reliability dimension of mobile banking concerns the ability with which the service organization can deliver the service dependably and accurately. Reliability involves processes entailing confidence on decisions that ensure consistency of performance and credibility. The characteristics of reliability involve offering services by safeguarding the consistent of services, and always the services are delivered on timely basis. Reliability is one vital decision-making processes in the banking industry, which has a significance effect of customer-centered viewpoints on banks sector performance and dependability (Aghdaie & Faghani, 2012). Conversely, the customers’ affirmative to the wide spectrum of services in the banking industry constructs in delivering what consumers need in order to benefit the consumer satisfaction has a significant effect on consumer loyalty and re-patronization of products and services (Saha, Hasan & Uddin, 2014).

For reliability purposes, there are primarily two bank-based models namely: the bank-focused model and bank-led model. Bank-focused model is concerned with banks having autonomous arrangements to make use of mobile device for financial transactions. The bank enters into an agency agreement with the telecommunication mobile operators. Penetration of mobile banking by the bank is categorized by offering customer tailored
financial transactions through mobile phone applications and enabling the customers access the financial services without necessarily visiting a banking hall facility (Ritho & Jagongo, 2015). The bank-based model elaborates the banks’ adoption decisions as more convenient and reliable for targeting the already established customers by offering financial transactions at a lower cost. The model uses customers’ mobile phones or internet banking penetration to the conventional branch-based banking system such as credit cards and automated teller machines. This is the case with Eazzy 247 Equity Bank’s mobile banking platform (Cudjoe, Anim & Nyanyofio, 2015).

Bank-led model which is also referred to as joint venture is a non-conventional branch bank that uses mobile phone applications. The customers’ penetration of banks’ financial services is characterized by a wide scalability of financial delivery services, very distinctive from the bank-focused model. Bank-led model uses correspondence agreement between the bank and non-bank agent. It is relatively cheaper than the bank-focused model, hence ideal to target the larger unbanked population in small and medium urban and semi-urban population, and rural communities. However, both models are similar because they are autonomous to the customers’ accounts. An example of bank-led model offered by Equity bank is M-Kesho. Others are: Hello Money of Barclays Bank, SIM-ple banking of National Bank of Kenya and Mobi-bank of Kenya Commercial Bank (Ritho & Jagongo, 2015).

There are various lending models used in the lending sector around the world. The study reviewed 14 credit lending models described as credit unions, community banking, cooperatives, associations, bank guarantees, small and medium businesses, individuals, village banking, NGOs, women groups, intermediaries and individual. These models are usually identified as informal financial services which have historically preceded the modern banking system. Conversely, these models are pre-dominant in low-income households where access to formal financial services are unattained by the unbanked population (Shaaban, 2019). The existences of these models traces its roots to studies conducted in India, Thailand, Philippines, Indonesia and Sri Lanka and a wide literature review from the previous studies in other countries and scholars (Srinivas, 2015).

The correlation between mobile banking service reliability and firm performance was high at 0.754. Thus, the various reliability attributes such as, accuracy in service delivery,
consistency in firm performance, timeliness in service delivery, improved customer satisfaction and use of technology. This study is in agreement with Muiruri, Richu and Karanja (2015) study on the effect of mobile banking on the financial performance of small micro enterprises in Nakuru town in Kenya. Transacting business via mobile phone is fast compared to transacting money in a banking hall hence very reliable. Customers prefer mobile banking than physical visiting the bank because of its accessibility. The study concluded that doing business using mobile banking technology is prompt. In case there are transaction delays, this negates mobile banking reliability. It was also concluded that even slightest error in mobile banking can result in huge loss of money. Thus, the reliability of mobile banking has a significant effect on firm performance.

The study further agreed with Sulieman (2013) study on the reliability dimension of service quality model on customer satisfaction and firm performance in the housing sector in Jordan. The study found that reliability dimension predicted 55.7% of the variation of the levels of firm performance. Jabnoun and Khalifa (2005) studied a customized measure of service quality in the United Arab Emirates conventional and Islamic banks. The study found that among the components of service quality model, service reliability was a major component of service quality which had a significant influence on firm performance. Therefore, to increase service utilization, it’s imperative to ensure that service is reliable to the customer. Amoah-Mensah (2010) studied the effect of customer satisfaction on firm performance in the banking industry in Ghana and Spain. The study showed that in Spain only reliability explained overall firm performance while in Ghana reliability was the most predictor of firm performance. In Ethiopia, a study was carried out to determine the relationship between the customer satisfaction and perceived service quality in the telecommunication industry. The study established that reliability, empathy and network quality had a significant positive effect on the overall firm performance (Negi, 2009).

5.3.2 Effect of Mobile Banking Service Cost on Firm Performance

World over, the business environment has changed due to the stiff competition among industry players and the financial sector is no exception. Competition amongst the financial institutions has pushed them towards becoming more innovative. These innovations include introduction of credit cards, internet banking, ATMs, mobile banking and agency banking (Asante-Gyabaah, Oppong & Idun-Baidoo, 2015). Although
financial institutions continue to invest in rolling out conventional branches that are supported by several delivery channels, the low-income earners still face major challenges to access formal financial services for credit. Customers from remote locations spend a considerable amount of money as transport expense in order to access a branch. Besides, consumers waste a lot of time that would be utilized in other productive activities commuting. To curb the cost challenge, several central banks in different parts of the world have introduced legislations that allow financial institutions to contract the services of third-party retail networks as agents (Lotto, 2016).

Antonenko and Baev (2017) contend that the overriding factor in as far as financial innovation is concerned is the reduction of transaction cost. Financial innovation is associated with advance in technology which results in reduction in transaction costs. Generally, reduction in transaction costs may stimulate financial innovation thus improving a firm’s financial services. Financial innovation reduces transaction costs. Innovation theory is relevant because the use of internet-connected Information Technology for instance, can significantly reduce a firm’s transaction costs through efficient management, coordination and use of information. Internet or mobile banking may further lower a firm’s transaction costs because it provides off-site access to the organization’s internal database and other relevant information sources. Consequently, reduction of a firm’s operation costs through such measures as internet banking or agency banking and mobile banking may have a positive effect on a firm’s profitability (Lotto, 2016).

Innovation is crucial if a firm wants to maximize profits. However, along the way, some restrictions may impede the profit maximization objective. These may include policy issues and internal organizational management. Kiplangat and Tibbs (2018) study observed that innovation was positively correlated with firm performance due to increased number of customers which is responsible for high liquidity which has an indirect influence on a firm’s financial performance. However, the relationship was directly related to transaction costs. In the past one decade, there has been an increase in the remote access of financial services that go beyond the conventional branch network which may be achieved using mobile phones. In many countries, mobile banking has played a crucial role to reach people especially the low-income earners which would not be reached by conventional banking thus enhancing financial inclusion. One of the main
challenges associated with financial exclusion concerns the aspect of cost (Damodaran, 2013). These costs relate to those associated with servicing low value accounts, the costs incurred to extend physical infrastructure to remote areas, and finally, the cost both in monetary and time factor incurred by customers in the remote areas mentioned earlier on to reach bank branches (Ozili, 2018).

A study was conducted in Europe covering four countries namely; the United Kingdom, Italy, Finland and Spain between 1995 and 2004 to compare the performance of various online banking models. The study showed that those firms which had adopted internet banking reported better performance measured in terms of return on assets and return on equity. Besides, they managed their costs with reasonable levels for the little income they generated. The study further revealed that it was difficult to distinguish internet banks from banks that adopted both click and mortar strategies. Individual country specific features defined the differences across banks. The study also found that adoption of internet banking gave targeted firms in the study a competitive edge as incorporated in their business models. The study concluded that these banks’ management was generally capable of handling their personnel and other costs. The strategy of financial institutions to incorporate internet banking reflects competitive edge in their business models. In the final analysis, personnel expenses were found to be comparatively low while information technology costs proved disproportionately high (Arnaboldi & Claeys, 2008).

Asymmetric information leads to moral hazard and adverse selection problems. Asymmetric information problem which occurs before the transaction takes is associated with lack of information regarding the lender’s characteristics. This phenomenon is referred to as adverse selection. Moral hazard on the other hand takes place after the transaction has occurred. It is linked with incentives at the lenders’ disposal that may push them to behave opportunistically. All these elements of information asymmetry are costly to the firm and have negative effect on the firm’s performance both in the short-term and long-term (Nyoni, 2018). In the United Kingdom, a study was conducted to investigate the interrelationship between information asymmetry, financial structure and firm value. The study revealed that information asymmetry had a significant negative relationship with firm value. However, leverage significantly moderated the extent of the adverse relationship. The study also showed that information asymmetry had more significant negative relationship with firm value in the post-crisis period than in the pre-
crisis period (Fosu et al., 2016). In Rwanda, Chantal, Namusonge and Shukla (2018) study on effect of information asymmetry on financial performance of commercial banks gave a total opposite view. The study revealed that there existed a significant positive correlation between information asymmetry and both moral hazard and adverse selection because the R coefficient between moral hazard and asymmetric information was 0.980 and 0.986 respectively.

Pearson’s product moment correlation established that mobile banking service cost had a moderate positive correlation with firm performance because $r=0.514$. This was inconsistent with Okombo (2015) study on the effect of electronic banking on firms’ financial performance in Kenya. The study established a significant positive relationship between low transactional costs due to electronic banking and the financial performance of deposit taking micro finance institutions. This implied that the lower the transactional costs, the better the financial performance of the microfinance institutions. The study revealed that there were various ways in which low transaction costs influenced the firms’ financial performance. For instance, through access to bank account, through bank account access over non-working hours, use of electronic banking to interlink various products, virtual access of financial information in absence of physical branch, and reduced stationery costs.

Achieng and Ingari (2015) in a study to review effect of cost on adoption of mobile banking in Kenya Commercial Bank’s Kilindini branch established that cost was a major factor hindering people from adopting mobile banking. Similar findings were exhibited by Ritho and Jagongo (2015) in their study regarding commercial banks in Kenya. These studies however disagreed with Kombe and Wafula (2015) study which revealed that the effect of information communication technology adoption on banks’ performance was significantly correlated with quality improvements and time reductions, rather than cost reductions as reported by many authors. The study used Kenya Commercial Bank as the target population and case study.

5.3.3 Effect of Mobile Banking Service Accessibility on Firm Performance
Access is a way to ensure there is easiest use of a service. Therefore, customer service experience entails five main areas of measurement ensuring improvement of service quality. The first area is the customer intention of meeting his/her needs by identifying
the products or services that can meet his/her intended needs, which can be met immediately from the services providers. Second area, the pace of immediate feedback from the team of the company, third area, the means of service delivery offered by the company, and four area, the location of the service for easier access by customers and the last area, a sense of confidence and reassurance affirming the customers safety when accessing services (Okiro & Ndung’u, 2013).

Mobile phones technology affects the lives of billions of people of all walks of life around the world. The ever-changing technology in the mobile phone industry has continued to offer opportunities to millions and millions of people who previously did not have bank accounts to access financial services (Abu-Shanab & Haddad, 2015). Lack of access to financial services by the vulnerable especially low-income earners may be attributed to motivating financial institutions to come up with innovations such as mobile banking. For this innovation to work, the low-income earners in society only need to have access to a cell phone (Mago & Chitokwindo, 2014).

Pearson’s product moment correlation was conducted to analyze the statistical relationship between mobile banking service accessibility and firm performance. The study findings indicated that there was a strong positive correlation between the two variables at 0.733. This was consistent with Schmidt (2007) study in the United States of America which found that among the 10 service quality dimensions, access is one of the dimensions that is positively correlated with satisfaction despite people ethnic group. In the United Kingdom, Mukhtar (2015) found that in the electronic banking operations, accessibility and reliability are major dimensions needed for effective customer service which has a direct relationship with firms’ financial performance.

Bahia and Nantel (2000) study in Canada involving 115 bank customers found that six service quality dimensions namely: access, reliability, tangibles, assurance, services portfolio and effectiveness are important aspects to be considered when management wants to ensure better firm performance. While studying the use of mobile banking services aimed at improving financial access in India, Philippines, Kenya and Haiti, Metre (2011) established that mobile banking had a positive effect on access of financial services among low-income and poor populations. The study further revealed that innovations have proven that banks and mobile network operators can cooperate and
create business models that will make mobile banking services a success thus improving a firm’s overall bottom-line.

A study by Adams, Bashiru and Abdulai (2016) investigating customer satisfaction in the banking industry in Ghana found that sales performance is improved by customer easy access to available quality services. Mago and Chitokwindo (2014) in a study to assess the effect of mobile banking on financial inclusion in Zimbabwe’s Masvingo district established that due to access barriers, low-income earners and the unemployed people are excluded from financial services offered by financial institutions. The study further revealed that the unemployed and low-income earners are willing to adopt mobile banking because of its accessibility, convenience, cheapness, easy to use and secure.

Al-Fawzan (2005) study on how to expand Saudi bank sales found that the management should concentrate on the accessibility dimension. Accessibility in the banking sector can be achieved by ensuring that services meet the customer expectations. Albarq (2013) study among local Saudi banks in Riyadh also found that accessibility is an important dimension of service quality model. However, to enhance utilization of services, the banking management should ensure that systems supporting the services are stable, efficient and cost effective to its users so that maximum profits can be realized. When these components are met customer satisfaction and loyalty improves which translates to better financial performance for the firm.

Lymperopolous, Chaniotakis and Soureli (2006) study also found that service provider success measured in terms of profitability is dependent on whether customers are satisfied with services provided and systems used are customer friendly. In Jordan, a study was conducted to determine the effect of mobile banking on firm performance. The study used the following seven dimensions of customer satisfaction: accessibility, privacy, flexibility, reliability, safety, efficiency and ease of navigation. Using a sample of 360 customers from four commercial banks in Jordan namely: HSBC Bank, Union Bank, Jordan Ahli Bank and Capital Bank, the study established that privacy and accessibility are the most influential of the seven mobile banking dimensions in terms of determining the firm’s profitability (Asfour & Haddad, 2014).

In Kenya, Muluka, Kidombo, Munyolo and Oteki (2015) proposed that to improve firm performance, banks need to put mechanism that rewards customers who utilize these
services and help accessing these services promptly. Kariuki-Njogu, Njeru and Olweny (2017) investigated the extent to which mobile banking technology was adopted in the Kenyan agricultural sector as a factor affecting the level of agricultural credit demanded by agricultural households. Using data from sampled dairy farmers, the research investigated the link between an individual’s use of electronic banking technology and the possibility of accessing a bank loan through the mobile-banking platform without incurring unnecessary costs of physically visiting the banking premises to be served. Using a sample of 243 households within the target group engaged in dairy farming, the study findings showed that the adoption of technology influenced both the level of credit demanded by the dairy farmers from the targeted commercial banks in the research, credit access and firm performance.

5.4 Conclusions

5.4.1 Effect of Mobile Banking Service Reliability on Firm Performance
Using Pearson’s product moment correlation analysis, the study concluded that there was a significant positive correlation between mobile banking service reliability and firm performance because r=0.754. The study further revealed that the major reliability elements which have a significant effect on firm performance include customer satisfaction, accuracy, timeliness, consistency and use of mobile technology. The firm should strive to maintain higher standards of these elements within its workforce.

5.4.2 Effect of Mobile Banking Service Cost on Firm Performance
Pearson’s product moment correlation was conducted to analyze the statistical relationship between mobile banking service cost and firm performance. The study findings indicated that there was a moderate positive correlation between the two variables at 0.514. Thus, the firm should strive to improve its cost elements such as reduction of operational costs, lowering cost of credit and adopt use of technology and financial innovation.

5.4.3 Effect of Mobile Banking Service Accessibility on Firm Performance
The study concluded that there was a significant positive correlation of 73.3% between mobile banking service accessibility and firm performance. The study further revealed that the major accessibility elements which have a significant effect on firm performance include adoption of technology such as mobile banking in remote places which has made
it possible even for the low-income earners to be able to access financial services through financial inclusion. The firm should strive to maintain higher standards of financial inclusion in its operations.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Effect of Mobile Banking Service Reliability on Firm Performance

In order to improve mobile banking service reliability, Equity Bank may wish to evaluate the functions and compatibility of mobile banking applications used in the bank. This will enable the bank improve service delivery to its customers through prompt response to mobile banking users’ or customers’ demands. Customers should also be sensitized on the effect of familiarity with mobile banking technology on user satisfaction which has a direct influence on firm performance.

5.5.1.2 Effect of Mobile Banking Service Cost on Firm Performance

Regression analysis on the correlation between mobile banking service cost and firm performance was moderate. Equity Bank should embrace technology and financial innovation more to manage costs for better results. Some of the costs include operational costs and cost of credit.

5.5.1.3 Effect of Mobile Banking Service Accessibility on Firm Performance

The study established a strong positive relationship between mobile banking service accessibility and firm performance. Based on this finding, it is recommended that Equity Bank should come up with innovative products that are affordable to all. In addition, the Bank needs to come up with an application that enhances safety and privacy while at the same time boosting the bank’s operations, availability and accessibility. This is possible via digital banking.

5.5.2 Recommendations for Further Research

Since this was a case study involving one bank, critics may argue that the sample size was limited in scope to enable the researcher get a more representative view of say, firms in the entire banking sector that Equity Bank that is the subject of the study falls. Further research in this area should consider increasing the sample size so that better results can be achieved. More research should also be done on the various elements of reliability, cost and accessibility such as timeliness, consistency, customer satisfaction, accuracy etc.
REFERENCES


APPENDICES

Appendix 1: Introduction Letter

I am a graduate student at the United States International University-Africa undertaking a Masters degree in Business Administration (Finance and Strategic Management).

As part of my course work, I am conducting a research study on the effect of mobile banking measured in terms of service reliability, service cost and service accessibility on firm performance measured in terms of microfinance loans uptake in the banking sector for Equity Bank Kenya Limited in Nairobi County.

I am therefore requesting for your time by filling in the questionnaire presented herein. This will take about 10 minutes.

All the information provided is for academic purpose and will be treated with utmost confidentiality.

Your participation in the study will be highly appreciated.

Thank you very much.

AGATHA CHRISTINE MUGUNA
Appendix 2: Questionnaire

Effect of Mobile Banking on Firm Performance: A Case of Equity Bank Ltd

The following questionnaire is divided into three sections for ease of administration and will require approximately five to seven minutes to complete. To ensure that all information remains confidential, please do not include your name. If you choose to participate in this exercise, please answer all questions as honestly as possible and provide as much details as possible to enhance the survey quality. Participation is strictly voluntary, and you may refuse to participate at any time.

SECTION A: GENERAL INFORMATION
Please tick ONE appropriate box below

1. Gender:
   - Male
   - Female

2. Age:
   - 20-25
   - 26-30
   - 31-35
   - over 35

3. Level of education:
   - Diploma
   - Undergraduate
   - Graduate

4. What is your current position in the bank?
   - Senior
   - Middle
   - Lower

5. Average worth of loan uptake per week in Million Kenya Shillings:
   - 0-1
   - 1-5
   - 5-10
   - Over 10
SECTION B: EFFECT OF MOBILE BANKING SERVICE RELIABILITY ON FIRM PERFORMANCE

Please indicate the extent to which you agree or disagree with the following statements by circling the relevant number. (1=Strongly Disagree, 2=Disagree, 3= Neutral 4=Agree, 5=Strongly Agree).

<table>
<thead>
<tr>
<th>S/No</th>
<th>Service Reliability</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
<td>1</td>
<td>Service reliability ensures accuracy in service delivery.</td>
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<td>2</td>
<td>Reliable delivery of mobile banking services ensures consistency and reliability in firm performance.</td>
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<td>3</td>
<td>Reliability ensures that service delivery is timely and cost effective.</td>
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<td>4</td>
<td>Reliable service delivery improves customer satisfaction.</td>
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<td>5</td>
<td>Bank-focused model of financing utilizes mobile device technology to deliver financial services at a lower cost</td>
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<td>6</td>
<td>Bank-led model of financing relies on mobile phone technology to serve more customers faster.</td>
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<td>7</td>
<td>Bank-led model of microfinance e.g eazzy 24/7 has been used to tap more customers especially the low-income earners.</td>
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<td>8</td>
<td>Bank-led and bank-focused models of microfinance are autonomous to the customers’ accounts hence reliable.</td>
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<td>9</td>
<td>Service Quality (SERVQUAL) model is used in reviewing quality service reliability for customers in the service industries.</td>
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<td>10</td>
<td>Service reliability is a dimension of quality service.</td>
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### SECTION C: EFFECT OF MOBILE BANKING SERVICE COST ON FIRM PERFORMANCE

Please indicate the extent to which you agree or disagree with the following statements by circling the relevant number. (1=Strongly Disagree, 2=Disagree, 3=Neutral 4=Agree, 5=Strongly Agree).

<table>
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<tr>
<th>S/No</th>
<th>Service Cost</th>
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<th>2</th>
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<tr>
<td>1</td>
<td>Mobile banking reduces operational costs.</td>
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<td>2</td>
<td>Cost of credit is higher in traditional banking than in mobile banking.</td>
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<td>3</td>
<td>Mobile banking does not include extra costs such as cost of transport to a bank branch by a customer.</td>
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<td>4</td>
<td>Mobile banking involves the use of technology to reduce operational costs.</td>
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<td>5</td>
<td>Financial innovation in the financial sector is responsible for reduction of transaction costs.</td>
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<td>6</td>
<td>Innovation is paramount if a firm wants to maximize shareholders’ wealth.</td>
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<td>7</td>
<td>Technology applied in mobile banking can be used to track a borrower’s creditworthiness.</td>
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<td>8</td>
<td>Mobile banking may provide information asymmetry which could be used by managers for their own good at the expense of the organization.</td>
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<td>9</td>
<td>Advancing loans to uncreditworthy customers may have negative effect on firm performance.</td>
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<td>10</td>
<td>Improper utilization of borrowed funds has a negative effect on firm performance.</td>
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</table>
SECTION D: EFFECT OF MOBILE BANKING SERVICE ACCESSIBILITY ON FIRM PERFORMANCE

Please indicate the extent to which you agree or disagree with the following statements by circling the relevant number. (1=Strongly Disagree, 2=Disagree, 3=Neutral 4=Agree, 5=Strongly Agree).

<table>
<thead>
<tr>
<th>S/No</th>
<th>Service Accessibility</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobile banking has made it easy for low-income earners to access financial services.</td>
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<td>2</td>
<td>The ever-changing technology in the mobile phone industry has improved accessibility of financial services to many.</td>
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<td>3</td>
<td>Financial inclusion is a situation where financial services are accessible to all including the low-income earners.</td>
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<td>4</td>
<td>Financial inclusion may also refer to the delivery of financial services to the vast majority at an affordable cost.</td>
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<td>5</td>
<td>Insurance, savings, credit, payments and remittance services are some of the financial services that can be accessed through mobile banking by the service providers.</td>
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<td>6</td>
<td>The main objective of financial inclusion is to bring more people into the financial services bracket.</td>
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<td>7</td>
<td>Mobile banking accessibility stimulates economic growth.</td>
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<td>8</td>
<td>Mobile banking service accessibility promote development goals that are geared towards reducing poverty in an economy.</td>
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<td>9</td>
<td>Mobile banking has provided comfortable and secure access to financial services at a fee to the service provider.</td>
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<td>10</td>
<td>Through mobile banking, customers can access several accounts and be able to control them online with minimal risk of losing money.</td>
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THANK YOU FOR TAKING YOUR TIME TO COMPLETE THE QUESTIONNAIRE
Appendix 3: Data Collection Letter

4th March 2019

To Whom It May Concern:

Research Project by Agatha Christine Wamasitha Muguna - Student ID651297

The bearer of this letter is a student at the United States International University-Africa pursuing a Master’s Degree in Business Administration (MBA).

As part of the program, she is required to undertake a research project on “Effect of Mobile Banking on Firm Performance: A Case of Equity Bank Kenya Limited in Nairobi County Central Business District.” This requires her to collect data and information from various relevant institutions.

Kindly assist by enabling her access data, information and contact with respondents who can complete her questionnaires. I assure you that the information provided will be treated with the utmost confidentiality.

Should you have any queries regarding the student research please feel free to contact me on my email at dlinge@usi.ac.ke or Tel: +254 730116419.

Yours Sincerely,

[Signature]

Prof. Teresa Linggi
Associate Dean, Chumaria School of Business

[Stamp]
Appendix 4: NACOSTI Authorization

NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
224139;330571;2219420
Fax: +254-20-318240;318249
Email: dp@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

Ref. No. NACOSTI/P/19/74626/31652
Date 24th July, 2019

Agatha Christine Wamaitha Muguna
United States International University
P.O. Box 14634 – 00800
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Effect of mobile banking on firm performance: A case of Equity Bank Kenya Limited in Nairobi County Central Business District” I am pleased to inform you that you have been authorized to undertake research in Nairobi County for the period ending 23rd July, 2020.

You are advised to report to the County Commissioner and the County Director of Education, Nairobi County before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a copy of the final research report to the Commission within one year of completion. The soft copy of the same should be submitted through the Online Research Information System.

GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.
Appendix 5: Research Permit

THIS IS TO CERTIFY THAT:
MISS. AGATHA CHRISTINE WAMAITHA
MUGUNA
of UNITED STATES INTERNATIONAL
UNIVERSITY AFRICA, 0-902 Kikuyu, has
been permitted to conduct research in
Nairobi County

on the topic: EFFECT OF MOBILE
BANKING ON FIRM PERFORMANCE: A
CASE OF EQUITY BANK KENYA LIMITED
IN NAIROBI COUNTY CENTRAL BUSINESS
DISTRICT

for the period ending:
23rd July, 2020

Applicant’s
Signature

Permit No: NACOSTI/P/19/74626/31652
Date Of Issue: 24th July, 2019
Fee Received: Ksh 1000

Director General
National Commission for Science,
Technology & Innovation

THE SCIENCE, TECHNOLOGY AND
INNOVATION ACT, 2013

The Grant of Research Licenses is guided by the Science,
Technology and Innovation (Research Licensing) Regulations, 2014.

CONDITIONS
1. The License is valid for the proposed research, location and
   specified period.
2. The License and any rights thereunder are non-transferable.
3. The Licensee shall inform the County Governor before
   commencement of the research.
4. Excavation, mining and collection of specimens are subject to
   further necessary clearance from relevant Government Agencies.
5. The License does not give authority to transfer research materials.
6. NACOSTI may monitor and evaluate the licensed research project.
7. The Licensee shall submit one hard copy and upload a soft copy
   of their final report within one year of completion of the research.
8. NACOSTI reserves the right to modify the conditions of the
   License including cancellation without prior notice.

National Commission for Science, Technology and Innovation
P.O. Box 30623 - 00100, Nairobi, Kenya
TEL: 020 400 7000, 0713 788787, 0735 401245
Email: dg@nacosti.go.ke, registry@nacosti.go.ke
Website: www.nacosti.go.ke

REPUBLIC OF KENYA
National Commission for Science,
Technology and Innovation

Serial No. A 25960
CONDITIONS: see back page

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