EFFECT OF MOBILE TECHNOLOGY SERVICES ON CUSTOMER SATISFACTION IN BANKING SECTOR OF RWANDA: A CASE STUDY OF EQUITY BANK OF RWANDA LTD

A Thesis submitted in partial fulfillment of the Requirements for the Degree of Master of Business Administration (Project Management Option)

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Approval Sheet

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This Thesis is my original work and has never been presented for any academic award in any University or Institution of Learning.

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I confirm that the work reported in this thesis was carried out by the candidate under my supervision and has been submitted with my approval.

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DEDICATION

I would like to dedicate this study to my mum who means a lot to me and the only who did whatever she could so that I can complete my 2 years in MBA successfully.

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First of all glory be God who has protected me during my studies and gave me ability to accomplish this work in the scheduled time. I owe gratitude to my mum for his constant financial support.

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ABSTRACT

This research entitled, effects of mobile Technology services on customer's satisfaction of banking sector in Rwanda, mobile technology as the use of information and communication in banks helps customers using their facilities without any need for physical presence in banks. The problem statement is about resistance to change of customers. The study was guided by the objectives which are, to examine the effect mobile technology on customer satisfaction in equity bank Rwanda limited, to assess the effect of ATM on customer satisfaction in equity bank Rwanda limited, to establish the agency banking on customer satisfaction in Equity Bank-Rwanda. The researcher applied descriptive analysis using the fact that a descriptive research design is used to describe the data and characteristic about what is being studied. The sample after using Slovene's formula comprises of 90 respondents from 117 potential respondents. To make this research successful, the data collected included both primary and secondary data. The primary data obtained by the use of questionnaires while the secondary data obtained from the documented materials. For data analysis SPSS (Statistical Package for Social Sciences), version 16 was used. As the analysis method, the researcher used descriptive statistics (frequencies, tables and percentages). The findings show that ATM contribute on customer satisfaction in equity bank -Rwanda limited has average mean is 1.8333 which is moderate and needs to be improved, The findings show that agency banking affect customer satisfaction in Equity Bank-Rwanda has average mean is 1.9527 which is moderate and needs to be improved. The researcher concluded by saying that there is insufficient in offering guidelines to the customer on how to use mobile technology through trainings; Equity Bank doesn't take too seriously the customer service unit, and this can help in managing the systems' capacity and in turn address the problem of transaction delays and improve customer service. The researcher recommended by saying that Mobile banking operators should train the customers about the usage of mobile technology.

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CHAPTER ONE

GENERAL INTRODUCTION

According to George and Shoemaker (2002), mobile technology is amongst the emerging technologies, which has the potential to remake entire industries and absolute established strategies. Mobile technology as the use of information and communication in banks provide customers using their facilities without any need for physical presence in branch banking operations (Ghasemi, 2012).

This research illustrates the effects of mobile Technology services on customer's satisfaction of banking sector in Rwanda especially in Equity Bank of Rwanda.

1.1 Background of the study

Banking is one of the industries in which almost all day to day activities are being conducted using Information and Communication Technologies. To compete with other banks and financial institutions, Managers of banks focus on improving and innovating customers' relationship management strategies by introducing new technologies, by renewing teller machines, etc. Efficiency of a bank was depending strongly on the number of its customers and the effectiveness of the services provided to meet their expectations (Qureshi, 2007).

Over the past years, advancement in information technology has changed the way organizations operate and conduct their business (Al-Jabir, 2012). Technological advancement has brought about the evolution of m-banking and online banking in the banking industry which has revolutionized the manner in which commercial banks and other financial institutions conduct their business. Internet and mobile technology had not only made financial organization provide banking services online and via mobile platforms but has also provided customer with easy access to financial services and other benefits. Mobile technology services involves the use of mobile phone for settlement of financial transactions. It supports person to person transfers with immediate availability of funds for the beneficiary. Mobile payments use the card infrastructure for movement of payment instructions as well as secure Short Message Service (SMS) messaging for confirmation of receipt to the beneficiary. Mobile technology is meant for low value transactions where speed of completing the transaction is a key. The services

covered under this product include account enquiry, funds transfer, recharge phones, changing of passwords and bill payment which are offered by few institution (Anyasi and Otubu, 2009). Mobile technology is the provision or an ailment of banking services with the help of mobile devices. In Rwanda, the advent of M-banking was fostered by competition from telecommunication providers such as MTN Mobile Money Services, TIGO Cash Services and Airtel Money Services. The services provided, facilitated the youth and other customers to deposit money into their account, transfer money to other users, for instance, sellers of goods and services, relatives and friends. Hence, this made convenient enough for the youth to initiate as well as improve their own businesses.

Banking industry has witnessed advancement in technology and the adoption of mobile technology service is one of these as it affects banking operations (Adewoye, 2013). With the adoption of Self-Service technologies, e-banking system has continued to service the populace, in which mobile technology is one of them. Moreover, the banking industry had to embrace mobile banking in meeting customer demands. Providing banking through mobile has proved fruitful in terms of cost control by employing automated ways of transacting other than the traditional method of labor intensive leading to higher productivity and profitability (Mutua, 2010). Mobile technology system provides several advantages for both banks and customers. First, mobile technology removes geographical limitation to customers and therefore bringing convenience in especially remote and rural areas (Kweyu & Ngare, 2010). Mobile technology services offers millions of people the opportunity of an electronic service to get the access to the management of their account transaction without spending time and money. Second, mobile technology services also provides efficient cash management and security of cash. Third, mobile banking can make basic financial services more accessible to business doers by minimizing time and distance to retail bank branches (Adewoye, 2013).Mobile Banking system is a type of m-commerce service which allows consumers to deliver and receive services through their mobile devices. It provides banking and financial services with the help of mobile telecommunication devices and involves interaction between the consumer and service provider (Donner and Tellez, 2008). Mobile technology system provides different services, including account balance checks, account transactions (deposits money, withdrawing money and money transfers), mobile airtime purchase, bill payments and credit applications via a mobile device or

Personal Digital Assistant (PDA).Positive gains for consumers such as cost effectiveness, personalisation and convenience has contributed to the increased adoption of mobile technology over traditional banking methods (Mbiti and Weil, 2011).

Mobile technology service is an innovative application on the mobile phone platform that allows a person to initiate a transaction and make payments by using a mobile phone and its rapid adoption is attributed to high penetration rate of mobile phones in their market. Mobile phones can substitute for travel, allow quicker and easier access to information on prices, enable traders to reach wider markets, boost entrepreneurship and generally makes it easier to do business activities (Wishart, 2006). Mobile phones have become devices for paying merchants, receiving time sensitive information such as stock quotes and aid in critical business processes in many countries (Deans, 2005). Mobile technology services offer secure and convenient means for banked and unbanked young people to send and receive money with mobile phones at home and abroad; anywhere at any time (Sadia, 2013).Further, the Mobile technology is viewed as tool for revolutionizing youth business practices, hence, empowering youth business community in one way or another. Several reasons for using mobile technology in businesses have contributed to the state including easier, convenience and more affordable ways of saving, withdrawing, receiving and sending money, balance enquiries, payment of different bills (Must,2010). However, there are several issues including lack of adequate legal framework, security and privacy of mobile transactions which tend to hamper the continued progress of developing this sophisticated mobile banking application. Mobile technology is used to raise efficiency and boost business growth through cheap, efficient and reliable money service support systems that reduce the need for cash transaction and the risks associated (Higgins, 2012). However, before the advent of Mobile technology, young business people and others were using paper money which is associated with many problems such as fake currencies, security problems and time saving was very low. Nowadays, through mobile technology, young business people can pay bills, make purchases, transfer money to others and withdraw money using their mobile phones anytime and anywhere and this quickens their business processes. Moreover, young business doers in the remote areas can directly transfer their money to their suppliers without going to the bank (Lawack, 2013). This shows that mobile banking services

help young business doers to access usefully large amount of money, which may enable them to get out of poverty and reduce vulnerability through investment in income generating activities or asset creation.

In spite of the growing importance attached to mobile banking system, some young business doers meet some challenges of not knowing how it is used and some of them claimed on services delaying, waiting a long time to access services due to internet problems and certain services are not found through mobile banking system, on the other hand security and trust are other challenges associated with mobile technology use since there is a possibility that the money deposited through mobile banking system may be stolen through hacking of the password (Anyasi & Otubu, 2009).

Several studies have been carried out relating to issues in the wider context of Mobile technology (Balachandher, 2000; Suganthi, 2001; Padachi, 2008), particularly in relation to the rationales and benefits of mobile technology, customer loyalty and service quality. Kenyan banks have exponentially embraced the use of information and communication technologies in their service provision. They have invested huge amounts of money in implementing the self and virtual banking services with the objective of improving the quality of customer service. E-banking varies amongst researchers partially because electronic banking refers to several types of services through which a bank customer can request information and carry out most retail banking services via computer, television or mobile phone (Daniel 1999; Sathye, 1999). Burr (1996) describes online banking as an electronic connection between the bank and customer to prepare, manage and control financial transactions. On the other hand, Leow, Hock Bee (1999) state that the terms PC banking, online banking, internet banking, telephone banking or mobile banking refer to several ways in which customer can access their banks without having to be physically present at the bank branch. (Balachandher, 2000)

The development of mobile technology services is expected to decongest banking halls and reduce the incidences of long queues in banking halls. Digital–based financial services have made a significant contribution in covering the cost of offering financial services.

The banking industry in Rwanda has been metamorphosing into vitality over the years, thanks to product innovations, technology advancements and a good stock of knowledge transfer from regional to international professional personnel in the sector. Assets have grown from Rwf 24.6billion in 2006 to Rwf 482.7billion in 2015. According to the National Bank of Rwanda 2013-2014 financial stability report, as of June 2014, commercial banks continued to dominate the banking sector with a proportion of 81.2% of total banking system's assets while specialized banks (microfinance, development and cooperative banks) account for 18.8% of total banking assets. The banking sector has remained resilient and particularly in Rwanda, the financial sector has been growing by about three times multiple the Gross Domestic Product (GDP). Given that GDP has been growing at about 7%, it is safe to say that the banking sector has grown at around 20%. It is easy to see the linkage between economic activities and banking because they both drive each other depending on which way you look at it. On one part, lending to the private sector creates production, growth and turnover which work backwards in the banking sector. So, we can talk about a very stable and growing sector that is fairly facilitating the economic growth we are seeing today. (Adewoye, J., 2013).

In terms of stability in interest rates, the public wants to see them go down. There is however notable stability and less volatility, making predictability more apparent. The big operational changes that have happened in the past year have been entry of new players such Atlas Mara buying Banque Populaire du Rwanda (BPR) and Development Bank of Rwanda, commercial branch (BRD) and Bank of Africa which is coming in through Agaseke Bank which all point to a changing banking landscape. The Chairman Rwanda Bankers' Association (RBA) Maurice Toroitich says despite the new changes, the dominance of big banks remains a challenge. "There's a situation where the top three banks (Bank of Kigali, BRD and BPR) still have a share of almost 60% of the market. So, it's hoped that as consolidation takes shape, the gap between the big banks and small banks narrows down to create a competitive and an even playing field for customers to access funding on a much larger scale," he says.

On the innovation front, mobile banking has been a big intervention driven by the developments of mobile banking solutions that Telecoms are advancing like partnerships. Many banks have upgraded their banking platforms to be able to do more transactions through mobile phones which is giving give rise to branchless banking. Most banks are now profitable which is something very good especially when you look at the fact that non-performing loans have started to reduce; this has contributed to better performance of banks. However, there's still a challenge of cyber and fraud cases such as cheque fraud, mobile money fraud-related with telecoms, becoming a big risk as we build businesses relying on technology. Goi, (2005)

About new products, RBA is about completed cheque truncation system process where banks no longer exchange physical cheque instrument. But instead, doing clearing on an electronic basis with automated payments in the system, reducing the usage of cash in the economy and likely consequences improved liquidity, improved efficiency and ultimately was reduce the cost of borrowing in the market.

This research aims are assessing the effects of mobile Technology services on customer's satisfaction of banking sector in Rwanda. The researcher analyzed the mobile technology services used by Equity Bank of Rwanda how it's adoption contributed to their customer's satisfaction

1.2 Statement of the Problem

Customer expectations are unique because individual constructs, prior to a service, are influenced by customer's evaluation of service performance and customer satisfaction. Equity bank has made a tremendous investment in the mobile technology but the bank is still being faced by poor quality of service caused by long queues found in their branches due to their customers who resisted to change, they still need to use the usual way of deposing and withdrawing money at the teller counters .This has led many customers to complain about the service of the bank.

Sims (2009) conducted a research on customer waiting and found that more than 30 percent of the people who visit a business for service expect instant attention ignoring the fact that they may wait to be served Kumar, Kalwani and Dada (1997) state that customers often have to wait during the process of acquiring and consuming many products and services. Aborampah (2010) compared customer's perceptions regarding the quality of banks services in Ghana and Spain and

found that banks should make conscious efforts to be reliable in Ghana and Spain so that customers' confidence and trust will increase. In the study of Bank customer retention in Newzeland, David & Christopher (2006) results suggested that the most important constructs were customer satisfaction, followed by 8 corporate image and switching barriers Karen & Blaire (1989),in their study on improving customer satisfaction through management of perceptions of waiting concluded that, as perceptions of waiting time increases customer satisfaction tends to decrease. However extensive study has been done on Kenyan banking industry.Dick (2003) in lus study on effects of information communication technology on customer satisfaction in Kenyan banks, found that information communication technology adoption by banks and customers usage of the ICT products results to enhanced customer satisfaction.Kinuthia(201 I) studied factors influencing effective use of automated teller machines by bank customers in Voi.In his study he found that, the number of machines should be increased. Proper lighting and additional security be provided to increase the use of the ATM machines. Card retention should also be minimized if not eliminated all together and the retrieval time reduced.Wambui (2011) studied the relationship between employee benefits and customer satisfaction: Commercial banks in Murang'a Municipality. Imbuga (2005) did a study on the determinants of customer satisfaction, Mathenge (2005) did a general study on the area of customer satisfaction and Murekio (2010) did a study on customer satisfaction with a focus on revenue generation. There is no research known to me that has been done on waiting lines management and customer satisfaction in Kenyan banking industry.

1.3 Objectives of the study

The purpose of this study was to establish the effects of mobile Technology services on customer's satisfaction of banking sector in Rwanda especially in Equity Bank.

The study was guided by the following specific objectives:

1. To examine the level of satisfaction for ATM users.
2. To examine the level of satisfaction with agency banking.
3. To Establish customer satisfaction with the ATM,agency banking and mobile transaction.

1.4 Research questions

1. What is the contribution of ATM on customer satisfaction in equity bank Rwanda limited?
2. How Agency Banking affect customer's satisfaction in Equity Bank-Rwanda?
3. What is the effects of mobile Technology services on customer's satisfaction of banking sector in equity bank Rwanda limited?

Hypothesis

H_0: There is no significant relationship between Mobile Technology services and Customer satisfaction in Equity Bank-Rwanda.

1.5 Justification of the study

The findings of this study will be beneficial to the academicians and researchers who are interested in exploring more on the effects of mobile Technology services on customer's satisfaction of banking sectors . It will also shed more light on the theoretical relationship between mobile technology and customer satisfaction in other sectors.

The study attempted to highlight the effects of mobile technology on Customer's satisfaction in Equity Bank-Rwanda. The study would enable the banks executives and indeed the policy makers of the banks and financial institutions to be aware of mobile technology as a product of electronic commerce with a view to making strategic decisions. Good bank policies will help to improve customer confidence to facilitate more transactions that will stir up economic growth in Rwanda.

It's also hoped that gathered information regarding influence of mobile technology to customer service delivery in banking sector will be shared in the relevant financial institutions. This will go a long way, if shared by the relevant teams in the departments dealing with mobile banking, in sensitization and strengthening their product packages. Also, it's hoped that the information will be of great value to the marketing teams of mobile banking services as through the information, they will be able to identify customer needs and desires thus capitalize on them in service delivery.

1.6 Delimitation of the research

The study will be limited to a sample of respondents of Equity Bank located in Nyarugenge District on effects of mobile Technology services on customer's satisfaction of banking sector in Rwanda. Therefore, implications and generalizations of the study findings to other areas in Rwanda should be done with caution since the situations are different in other Rwandan districts as a result of the differing socio-economic conditions.

1.7 Scope of the study

This study is oriented the effects of mobile Technology services on customer's satisfaction of banking sector in Rwanda in Equity Bank-Rwanda. All the relevant data was analyzed and evaluated by using primary and secondary data and the results was interpreted accordingly. The study was conducted locally, in Kigali City specifically in Nyarugenge and kicukiro District hand in hand with Equity Bank-Rwanda it covered a period of 4 years from 2015 to 2018.

1.8 Definitions of key terms

This chapter aims at describing the background of the study, problem statement, and objectives of the study, research questions, hypothesis, Limitation of the study and brief description. This study intends to conduct a qualitative research on the potential of the effects of mobile technology on customer service delivery in banking sector especially in Equity Bank.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter discusses the theories of other others who have done the work related to the topic under study. This chapter has the aim of reviewing the literature related to the topic, both published and unpublished one. The literature attempts to define, explain and illustrate the theories related to the topic under study and relate it to findings for interpretation later on. In this regard, this chapter focuses on the definitions of key terms used in topic.

2.1 Theoretical review

In theoretical review, the theories and information related to variables of the study are in details discussed. Is very important to review and discuss the theories related to variables because it goes deeper in the concepts in terms of their nature and how they function when they are in an empirical relationship (Humphrey, 2003).

The study made by Daniel (1999) described the provision of electronic banking in UK by saying that electronic banking as the provision of banking services to customers through mobile technology. (Daniel, 1999; Karjaluoto, 2002) argued that the banks make choice on their own on how they offer banking services through various electronic distribution channels technologies such as internet technology, video banking technology, telephone banking technology, and personal computer technology.

Karjaluoto (2002) in his study indicated that the main electronic contribution channel in the banking industry is the internet technology. Theory of Reasoned Action (TRA) has developed the better understanding relationships between attitudes, intention and behaviors as a result from a combination of conceptual tools from the economic, service and technology field. (UfyPedersen, 2005) says that this is one of the most important theories that are used to explain human behaviors.

The people's attitudes explain that behavioral intention is to use technology toward that behavior and subjective norms. To differentiate them made by intensified competition and deregulation that has led many services and retail businesses to seek profitable ways. The high service quality delivers by one strategy that has been related to success in these businesses. (Cronin and Taylor, 1994) expanded market share by saying that service quality has become a significant research topic in past decade due to high revenues, increased cross sell rations, higher customer retention, purchasing behaviors. The importance of customer service in banking sector came to force to compete in a market driven environment (Rudie and Wansley, 1985).

Bloemer, (1998) argued that were on the view that most models in the banking industry of customer evaluations of services focus on the comparative judgment of expectations versus perceived performance resulting in the two major evaluative judgments of perceived service quality and customer satisfaction. For example: Customers access service delivery by comparing their expectations prior to their service encounter with a bank (employee), Customers also, develop perceptions during the service delivery process and then compare their perceptions with the actual service received from the banks' employee, Thus, customer expectations are unique prior to a service. They influence customer's evaluation of service performance and customer satisfaction. Customer services, by definition, are intangible and easily duplicated. They can be divided into high-touch or high-tech services, High-touch services are mostly dependent on people in the service process producing the service, Whereas high-tech services are predominantly based on the use of automated systems, information technology and other types of physical resources.

However, one should always remember that high-touch also includes physical resources and technology based systems that have to be managed and integrated into the service process in a customer oriented fashion (Gronroos, 2001). Consequently, electronic banking services include both high-tech and high-touch services. For example, high-tech services include online banking, Mobile Banking, ATM machines, etc whereas high-touch services consist of instructions and personnel assistance in using the services.

Customer satiasfaction is differentiable and stem from the expectations of customers. Hence, it is necessary to identify and prioritize expectations for customer service and incorporate these expectations into a process for improving customer service delivery (Kassim and Bojei, 2001). Implementing and evaluating customer service is a very complex process. Zeithaml and Bitner (1996) reported that two aspects need to be taken into consideration when evaluating customer service:

- Content
- satisfaction

Customers may be in the best position to evaluate the quality of service delivery, while the service providers are the best judges of the content of the message. Though there is a number of different aspect of services involved.

According to Parasuraman, (1985), the study of customer service delivery has gained interest just after the concern on improving the quality of products appeared, and services are increasingly important in the global economy (regarding the participation in the GNP and job creation figures, for instance). Like machines transformed the agricultural economy into an industrial one, the information technology nowadays changes the industrial economy in such a way that it becomes characterized as based on services (Fitzsimmons, 2000).

The service sector as a whole is very heterogeneous and what is heterogeneous may hold true for one service and may not hold for another service sector. Due to this differentiation, services in this industry could not be standardized, moreover these services are intangible in nature which could not be compared or seen. The concept of customer satisfaction and service quality is interrelated with each other. As customers become more sophisticated, therefore, it becomes essential to consider the use of technology to respond to their continuously change. Banking is an industry highly which is highly involved with the customers. Customers in developing economies seem to keep the “technological factors” of services as the yardstick in differentiating good & bad services and the human factor the employees seem to lay lesser role in discriminating the quality of service for banks. The variation in services offered by the banks develops the excellence for service quality. Banking is no longer regarded as a business dealing

with money transaction alone, but it also seem as business related to information on financial transaction (Padwal 1995).

As electronic banking is becoming more prevalent, so is the level of customer service delivery thus the level of customer satisfaction is also changing the scenario of technological environment. Informational technology in form of e-banking plays a significant role in providing better services at lower cost. Increase satisfaction in turn increases the mutual understanding, customer retention and a bond of trust between customer and bank. The banks which are providing these services at large extent to customers are more reputed in the eyes of customers. As the customer satisfaction is the function of customer expectation level and service quality level provided by the organization, e-banking plays a pivotal role in giving satisfaction to the customers because e-banking fills the gap between the expected and perceived service quality. So in order to fill this gap, banks should find ways of making electronic services more accessible and by allowing the customer to verify the accuracy of the mobile technology transactions. Ghasemi, M. (2012).

2.1.1 Evolution of queuing theory

Queuing theory was developed to provide mathematical models to predict behavior of system that attempt to provide service for randomly arising demands can trace its origin back to a pionner investigator,Danish mathematician named A.K Erlang ,who in 1909 published " the theory of probability and telephone conversations"based on the work he did for the Danish telephone company in Copenhagen,Denmark (Gross ang Harris ,1998).

Operation researchers took over the vanguard of advancing the analysis development of queuing theory.

2.1.2 Assimilation Theory

Assimilation theory is based on Festinger's (1957) dissonance theory. Dissonance theory posits that consumers make some kind of cognitive comparison between expectations about the product and the perceived product performance. This view of the consumer post-usage evaluation was introduced into the satisfaction literature in the form of assimilation theory.According to Anderson (1973), consumers seek to avoid dissonance by adjusting perceptions about a given product to bring it more in line with expectations. Consumers can also reduce the tension resulting from a discrepancy between expectations and product performance either by distorting

expectations so that they coincide with perceived product performance or by raising the level of satisfaction by minimizing the relative importance of the disconfirmation experienced.

2.1.3 Contrast Theory

Contrast theory was first introduced by Hovland, Harvey and Sherif (1987). Dawes etal (1972) define contrast theory as the tendency to magnify the discrepancy between one's own attitudes and the attitudes represented by opinion statements. Contrast theory presents an alternative view of the consumer post-usage evaluation process than was presented in assimilation theory in that post-usage evaluations lead to results in opposite predictions for the effects of expectations on satisfaction.While assimilation theory posits that consumers will seek to minimize the discrepancy between expectation and performance, contrast theory holds that a surprise effect occurs leading to the discrepancy being magnified or exaggerated. According to the contrast theory, any discrepancy of experience from expectations will be exaggerated in the direction of discrepancy. If the firm raises expectations in his advertising, and then a customer's experience is only slightly lessthan that promised, the product/service would be rejected as totally un-satisfactory. Conversely, under-promising in advertising and over-delivering will cause positive disconfirmation also to be exaggerated.

2.1.4 Contrast Theory – Criticism

Several studies in the marketing literature have offered some support for this theory. The contrast theory of customer satisfaction predicts customer reaction instead of reducing dissonance; the consumer will magnify the difference between expectation and the performance of the product/service. Assimilation-Contrast Theory Assimilation-contrast theory was introduced by Anderson (1973) in the context of post-exposure product performance based on Sherif and Hovland's (1961) discussion of assimilation and contrast effect.

2.1.5 Assimilation-contrast theory

Assimilation will operate and the performance will be deemed as acceptable. If performance falls within the latitude of rejection, contrast will prevail and the difference will be exaggerated, the produce/service deemed unacceptable.The assimilation-contrast theory has been proposed as yet another way to explain the relationships among the variables in the disconfirmation model. This

theory is a combination of both the assimilation and the contrast theories. "This paradigm posits that satisfaction is a function of the magnitude of the discrepancy between expected and perceived performance. As with assimilation theory, the consumers will tend to assimilate or adjust differences in perceptions about product performance to bring it in line with prior expectations but only if the discrepancy is relatively small. Assimilation-contrast theory attempts illustrate that both the assimilation and the contrast theory paradigms have applicability in the study of customer satisfaction."…hypothesize variables other than the magnitude of the discrepancy that might also influence whether the assimilation effect or the contrast effect would be observed…. when product performance is difficult to judge, expectations may dominate and assimilation effects will be observed… contrast effect would result in high involvement circumstances. The strength of the expectations may also affect whether assimilation or contrast effects are observed. Assimilation-contrast theory Source: Adapted from Anderson (1973, p.39) Assimilation-Contrast theory suggests that if performance is within a customer's latitude (range) of acceptance, even though it may fall short of expectation the discrepancy will be disregarded – assimilation will operate and the performance will be deemed as acceptable. If performance falls within the latitude of rejection (no matter how close to expectation), contrast will prevail and the difference will be exaggerated, the product deemed unacceptable. Assimilation-Contrast Theory – Criticism Anderson (1973) argues that Cardozo's (1965) attempt at reconciling the two earlier theories was methodologically flawed. The attempts by various researchers to test this theory empirically have brought out mixed results. Olson and Dover (1979) and Anderson (1973) found some evidence to support the assimilation theory approach. In discussing both of these studies, however, Oliver (1980a) argues that only measured expectations and assumed that there were perceptual differences between disconfirmation or satisfaction.

2.1.6 Negativity Theory

This theory developed by Carlsmith and Aronson (1963) suggests that any discrepancy of performance from expectations will disrupt the individual, producing 'negative energy'**.**

Negative theory has its foundations in the disconfirmation process. Negative theory states that when expectations are strongly held, consumers will respond negatively to any disconfirmation. "Accordingly dissatisfaction will occur if perceived performance is less than expectations or if perceived performance exceeds expectations.This theory developed by Carlsmith and Aronson (1963) suggests that any discrepancy of performance from expectations will disrupt the

individual, producing "negative energy." Affective feelings toward a product or service will be inversely related to the magnitude of the discrepancy**.**

2.2 Conceptual review

The conceptual framework for this study is provided the Relationship between dependent and independent variables was depicted as the framework provided mobile technology factors that were capable of influencing customer satisfaction in the banking industry. Independent variables include: influence of mobile technology, influence, customer service delivery. A government policy is the moderating variable while cost & fees, convenience, privacy, trust, simplicity and reliability include the intervening variables. The dependent variable was customer satisfaction, which was influenced by the independent variables.

2.2.1 Mobile technology Service Adoption

Sohail and Shanmugham (2003) assert that the rapid improvements that have been experienced in the area of information communications (ICT) have fueled the technological revolution that is being experienced in many banks across the entire globe today. There is credible evidence that the way financial services are delivered has greatly changed due to advancements that have been made in the ICT sector. The environmental complexity and high level of competition that is experienced in the global banking environment has necessitated the adoption of various types of technologies in order to remain competitive. The technological advancements have so far assisted banks to effectively respond to the business environmental challenges by adopting new strategies that shift focus to building customer satisfaction through offering better products and services and at the same time to minimize operation costs. Mobile technology services adoption has been broadly utilized by a number of banks around the globe and has proved to be a better competitive tool (Sohail & Shanmugham, 2003).

Pousttchi and Schurig (2004) assert that one of the most thriving businesses-to-consumer applications in electronic commerce is mobile technology. Several researchers such as Filotto (1997) ; Moutinho and Smith (2000) have carried expansive research in mobile technology focusing on a variety of delivery options, measuring the attitude of consumers towards mobile banking and automated teller machines. Others such as (Barnes and Corbitt (2003), Black (2002), Enders (2006), Gerrard and Cunningham

(2003) and Yu (2012) have also focused on issues on adoption and quality of services of internet banking. With a rapid increase in usage of smart mobile phones in most countries around the globe and diffusion of WAP-enabled phones, the transformation of banking applications to mobile devices has been significant development in mobile banking. Mobile technology has emerged as a potential wireless service delivery channel providing increased value for customer banking transaction (Pousttchi & Schurig, 2004).

According to Mathew, Alexandra and Maximillian (2013), there has been increased usage of mobile technology by customers to carry out several transactions. Most bank customers use mobile banking to be able to carry out several payments including point of sale payments. Customers who have access to mobile technology also prefer settling their bills using the mobile technology service because it is more convenient and consumes less time. Mathew (2013) further assert that more and more customers are engaged in using mobile technology to conduct transfers. They also indicate that the increase in the number of people who use smart phones has facilitated rapid adoption of mobile technology service in most countries around the globe. This is an indication that as more people adopt the use of smart phones, there is a high potential that mobile technology service users are likely to continue increasing. The adoption of mobile technology is also correlated with the age of the users. Most users who are between the age of 18 and 29 years represent the highest percentage of those who have adopted mobile technology and the figures tend to reduce as the age of mobile technologies service users increases. (Alexandra and Maximillian 2013)

A survey carried out by Mathew (2013) in the United States of America supports that the most common mobile technology activities that are prevalent among users include checking financial account balances or transaction inquiries where 87 percent of mobile technology users were found to have performed this function in duration of 12 months. The use of mobile technology to transfer money between accounts was also found to be one of the activities that are rapidly increasing among the users of mobile technology service. There are also a number of mobile technology users who prefer to receive text message alerts from a bank whenever there was a transaction. However, the users of this service seem to be declining as more activities can be performed in real time. The other activity that most mobile banking service users use frequently is making online bill payments from a bank account using a mobile phone. The mobile technology

service users also prefer using the system to locate an ATM whenever they are not sure of the location. The mobile technology function that has seen the greatest increase in use by far is depositing a check by phone, known as remote deposit capture. Mathew (2013)

2.2.2 Customer satisfaction

Schindler (2012) argues that customer satisfaction is one of the most important tools of success in any business. He argues that the level of customer service determines how loyal customers will be and whether they will be able to do a repeat purchase. One of the ways through which an organization can enhance customer satisfaction is through creating business to customer loyalty. A business needs to know its customers well and have a close relationship with them. This makes customers feel part and parcel of the business. Personalized customer service is very important in ensuring enhanced business to customer loyalty. According to Hanks (2010) customer service delivery may be easily measured using four basic attributes. The first attribute that can be used to measure customer service delivery is service accessibility. Accessibility of services can be enhanced through use of information communications technology such as mobile applications and use of customer flow management technology. The other measure of customer service delivery is quality of service. The quality of service will be determined by value addition and accuracy of the services being provided. The quality of service can be enhanced through integration and enhancement of internet and web enabled applications. Effectiveness is also among the measures of customer satisfaction. The cost involved in delivering timely and useful services is important. Customers are more interested in accessing timely services as and when they need them. (Schindler 2012)

Hanks (2010) further assert that customer service experience involves the measurement and ensuring improvement of five main areas. The first area is the identification of the product or service the customer seeks to buy or access from the organization or business. Businesses need to enhance and improve their products in order to meet customer needs. The other area is the person or team that is involved in providing the service. The process used to deliver the service is also very important in ensuring better service delivery. The atmosphere and location of the service is also important to the

customer as far as satisfaction is concerned. The last area relates to the confidence and reassurance felt by customers whenever they access services. (Hanks 2010)

Service Quality

Service quality entails an assessment of how well a delivered service conforms to the expectations of the customer. Service on the other hand involves an intangible task that satisfies consumer or business user needs. In other words, a service can be defined as intangible activities or benefits that an organization provides to consumers such as airline trips, financial advice or automobile repair in exchange for money or something else of value (Gabbott & Hogg, 1997). Services are significant components of the global economy and they have several characteristics that distinguish them from products. It is crucial for service operators to well define these characteristics so as to be in a good position of assessing how well the services satisfy customer's needs. (Peter & Donnelly, 2001, 2007; Kotler & Armstrong, 2006; Egan, 2008; Hutt & Speh, 2007)

The first characteristic is intangibility. Services are intangible, and so unlike products, services cannot be touched, seen, tasted, heard or felt before they are consumed, and they are always consumed at the time of production. Therefore, services do not have features that appeal to the customers and make them evaluate services, unlike goods, is not possible before actual purchase and consumption. (Kerin, 2009)

The second characteristic of services is service inseparability; services cannot be separated from the service provider. The production and consumption of services occur simultaneous, and the inseparability of production and consumption increases the importance of service quality. Service perish ability and fluctuating demand is the third characteristic of services since services cannot be stored, that is, they are not provided at the time they are available, the loss of revenue cannot be captured; therefore, the demand for services is often unpredictable and widely fluctuating. This call on the service marketer to carefully evaluate capacity in a service business, capacity is a substitute for inventory. If capacity is set for peak demand, a "service inventory" must exist to supply the highest level of demand. An infinite capacity is set so that no single business traveler is dissatisfied. Obviously, setting high capacity levels is costly, and the marketer must analyze the cost versus the lost revenue and customer goodwill that might result from maintaining lower capacity (Peter & Donnelly, 2001, 2007).

Customer Loyalty

Loyalty is developed over a period of time from a consistent record of meeting, and sometimes even exceeding customer expectations (Teich, 1997). Kotler, (1999) states the cost of attracting a new customer may be five times the cost of keeping a current customer happy. Gremler & Brown (1996) offers one definition of customer loyalty that is related to our purpose in this study: the degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider, and considers using only this provider when a need for this service exists. According to Bloemer & Kasper (1995), loyalty is interpreted as true loyalty rather than repeat purchasing behavior, which is the actual re-buying of a brand, regardless of commitment. Zeithaml (1996) states loyalty is a multi-dimensional construct and includes both positive and negative responses. However, a loyal customer may not necessarily be a satisfied customer. Colgate, (1996) also noted that it is not always the case that customer defection is the inverse to loyalty, while Levesque and Mc Dougall (1993) suggested that, "even a problem is not solved, approximately half of the customers would remain with the firm". This may be due to switching costs, lack of perceived differentiation of alternatives, location constraints on choice, time or money constraints, habit or inertia which are not related to loyalty (Bitner, 1990; Ennew & Binks, 1996).

2.2.3 Mobile Banking Technology and Customer satisfaction

According to Fiserv (2013) adoption of mobile technology service by financial institutions has far reaching effects in many aspects. Mobile technology service adoption has the potential of greatly improving the level of service satisfaction in any financial institution. This happens as a result of the short time it takes a customer to complete a transaction using a mobile phone than walking to the bank to have the payment affected. This improvement in satisfaction due to adoption of mobile technology has the potential of capturing approximately 20% online customers who prefer better satisfaction through mobile banking. An increase in the number of customers is also likely to lead to higher revenues and increased profits for the bank. However, there are concerns from customers that although satisfied greatly improves with adoption of mobile banking, security of mobile banking service still remains a challenge that needs to be addressed in order to enhance service delivery. (Fiserv 2013)

A study carried out by Adewoye (2013) impact of mobile technology on service delivery in the Nigerian commercial banks reveals that mobile technology improves banks' service delivery in many ways such as transactional convenience, saving of time, quick transaction alert and save of service cost which has recuperate customer's relationship and satisfaction. The study recommends that the management of commercial banks should create awareness to inform the public about the benefits derived on the mobile banking service. Collaboration among banks should perfectly maintain, skilled manpower and computer wizard should be employed by every bank in order to prevent fraudulent personnel and hackers from manipulating the banks' data and stealing money from the banks' accounts. Further recommends that provision and maintenance of public network system, such as telephone is fundamental to the efficient functioning of the mobile technology service. Gonzalez (2008) is one of the scholars who assert that mobile banking has significantly transformed traditional banking practices to the extent that it has created a pattern shift in marketing practices resulting in positive performance in the banking sector. This is an indication that efficient delivery of quality customer service in the banking industry is to a greater extent facilitated by adoption of appropriate information technology. (Adewoye 2013)

Similarly, Christopher, (2006) equally argues that mobile technology provides an important channel through which commercial banks can market their products and services and thus is more of a necessity for commercial banks that anticipate financial and customer service delivery success. It is evident too that the quality and efficiency of service delivery within the banking industry has improved significantly in the global market as a result of integrating information communications technology into a number of banking activities. According to the findings of an investigation on electronic payments systems and mobile technology's in Nigeria carried out by Agboola (2006), it was established that that there has been a very significant change from the use of cash to electronic payments. It was clear from the study findings that the automation of payment systems had significantly reduced the volume of cash transactions handle by commercial banks. It was also evident that mobile technology has great potential of broadening the customer relationship; improve customer service delivery which will result to high rate of customer retention and customer loyalty. This will in turn enable commercial banks to gain a large portion of market share. However, this can only be

possible if challenges such as such as, ineffectiveness of telecommunications services, epileptic supply of power, high cost, fear of fraudulent practices and lack of facilities necessary for their operation were taken care of. Agboola (2006)

further asserts that mobile technology has also changed service delivery patterns of banks completely by radically reducing the volume of direct cash transactions. Stevens (2002) indicates that rapid changes in business activities in the contemporary environment in the form of technological improvement require banks to serve their customers electronically. The traditional banking environment focused on harnessing technology to improve on products and services. However, the 21stcentury banking industry environment is more turbulent, complex and more competitive than ever before. It has therefore become more important for commercial banks to adopt information and communication technology in order to cope with the complex business environment that has more informed customers. This drive to transform the operations of commercial banks may not be successful without the adoption of appropriate ICT such as mobile technology since it affects quality of products and services and the way they are delivered to customers (Gupta, 2008). Information communication technology such as mobile technology service has been found to lead to improvement in business efficiency and service quality and hence attract and retain customers (Kannabiran & Narayan, 2005).

2.2.4 poor quality of Service

Service is defined by Meyer (2001) as services are intangible when compared to physical goods (Levitt, 1981:94). Skye (1982:34) defines service as the activity of working for other people or for an organization. For the purpose of this research, service will be defined as the interaction between the financial institutions and the customer. Bateson and Hoffman (1999) define services as deeds, efforts or performance whilst Regan (1963) sees services as activities, benefits or satisfactions offered for sale or provided in connection with the sale of goods. Heizer and Render (1999) describe services as "those economic activities that typically produce an intangible product such as education, entertainment, food and lodging, transportation, insurance, trade, government, financial, real estate, medical repair and maintenance like occupations". Johns (1999) adds that service could mean an industry, a performance, an output or offering or a process. As compared to manufactured products, services are less tangible and less measurable. Service organizations have a significant proportion of their employees in direct contact with their external customers.

According to Fox (1993), customers'' perception of the company is often determined by the behavior of these employees. Service providers perceive service as a process which contains elements of core delivery, service operation, personal attentiveness and interpersonal performance which are managed differently in various industries. Customers on the other hand view service as an experience of life which consists of elements of core need, choice, and emotional content (Johns, 1999). These service elements are present in different service outputs and encounters and affect each individuals experience differently. The factors critical to services include value (benefit at the expense of cost), service quality and interaction. Service quality is a concept that has aroused considerable interest and debate in research. There are difficulties defining and measuring it with no overall consensus emerging on either (Wisniewski, 2001). While Eshghi et al. (2008) define service quality as the overall assessment of a service by the customers, Asubonteng et al. (1996) and Wisniewski and Donnelly (1996) define it as the extent to which a service meets customer's needs or expectations. Lewis and Booms (1983) describe service quality "as a measure of how well the service level delivered matches customer expectations. Service is said to be quality when it consistently conforms to customer expectations. Parasuraman et al. (1985) argues that service quality is the measure of service delivered as against expected service performance.

2.2.5 Consumers' Behavior in the Banking industry

Consumer behavior is dynamic and to be studied regularly. Increasing awareness, globalization, deregulation, living standards and urbanization has led to increase in the changing preferences and the same has forced the Banking industry to change their product features and customer service delivery. The study of consumer behavior is compulsory to the banking industry, so as to know about likes and dislikes of consumers from time to time so that the products and customer services can be offered accordingly. Customers have their own unique needs, demands and preferences in a particular segment. Also, banks have to study customers in particular segment. Interestingly, the study of consumer behavior can make it possible that after observing and examining the behavior of consumer a Bank can present its product in such a way that the product can capture the market. Consumer behavior indeed gives every possible answer to the complex questions concerned with consumer's buying reasons. When customers are treated as the king of the Bank, the study of consumer behavior becomes more important for marketing decisions. (Humphrey, 2003)

There is no doubt that the behavior is the base of management decisions. Birch and Young (1997) show that consumers seek convenience, transactional efficiency, a choice of core banking products and non-core products, and access to competitive returns and prices. The concept of internet has raised customer's sensitivity to fast and efficient customer service delivery. Cox and Dale (2001) categorize four factors in delivering customer service delivery through web site that are: Ease of use, Customer's confidence, online resources, Relationship services.

Each class relates to a different part of the website experience and serves to improve and exceed

customer satisfaction. Ease of use is associated with all factors relating to the design of website. The key site seeks to, during the course of customer navigation, reduce customers‟ frustration. The fundamental nature of website means that communication with the customer has to be enabled through the use of text, graphics and animation. All these factors relate to design of the web site and if the design is poor and not user friendly it cannot then achieve customers' expectation. The spread of electronic banking should also benefit consumers by reducing the time and inconvenience of banking transactions and, in very small communities, by providing access to banking services that might otherwise be unavailable. (Keeton, 2001).

2.2.6 Automated Teller Machines

The Automated Teller Machine, or ATM, enables people to withdraw and deposit money from their bank accounts using machines. It is thought to be a combination of a few different inventions. The first automated banking machine only collected cheques and deposits, and was created by American inventor and businessman, Luther Simjian in 1960. A Scottish inventor, John Shepherd-Barron, created an ATM that used paper vouchers printed with radioactive ink so the machine could read them in 1967. Finally in 1969, Donald Wetzel created the first ATM in the United States that used plastic cards similar to the ones we use today.

The ATM is a sophisticated computer that can do almost anything a human bank teller can. A typical ATM is made up of the following devices: a computer, a magnetic/chip card reader, a keypad, a display screen, a printer, and a vault.

- Most ATMs communicate with the bank by connecting to an interbank network.
- A customer uses a plastic card with a magnetic stripe or smart chip that holds a unique card number and security information. The customer enters a personal identification number (PIN) to authenticate its use.
- Users can do almost all of their banking at any time of day, whether or not their bank is open.
- There are almost two million ATMs around the world.
- The ATM was the first form of self-service banking, which led to other convenient forms, like telephone and internet banking.
- Many other industries saw how popular banking through machines became, and came up with ways to sell their own products in this way. There are now automated machines to dispense everything from movie tickets to medication.

Mobile technology service enables Rwandan to access their bank accounts using their Mobile phones, to access mobile technology services, it is necessary to get subscribed at least one of the local Mobile Phone Operators. The main advantage of the mobile phone lies in its capability to reach everywhere. It transforms the economics of service delivery by reducing the cost of financial transactions and of setting up branches. Mobile technology is also seen as a good way to promote the culture of saving to the millions of rural Rwandans who have a mobile phone but no bank account (NBR Report, 2012).

However, the uptake of mobile technology is still low because of limited understanding of the product, coupled with high levels of financial illiteracy. Another factor is the current structure of the Rwandan economy, which is predominately cash-based. The Uptake of mobile technology still remains low because the economy is still cash-based and not many people accept electronic payments. In Rwandan rural areas, most people have virtually no access to public services and educational opportunities, are malnourished and earn incomes below the poverty line. The mobile banking tool helps such people greatly by providing a way for more efficient money management, which in turn helps those to get out poverty, improve their businesses and provide basic necessities to their families (NBR Report, 2012).

Nowadays a growing number of Rwandans, over 90 percent of, have embraced this new technology. The country ranks as the eighth fastest-growing mobile money economies in

the world. This is even so witnessed as the number of agents continues to increase as more sophisticated banking services are added to the mobile money platform such as MTN Mobile Money, TIGO Cash and Airtel Money (NBR Report, 2012).

However, these added features will continue to require that the agents have some equipment's and literacy levels to continue support of these functions. With increased uptake of mobile phone services, more Rwandans have enrolled into a mobile money service. It can, therefore, be argued that most transactions can be performed using mobile money instead of cash. Mobile money provides a service that allows the sender and receiver to obtain information of each transaction making the service transparent. The consistent performance of this service makes transaction data very reliable and most problems arise from input errors from the customer. This feature results in business streamlining their operations to increase efficiency and boost business growth (NBR Report, 2012).

2.3 Empirical framework

Duncombe (2012) identified how the mobile technology compares with other technologies as a means to deliver information-based services. He further postulates that evidence from project-based evaluations suggests that mobile technology can be used effectively as part of a mix of technologies. According to Porter (2015), mobile technology presents new forms of sociality and new possibilities of encounter for young people across the globe: nowhere is this more evident than in Africa, where landline telephone lines are few and mostly restricted to privileged elders. The scale of mobile technology usage among young people in Africa today is remarkable even within the very poor. Obviously, this critical communication technology has changed the mind-sets of people about communication, co-ordination and safety and it has changed the way people behave in public spheres.

Mobile technology is rapidly changing the face of Africa. A growing literature shows how these technologies are reshaping the way business is done, the way social networks are built and maintained, and even the conduct of romantic courtship (Porter, 2015). This is particularly so against the backdrop of the global economy which is driven by

the ‘information age’. IT is viewed as having the potential, if used properly, to leapfrog the development process from one stage to another (Laguerre, 2013). In the view of Gollakota (2012), there is considerable hope that ICT has the potential, under certain conditions, to facilitate improvement in the livelihoods of people in marginalized communities in the global South. For instance, the mobile technology has been applied in diverse new forms to benefit users and service providers. Prominent amongst these users has been its capacity as a financial inclusion tool (mobile money) to the unbanked mostly in developing countries (ITU, 2013). In developing countries where the reach of formal banking is limited, mobile money has become an alternative to financial services.

(Donavan, 2012; Scharwatt, 2015). The developing countries, nevertheless, face huge challenges in their ability to utilize these resources for their growth and development agenda even though there is a measure of progress (ITU, 2012). There are also limitations, which range from infrastructural constraints to an individual’s ability to convert access to ICTs into tangible benefits in light of other environmental constraints both physical and socio-cultural. As Castells puts it, lack of access to ICTs represents both cause and effect of social marginalization (Castells, 1999). Mobile telephony has been one of the fastest growing technologies in the world, with mobile networks roughly doubling in size every two years since 2002 (World Bank, 2012:115). In fact, by 2011, around 90 economies across the world had mobile penetration rates of up to 100% (World Bank). However, despite the apparent ubiquity of mobile technology, there is a still significant gap in customer satisfaction.

However, some have access to mobile phones through borrowing from friends and other sharing means among friends, colleagues and family members, show that in all the districts researched, 67% respondents own one mobile phone while 0.3% of respondents owned three. It was also observed that low network coverage remained the most serious challenges to the users. The quality of mobile phone service in these districts was compromised as some network operators had not extended telecommunications masks to some remote locations to boost quality of service. The distribution of respondents by districts and gender at the research sites in the Brong Ahafo region. Since a non-probability sampling technique was used to select respondents, efforts were made to

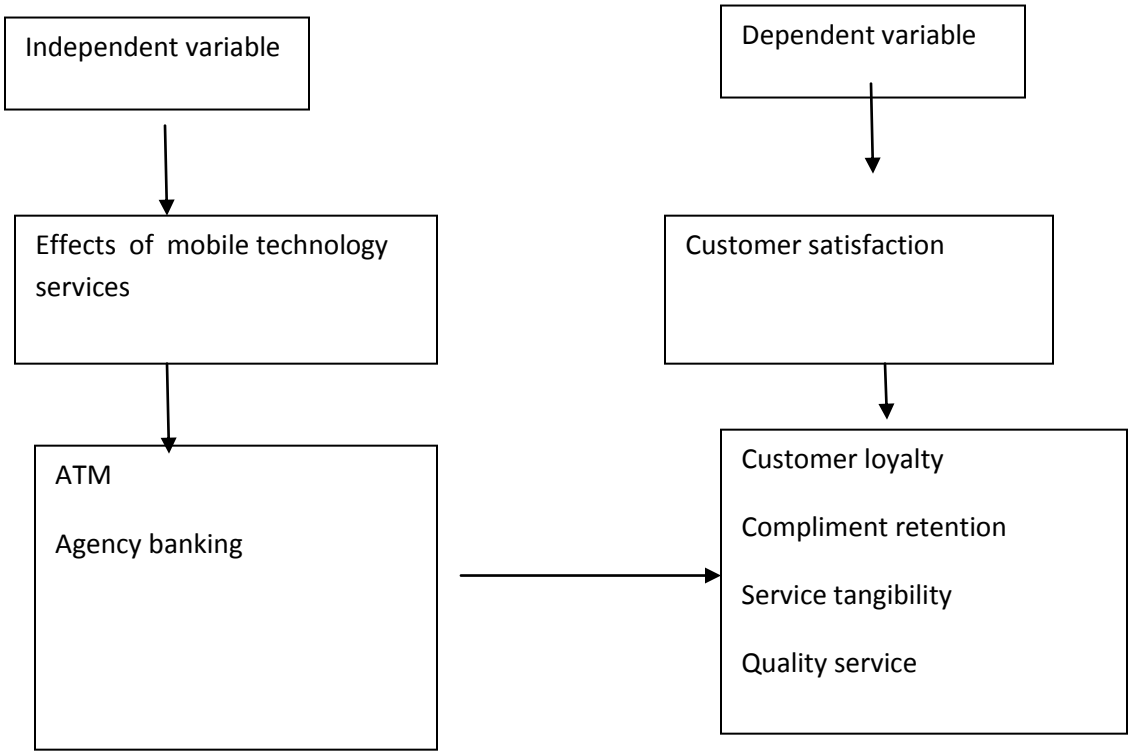
include both sexes. The number of women who used mobile phones was lower than males in all eight districts.

Some reasons attributed to women's exclusion were cultural influences, lack of skills, illiteracy, poverty, lack of time and male-dominated corporate control. Roman & Colle (2002) posited that hundreds of thousands of women all over the world might be shut out of the information society because of their literacy level and gender-related issues. This sturdily affirms our study as observed and narrated in relation to gender in some rural communities. In using her mobile phone to run her petty trading business (snail business), a petty trader in one of the researched communities had in mind not to break any norms about female economic independence. Due to this, she was divorced and not re-married: Some women traders in researched communities attested that they had to choose between their marriage and their economic advancement, since their husbands could not cope with their increasing economic empowerment and social independence. Respondents were asked what they do for living. Various economic activities were mentioned. These activities were grouped into six categories, based on how related the activities were, with the sole aim of coding and streamlining the data. The categories were: self-employed, employed part-time, employed full-time, unemployed not looking for job, retired people and students. The result shows that 48% of respondents were employed full-time while 15% were self-employed, working in the informal sector. Seven percent of respondents in the districts under study were employed part-time. (Roman & Colle 2002)

2.4 Conceptual frame work

This conceptual framework concerns the key concepts used in this study and that need to be defined and clarified.

Figure1 Conceptual framework



Customer loyalty indicators

Customer loyalty is another important factor in customer satisfaction. The impact of the satisfaction in loyalty has been the most popular subject in study of the marketing theory. Therefore, several studies have proved that satisfaction and loyalty have the direct connection between one another. As satisfied customers are loyal and dissatisfied customers are a vendor (Heskett 2011.) Finding the loyal customer is not accessible even the customers seem to be satisfied with the products and the services. In fact, the behavior and attitude of the customers towards the particular goods and services matters the most. If the behavior of the customers is positive to the service holder, then those customers are said as a loyal customer (Abdullah 2012.) There are two types of customer loyalty based on behavioral and emotional loyalty on the goods

and services. Behavioral loyalty refers to frequent shopping in a particular retailer and emotional loyalty refers to the customers' concern towards certain retailer on the basis of past buying experience and attitude. In this both behavioral and emotional loyalty model, increased satisfaction should increase customer loyalty. When customers are not satisfied, customers have the option to express the complaints going to the competitor. But, the study has shown that 60-80% of the customers are satisfied and very satisfied on the survey just prior to the defection. Therefore, there should also be other factors besides satisfaction that have a certain impact on customer loyalty (Reichheld & Schefter 2000.) At the time of 1980 product durability and service quality used to be evaluated by customer loyalty. But, there has been dramatic changing in the late 1980 and in 1990, when the needs and wants of the customers were identified by the retailers in the market. Nowadays, in this modern era, the companies have changed this concept towards the initial target consumers by manufacturing ordinary product benefits in order to persuade customers' satisfaction and loyalty (Abdullah 2012.) Service quality, product quality, price strategy, store attributes are the four major variables that influence customer loyalty. Service is one of the most complex factors which do not exist before they are consumed. In order, to develop the service management it is important to understand what customers are really looking for and what the customers evaluate. Customers expect the quality of service through retailers, so, the service marketers have to assess how customers perceive the quality of the "services feature" implied by the perceived service quality framework. .

The following are the indicators of customer loyalty:

1. ACTIVATION

This looks at the proportion of your customer base that is active. And this could mean several things:

- The number of customers who are actively consuming and engaging with your content opening emails,downloading content,reading your blogs.
- The number of customers who have product with you currently or are visiting you frequently.
- It could also mean the proportion of customers that register with you who then go onto convert so be careful about your semantics and standardize definitions.

2. RECENCY

This looks at how recently your customer visited or transacted with you.

Typically you would '*band*' recency into different timeframes, such as the last 0-4 weeks, 5-6 weeks etc (the exact bands will again depend on the category that you operate in).

It's a powerful loyalty metric as you would expect your most loyal customers to have interacted with you most recently.

But it could be one-dimensional to look at only this metric: new customers won't be distinguished from habitual, long-term customers.

3. FREQUENCY

This looks at how frequently customers interact with you and, when combined with recency, becomes a powerful measure of customer loyalty.

An additional common overlay is a value metric (such as sales or margin

4. TENURE

Tenure enables you to segment different 'asset classes' of your customer based depending on how to long they have been customers.
It's another marketing metric that you would typically segment into bands with customers who have the longest tenure being seen as habitual customers of your brand and ergo the most loyal.

5. RENEWAL

For many brands (those is telecoms or financial services in particular), the point of contract renewal is a key moment of truth in the customer journey.
The proportion of customers who renew can therefore be seen as a powerful measure of customer loyalty. This of course assumes that there isn't high inertia in your category and that customers are renewing only because of the perceived hassle involved in switching or the fact that the category is commoditised.

6. REFERRAL

Customers referring your brand to their network can be a strong indicator of loyalty. Indeed this has led to the increasing number of brands using Net Promoter Score (NPS) as a core marketing KPI.

NPS asks customers for the likelihood or recommending a brand to their friends and families and then segments customers into detractors and promoters.

7. LAPSE, CHURN AND ATTRITION

These essentially mean the same thing. They look at the number of customers in a given period who cease to be customers in a subsequent period.

Care should be taken to understand which customers are lapsing, why and the lifetime value of a customer before you consider these as core measures of customer retention or loyalty.

8. SHARE OF WALLET

Assuming that you can easily and accurately measure this, it is perhaps the ultimate measure of loyalty: it looks at a customer's total spend in your category and the amount of this spend that your brand captures.

The kicker is that this can be tough to capture - claimed share of wallet is notoriously subjective and should be used only as an indicator. But if you operate in FMCG, Retail or Online Gaming then the data may well exist to give you a good handle on share of wallet.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter describes the research design and the methodology of the study, that is: research design, target population, sampling design and sample size, research instruments, data collection procedures, validity and reliability of the research instruments and data analysis techniques.

3.1 Research design

The research design is a plan, the structure and strategy of investigation so conceived to obtain answers to the research questions. The plan is the complete scheme or program of the research. According to Grinnel and Williams (1990), a research design is careful systematic study or investigation in some field of knowledge, undertaken to establish some facts or principles. For this study, the researcher applied descriptive analysis using the fact that a descriptive research design is used to describe the data and characteristic about what is being studied. Descriptive survey also enables to obtain the current information. It is also used in fact finding studies and helps to formulate certain principles and give solutions to the problems concerning local or national issues. Descriptive survey method focuses on investigating the status, practice and problem related to the financial statement and decision making. (Grinnel and Williams 1990). In scientific research there are three main research design; qualitative research, quantitative research and the mixed approach which can be adopted for a study. The decision to use any research design depends on the nature of the work, the study objectives, nature of the research questions and the practical consideration to the research environment among others (Shih, 1998 cited in Mary O, 2012). The researcher chosen to use quantitative method because quantitative method allows explanation of a phenomenon by collecting numerical data then analyzed them before finding presentation using mathematically based method, particularly statistical package for social sciences (SPSS).To collect the data for the study, the researcher employed questionnaire survey administrated the respondents by the researcher herself.

Quantitative design

The instrument of the study was self made (questionnaire) and a set of questions will be formulated. The questionnaire was formulated to measure the effectiveness of the internal control system and cash flow. In this case a four-point Likert scale was used as in kotari (2003). The questionnaire as an instrument was used because it's a self-report instrument used for gathering quick information about variable of interest in an investigation as agued by Amin (2005).

Table 1 Interpretation of Scale

Weight Scale	Likert Scale
5	Strongly Disagree (SD)
4	Disagree (D)
3	Neutral (N)
2	Agree (A)
1	Strongly Agree (SA)

Source: *(Saunders, 2008)*

3.2 Study population

According to Ary D., (1972), a "population" consists of all the subjects you want to study. A population comprises all the possible cases (persons, objects, events) that constitute a known whole.

Ary D., (1972) continues saying that the population of interest is usually too large or too scattered geographically to study directly. By correctly drawing a sample from a

specific population, a researcher can analyze the sample and make inferences about population characteristics. The population for equity bank Rwanda limited is unknown in nyarugenge district.

3.3 Sampling procedure and data collection

A portion of the population selected for researching the characteristics of the whole population is called a sample. Because the population is unknown the sample size will be calculated as follows:

Sample size (n) = Z^2*P (1-P)/^{e2}

Z=Z-Score=0.60

e= margin error=o.5

p=standard of deviation=0.05

n= (0.60)2*0.5(1-0.5)/0.001

=0.36*0.25/0.001=90

The sample size from unknown population with a Z-score of 60% comprises 90 respondents. A sample will be then taken from each stratum randomly. This sampling technique will be adopted because it helped this study in achieving greater precision because the strata have been chosen so that members of the same stratum is as similar as possible in respect of the characteristic of interest. Also, it provided administrative convenience as each stratum understood and dealt with in detail and this was even assisting in later stages of analysis.

3. 3.1 Sampling techniques

A portion of the population selected for researching the characteristics of the whole population is called a sample. A sample is a representative portion of the population selected to achieve the objectives of the study. All sample units mentioned above distributed of questionnaires. Purposive sampling method was used due to the fact that the researcher decision guided to using ATM and agency banking. (Ary D., 1972)

3.3.2 Research Instrument

Ary (1972) said that the population of interest is usually too large or too scattered geographically to study directly. By correctly drawing a sample from a specific population, a researcher can analyze the isample and make inferences about population characteristics.

To collect primary data, the researcher used a questionnaire as data collection instrument to obtain the information that relates to ithe opinions, perceptions, intentions and thoughts of the financial sectors staffs. For easy administration and securing clear responses, the statistical Package for social science (SPSS) was used to process the data.

3.3.2.1 Data collection

To make this research successful, the data collected included both primary and secondary data. The primary data obtained using questionnaires while the secondary data obtained from the documented materials.

3.3.2.2 Source of data

The researcher used both primary and secondary data.

i. Primary data

According to (Bailey 1987), primary data are eyewitness accounts written by people who experienced a event or behavior. The collection of primary data entailed provision of questionnaire.

ii. Secondary data

The collections of secondary data include reports, magazines, articles as well as textbooks and internet documentation.

3.4 Operational definition of variables.

3.4.1 Mobile technology

Mobile technology is a form of technology that is mostly used in cellular communication and other related aspects. It uses a form of platform where by many transmitters have the ability to send data at the same time on a single channel. This platform is called Code-division multiple access (CDMA). This platform allows many users to make use of single frequencies because it restricts the likelihood of interference of frequencies from two or more sources. This channel has evolved over the years. The mobile technology

is rapidly evolving; over the years, its uses are becoming diverse and is gradually replacing some similar sources in the market that are also used for communication e.g. post office and land lines. The mobile technology has improved from a simple device used for phone call and messaging into a multi-tasking device used for GPS navigation, internet browsing, gaming, instant messaging tool etc… (Shamshad, 2006).

3.4.2 Customer satisfaction in banking sector

The patronage by customers on the service delivered by a given Bank, no doubt is a function of the satisfaction they so derive from it. Satisfaction in relation to bank service delivery is the customers' evaluation of the service in terms of whether that service met their needs and expectations (Babatunde and Olukemi, 2012). Happy and satisfied customers behave in a positive manner. The effect of service satisfaction by banks and the satisfaction derivable by the customers are becoming perceptible. The product service innovations which took place due to the dissemination of information technology in service sector have a great impact on demand and employment. It is important to realize that in service sector the issues of generation and dispersion of innovation are inextricably important. Both are highly correlated and is considered important in all service industries and financial sector like banks. So, the current study is designed to investigate the impact of technological advancements on banking service quality. (Redlinghuis & Rensleigh, 2010)

Validity and Reliability of the Instruments

Validity of the Instruments

The research instrument that the researcher intends to use is questionnaire. The validity of this instrument will be established by having it cross examined for approval by a research consultant, to ensure that the information they have generated is appropriate and consistent before analysis. In addition, after-test was to confirm the reliability of the questionnaire.

The validity interval is from 0 up to 1. 0 means full of errors whereas 1 means absence of errors.

Validity of above 0.5 is assumed to be valid.

In this research, the content validity index was used. Content validity is the degree to which an instrument has an appropriate sample of items for the construct being measured and is an important procedure in scale development. Content validity index (CVI) is the most widely used index in quantitative evaluation. In this research, the content validity index was calculated from the formula below:

CVI=n/N

Where

CVI: Content Validity Index

N: Total number of items in questionnaire

n: Number of relevant items in the questionnaire

Example: if in this research the total number of items in questionnaire (N) is equal to 13

The number of relevant items in questionnaire (n) is equal to 10

Then the content validity index (CVI) is equal to 10/13= 0.76

Since the content validity index (0.76) is greater than 0.5 then the instrument will be declared content valid.

Reliability of the Instruments

Reliability were tested using the Cronbach's alpha correlation coefficient with the aid of Statistical Package for Social Sciences (SPSS) software and the results of the reliability test produced an overall Cronbach Alpha correlation coefficient of 0.881 which is closer to 1. George, D. & Mallery, P. (2003) provided a commonly accepted rule of thumb for describing Cronbach's alpha internal consistency

3.5.Data collection procedure

For this study, a questionnaire was developed and pre-tested in order to ascertain its validity. During the pre-test, samples of the questionnaires were administered to a select number of customers. Based on the results obtained from the pre-test, it was possible to determine whether the sample understood the questions, as well as, their responsiveness to the questions asked. After the pre-test, the questionnaires were administered to the selected sample. The respondents were given 30 minutes in order to answer the questions and return the questionnaire. There are a number of advantages for using a questionnaire as a data collection tool. First, the researcher included the questions that they consider most appropriate for the study. These can either be closed or open questions. The questionnaire can also be coded in order to make data analysis easier. Finally, the researcher does not need to be present for the questionnaire to be filled. This means that the researcher can distribute the questionnaires and wait for the responses.

3.6 Methods of Data Analysis

3.6.1 Data presentation

This is treated as an important intermediary stage of the research between data collection and data analysis. It is not possible to obtain answers to research questions straight away from these data sources. They all need to be processed. Data analysis essentially involves Editing, summarization (coding) and classification of data in order to make them easily understandable. Data collected were edited, coded and analyzed using the computer package. Because the study is specific and has limited respondents, the researcher largely used the qualitative approach in analyzing data. Data analysis will be done in line with the study objectives, which also aligned to the conceptual framework. Verbatim quoting was also applied when deemed relevant to the study, and then the data will be entered into the SPSS software for analyzing. To interpret the responses of the respondents, the values of interpretation was used.

We will use two simple formulas that estimate the mean using the values of the median (m), low and high end of the range (a and b, respectively), and n (the sample size).

Using simulations, we show that median can be used to estimate mean when the sample size is larger than 25. For smaller samples our new formula, devise in this paper, and should be used. We also estimated the variance of an unknown sample using the median, low and high end of the range, and the sample size. Our estimate will be performing as the best if estimate in our simulations for very small samples ($n \leq 15$). For moderately size samples ($15 < n \leq 70$), our simulations show that the formula range/4 is the best estimator for the standard deviation (variance). For large samples ($n > 70$), the formula range/6 gives the best estimator for the variance.

Mean	**range**
3.26 – 4.00	Very low
2.51 – 3.25	Low
1.76 – 2.50	Moderate
1.00 – 1.75	High

Evaluation of correlation

Correlation can be defined as the degree of relationship between two variables. It needs pairs of points to be available for every set of values of each of the variable. In a two-dimensional plot, the variables can be arbitrarily labeled as X and Y, where X mostly attains the independent variable, which is used for prediction, and Y attains the dependent variable, the value which is predicted. The correlation coefficient sometimes also called the cross-correlation coefficient.

The tool of correlation analysis has been developed to study and measure the statistical relationship that exists between two variables. Correlation analysis; the purpose was to measure the strength and closeness of the relationship between employee benefits and employee performance. The following points are the accepted guidelines for interpreting the correlation coefficient.

Standard Deviation (σ)

The standard deviation is a measure that is used to quantify the amount of variation or dispersion of a set of data values. A standard deviation close to 0 indicates that the data points tend to be very close to the mean (also called the expected value) of the set, while a high standard deviation indicates that the data points are spread out over a wider range of values. Standard deviation helps to measure how far or near the mean.

Interpretation of standard deviation (SD)

$SD \leq$ 0.5 Respondents' homogeneity of perception

$SD \geq$ 0.5 Respondents' heterogeneity of perception

Source: *Agresti and Franklin, (2009)*

Table 2 Evaluation of Standard Deviation

Standard deviation **Level spreading**
$\sigma <$0.5 Homogeneous
$\sigma >$0.5 Heterogeneous
Source: (Saunder, 2008)

3.7 Methods of Data Analysis

For data analysis, the Statistical Package for the Social Sciences (SPSS) was used for data analysis to evaluate and present the information that has been collected; with SPSS it predicts with confidence what to happen next so that you can make smarter decisions, solve problems and improve outcomes. Tables will be also used to present the analysed data. Some other statistical measurements such as percentages have been used for interpretation and descriptive approach to present collected data.

While conducting this study a number of limitations were encountered such as limited researchers and scholars that have searched on the same topic and this was a hindrance

to the literature review support. Another limitation was respondents who delay in returning back the questionnaires and the later delayed me to finish the study on time. The last limitation was the limited time to conduct the research. Even if they are numerous limitations, the study was not stopped to be carried out given its significance so as to come up with accurate information. (Babej, 2003)

3.8 Ethical considerations

To ensure that ethical standards are observed in this study as well as utmost confidentially for the respondents and the data provided by them, the following was done: (1) coding of all questionnaires; (2) the respondents was requested to sign the informed consent; (3) authors mentioned in this study was acknowledged within the text; (4) findings was presented in a generalized manner.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

The previous chapter described different techniques used to collect data. This chapter aims at presenting the collected data, analyze and interpret the findings, as the aim of this study was to examine the effects of Mobile Technology on Customers Service Delivery in Banking Sector of Rwanda, Case of Equity Bank.

This was done under the guidance of objectives of the study which were:

1. To examine the effect of mobile banking on customer service delivery in equity bank Rwanda limited.
2. To assess how ATM, contribute on customer satisfaction in equity bank Rwanda limited.
3. To establish how Agency Banking affect customer service delivery in Equity Bank-Rwanda.

4.1 Demographic characteristics of respondents

4.1.1 Distribution of respondents

The distribution of respondent was analyzed to assess the percentage composition of different categories as well as the proportion of males and females in the sample. The assessment was also made to understand the sample age, structure, gender, qualification and nature of the respondents held. This help us to know the relevance of the information given in relation with the research.

Table 4.1 Gender of respondent

		Frequency	**Percent**
Valid	Male	70	78
	Female	20	22
	Total	**90**	**100**

Source: *Primary data, 2019*

The table above shows that 70 respondents with 78% of total number of respondents is male, and 20 respondents with 22% of total number of respondents is female. This

shows gender balance in this research is very critical. As you see the female who attend the mobile technology services is only 22% while male are at 78%.

Table 4.2 Age of respondents

		Frequency	Percent
Valid	Between 21-28	40	44
	Between 29-36	32	36
	Between 37-44	10	11
	45 Years and above	8	9
	Total	**90**	**100**

Source: *Primary data, 2019*

The table above shows that 40 respondents with 44% of total number of respondents have between 21-28 years old, 32 respondents with 36% of total number of respondents is have between 29-36 years old, 10 respondents with 11% of total number of respondents have between 37-44 years old, and 8 respondent with 9% of total number of respondents have 45 years old and above. This shows that equity bank Rwanda limited customers are the youth.

Table 4.3 Level of education of respondents

		Frequency	Percent
Valid	Primary Level	5	6
	Secondary Level	18	20
	Bachelor's degree	42	46
	Master's degree	15	17
	PhD Level	10	11
	Total	**90**	**100**

Source: *Primary data, 2019*

The table above shows that 5 respondents with 6% of total number of respondents has primary level of education, 18 respondents with 20% of total number of respondents has secondary level of education, 42 respondents with 46% of total number of respondents

have bachelors degree, 15 respondents with 17% of total number of respondents has masters degree, and 10 respondents with 11% of total number of respondents has PhD level.

This shows people who goes in Equity Bank Rwanda limited are educated.

Table 4.4 Marital status of respondents

		Frequency	Percent
Valid	Married	53	59
	Single	31	34
	Widow	6	7
	Total	**90**	**100**

Source: *Primary data, 2019*

The table above shows that 53 respondents with 59% of total number of respondents are married, 31 respondents with 34% of total number of respondents are single, and 6 respondents with 7% of total number of respondents.This shows that people who attend equity bank Rwanda limited are married people where they like saving for the wellfare of their families.

Table 4.5 How ATM contribute on customer satisfaction in equity bank Rwanda limited

	Mean	Std. Deviation
Reduction of queue	1.8333	.26440
Quick services	1.6667	.41438
Ease transaction	1.9667	.31737
Valid N		

Source: *Primary data, 2019*

The table above shows that ATM contribute on customer satisfaction in equity bank Rwanda limited is based on reduction of queue with mean 1.8667 which is moderate

and standard deviation of 0.26440. It confirms that ATM has a positive contribution on customer satisfaction in equity bank with homogeneity of the responses as shown by its standard deviation. Quick services with mean of 1.6667 which is high and standard deviation of 0.41438, It confirms that ATM has a positive contribution on customer satisfaction in equity bank with homogeneity of the responses as shown by its standard deviation, and ease transaction with mean of 1.9667 which is moderate and standard deviation of 0.31737, and also confirms that ATM has a positive contribution on customer satisfaction in equity bank with homogeneity of the responses as shown by its standard deviation.

Table 4.6 How agency banking affect customer satisfaction in Equity bank Rwanda limited.

	Mean	Std. Deviation
Customer loyalty	2.0778	.23413
Compliments and Retention	2.0444	.32295
Service tangibility	1.9000	.27868
Quality service & customer satisfaction	1.7889	.22098
Valid N	90	

Source: *Primary data, 2019*

The table above shows that agency banking affect customer satisfaction in Equity Bank-Rwanda is based on customer locality with mean of 2.0778 which is moderate and standard deviation of 0.23413, It confirms that agency banking affect positively customer service delivery in Equity Bank with homogeneity of the responses as shown by its standard deviation. Compliments and Retention with mean of 2.0444 which is moderate and standard deviation of 0.32295, It confirms that agency banking affect positively customer service delivery in Equity Bank with homogeneity of the responses as shown by its standard deviation. Service tangibility with mean of 1.9000 which is moderate and standard deviation of 0.27868, It confirms that agency banking affect positively customer service delivery in Equity Bank with homogeneity of the responses as shown by its standard deviation. And quality service and customer satisfaction with mean of 1.7889 which moderate and standard deviation of 0.22098, It confirms that

agency banking affect positively customer satisfaction in Equity Bank with homogeneity of the responses as shown by its standard deviation.

4.7 The reason why there is still a queu in equity bank when there is an installation of mobile technology

	Mean	Std. Deviation
Inefficacity of mobile technology system	1.8556	.88128
Small number of workers	2.8778	1.41284
Resistance to change	1.6556	.86325
Valid N		

Source: *Primary data, 2019*

The table above shows that the reason why there is still a queue in Equity Bank when there is an installation of Mobile technology are inefficacity of mobile technology with mean of 1.8556 which is moderate and standard deviation of 0.88128 which is heterogeneity of respondents that confirm inefficacity of mobile technology in Equity bank, small numbers of workers with mean of 2.8778 which is low and standard deviation of 1.41284 which is heterogeneity of respondents that indicate negatively that there is a small number of workers in equity Bank and Resistance to change with mean of 1.6556 which is high and standard deviation of 0.86325 which heterogeneity of respondents that confirm the poor services as a reason of queue in Equity Bank.

Table 4.8: Multiple regression on effect of mobile technology services and customer satisfaction

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.936[a]	.876	.871	.31324

a. Predictors: (Constant), Quality service, Customer loyalty, Service tangibility,compliments and retention

The multiple correlation coefficient (R) is 0.936 corresponding at 93.6% this is a good level of prediction .It imposes the four independent variable on customer satisfaction and shows a relationship between mobile technology services and customer satisfaction .

The coefficient of determination(R^2) is 0.876 corresponding to 87.6% it has a strong explanatory of regression and the strength of associative relationship between mobile technology services and customer satisfaction. Here,I conclude by rejecting the HO which was stating that there no relationship between the mobile techonology services and customer satisfaction.

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	59.384	3	19.795	3,4	.036
	Residual	8.438	86	.098		
	Total	67.822	89			

a. Predictors: (Constant), Quality service,, Customer loyalty, Service tangibility ,Compliments and retention

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	59.384	3	19.795	3,4	.036
	Residual	8.438	86	.098		
	Total	67.822	89			

a. Predictors: (Constant), Quality service,, Customer loyalty, Service tangibility ,Compliments and retention

b. Dependent Variable: Mobile Technology Service

The value of F is 3.4 which reaches significance with a p-value of .036 (which is less than the .05 alpha level).This means there is statistically significant between the mobile technology services and customer satisfaction.It can be concluded saying that there is a strong relationship between customer satisfaction and the selected variables.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.410	.086		4.744	.000
	Customer loyalty	.630	.095	.703	6.651	.000
	Compliments and retention	.234	.0345	.879	5.112	.000
	Service tangibility	.466	.106	.506	4.374	.000
	Quality service	-.294	.117	-.272	-2.504	.014

a. Dependent Variable: Mobile Technology services

Unstandardized coefficient indicates a partial change in the customer satisfaction due to some unit change in each independent variables while other things remain constant. It founds that customer loyalty factor is the most influential factor for the customer satisfaction with the highest B value of 0.630.This table indicates that customer loyalty and service tangibility have a strong positive

effect on customer satisfaction,compliments and retention have a little effect on customer satisfaction and quality service has a negative on customer satisfaction.

The filled regression model based on statistical findings as follows:

Customer satisfaction=0.410+0.630(CL)+0.234(C&R)+0.466(ST)-2.94(QS)

4.2 Comparison between analysis of this study with other studies

The analysis of this study indicate that there is significant relationship between Mobile Technology and Customer Service delivery in Equity Bank-Rwanda based on correlation made in table 12 According to KWAKU Nuamah who did his research in the contribution of electronic banking customer satisfaction, he said that Internet banking has the potential to provide fast and reliable services to customers for which they are relatively happy. Due to the technological changes taking place all over the world, many institutions, including the banking sector have taken giant steps to move in tandem with these changes. In this light most banks, with GCB Bank, Ghana, not being an exception have introduced electronic banking in order to decongest the banking halls of customers who spend time unending in order to transact business. He said again that with regard to knowledge in availability of internet banking specifically Mobile banking, ATM, VISA, MASTER Cards, and Debit and Credit cards. The mode is not applicable in this study as most of the columns did not have means hence the display value N/A. The means show between the largest and the smallest observation that the average numbers of respondents have knowledge of availability of internet banking at the facility, of course with minimal errors. There are other different others who have talked about effects of e-banking services delivery on customer satisfaction like, Obikeze, Chinedum, Okolo, Victor, Okolo, Joachin, Mmamel Zita and Okonkwo Raphael. Therefore the errors fund in mobile technology need to be corrected in a way of satisfying customers and give them good services.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

In this chapter, the conclusions from the study and the recommendations made are presented. The study used both qualitative and quantitative methods of analysis. The summary of findings, conclusion and recommendations are based on the objectives of the study: to examine the effect of mobile banking on customer satisfaction in equity bank Rwanda limited, to assess how ATM contribute on customer satisfaction in equity bank Rwanda limited, and to establish how Agency Banking affect customer service delivery in Equity Bank-Rwanda.

5.1 Summary of the findings

Different researches have been conducted on Effects of Mobile Technology on Customer satisfaction in Banking Sector of Rwanda. Before data analysis, a pilot test was conducted for validity and reliability of the questionnaire. Cronbach alpha coefficient has been used to test the validity of Questionnaire before analysis and a coefficient was greater than 0.5 which was confirmed the adequacy of the study.

5.2 Summary on the effect of mobile banking on customer satisfactionin equity bank Rwanda Limited

The findings show that the effect of mobile banking on customer service delivery in equity bank Rwanda limited based on features of service with mean of 2.1333 which is moderate and standard 0.35148, It confirms that mobile technology has a positive effect on customer service delivery in equity bank with homogeneity of the responses as shown by its standard deviation. ATM (Automated teller machine) with mean of 1.7556 which is high and standard deviation of 0.29762, It confirms that mobile technology has a positive effect on customer service delivery in equity bank with homogeneity of the responses as shown by its standard deviation. Mobile agency with mean of 1.9111 which is moderate and standard deviation of 0.25619, It confirms that mobile technology has a positive effect on customer service delivery in equity bank with homogeneity of the responses as shown by its standard deviation. The average mean is 1.9333 which is moderate and needs to be improved.

5.3 Summary on how ATM contributes on customer satisfaction in equity bank Rwanda Limited

The findings show that ATM contribute on customer satisfaction in equity bank Rwanda limited is based on reduction of queue with mean 1.8667 which is moderate and standard deviation of 0.26440. It confirms that ATM has a positive contribution on customer satisfaction in equity bank with homogeneity of the responses as shown by its standard deviation. Quick services with mean of 1.6667 which is high and standard deviation of 0.41438, It confirms that ATM has a positive contribution on customer satisfaction in equity bank with homogeneity of the responses as shown by its standard deviation, and ease transaction with mean of 1.9667 which is moderate and standard deviation of 0.31737, and also confirms that ATM has a positive contribution on customer satisfaction in equity bank with homogeneity of the responses as shown by its standard deviation. The average mean is 1.8333 which is moderate and needs to be improved.

5.4 Summary on how Agency Banking affects customer satisfaction in Equity Bank-Rwanda

The findings show that agency banking affect customer satisfaction in Equity Bank-Rwanda is based on customer locality with mean of 2.0778 which is moderate and standard deviation of 0.23413, It confirms that agency banking affect positively customer service delivery in Equity Bank with homogeneity of the responses as shown by its standard deviation. Compliments and Retention with mean of 2.0444 which is moderate and standard deviation of 0.32295, It confirms that agency banking affect positively customer service delivery in Equity Bank with homogeneity of the responses as shown by its standard deviation. Service tangibility with mean of 1.9000 which is moderate and standard deviation of 0.27868, It confirms that agency banking affect positively customer service delivery in Equity Bank with homogeneity of the responses as shown by its standard deviation. And quality service and customer satisfaction with mean of 1.7889 which moderate and standard deviation of 0.22098, It confirms that agency banking affect positively customer service delivery in Equity Bank with homogeneity of the responses as shown by its standard deviation. The average mean is 1.9527 which is moderate and needs to be improved.

According to Spearman's correlation coefficient interpretation, the researcher confirmed that there is significant relationship between Mobile Technology and Customer Service delivery in Equity Bank

5.5 Conclusion

Based on the findings of the present study as highlighted above, it can therefore, conclusively be stated that mobile transaction, ATM (Automated teller machine), and Mobile agency are the effect of mobile technology services on customer satisfaction in equity bank Rwanda Limited, reduction of queue, quick services, and ease transaction are how ATM contributes on customer satisfaction in equity bank Rwanda Limited, customer loyalty, Compliments and Retention, Service tangibility, and quality service and customer satisfaction are how Agency Banking affects customer service delivery in Equity Bank-Rwanda. The researcher found out that mobile technology services on customer satisfaction, is insufficient in offering guidelines to the customer on how to use mobile technology through trainings; Equity Bank doesn't take too seriously the customer service unit, they don't know about the responses and behaviors of their customers, and the basis of their customers. Therefore, this can help in managing the systems' capacity and in turn address the problem of transaction delays and improve customer service.

5.6 Recommendations

Based on the findings of the study, the researcher presents the following recommendations by saying that Mobile technology operators should train the customers about the usage of mobile technology and keep their loyalty, reducing the costs for the service offered .

Telecommunication companies and banks should continue with their innovation endeavors in mobile technology and invest massively in information technology in order to further promote efficient and smooth service delivery via mobile technology, and Security measures should be ensured by the Government of the day, by the private sector and by all with a view to guaranteeing the mobile banking service users and seekers as well their safety and assurance of the same.

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APPENDIX

Questionnaires

My name is **ISHIMWE Gaelle**, carrying out a research study on **Effects of Mobile Technology services on Customers satisfaction in Banking Sector of Rwanda Case study of Equity bank.** I request my kind respondents to answer the entire questionnaire by exhausting their opinions; therefore every answer is correct. Thank you very much for your assistance.

Please tick the appropriate box or explain where necessary.

SECTION A

BACKGROUND INFORMATION

1) **Gende**r
   ( ) Male
   ( ) Female
2) **Age**
   ( ) 21 – 28
   ( ) 29 – 36
   ( ) 37 – 44
   ( ) 45 – above
3) **Level of education**
   ( ) primary school
   ( ) Secondary school
   ( ) Bachelors Degree
   ( ) Masters Degree
   ( ) PhD level
4) **Marital status**
   ( ) Married
   ( ) Single

( ) Widow

Directions: please respond to the questions of your choice by using the corresponding letter(s) as guided;

SA : Agree with no doubt

A : Agree with some doubt

N : Neutral

D : Disagree with some doubt

SD : Strongly disagree with no doubt

Response code: SA=1; A=2; N=3, D=4, SD=5

SECTION B: Perceptions of Respondents on:

The effect of mobile Technology services on customer satisfaction in equity bank Rwanda limited

Indicators	**SA**	**A**	**N**	**D**	**SD**
Features of Equity Bank service					
ATM					
Mobile Agency					

How ATM contribute on customer satisfaction in equity bank Rwanda limited

Indicators	**SA**	**A**	**N**	**D**	**SD**
Reduction of queue					
Quick services					
Ease transaction					

How Agency Banking affect customer satisfaction in Equity Bank-Rwanda

Indicators	**SA**	**A**	**N**	**D**	**SD**
Customer loyalty					
Compliments & retention					
Service tangibility					
Quality service					

Why there is still a queue in Equity Bank when there is an installation of Mobile technology

Reasons	**SA**	**A**	**N**	**D**	**SD**
Inefficacity of mobile technology system					
Small numbers of workers					
Resistance to change					

SECTION C: Interview guide

What is the effect of mobile transaction services on customer satisfaction in equity bank Rwanda limited?

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How ATM contribute on customer satisfaction in equity bank Rwanda limited?

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How Agency Banking affect customer satisfaction in Equity Bank-Rwanda?

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How do you find Equity Bank compared to other Commercial Banks in Rwanda?

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What are the main challenges do you meet during mobile technology implementation?

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What are the techniques to be adopted by Equity Bank to improve its services in terms of mobile technology?

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