EFFECTS OF MOBILE BANKING ON CUSTOMER LOYALTY
AMONG USIU-AFRICA GRADUATE STUDENTS

BY
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UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

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BY
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SUMMER 2019
STUDENT’S DECLARATION

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

Signed: ___________________________ Date: ___________________________

Kenedy Otieno Juma (656479)

This Research Project has been presented for examination with my approval as the appointed supervisor.

Signed: ___________________________ Date: ___________________________

Dr. Joyce Ndegwa

Signed: ___________________________ Date: ___________________________

Dean, Chandaria School of Business
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ABSTRACT

The objective of this project was to examine the effects of mobile banking on customer loyalty among USIU-Africa graduate students. For a comprehensive analysis of this subject matter, the project was guided by several objectives related to the topic. The specific objectives for the project included: to examine the effect of speed of response of mobile banking on customer loyalty among the United States International University-Africa graduate students. To determine the effect of ease of product use of mobile banking on customer loyalty among the United States International University-Africa graduate students. To examine how reliability of mobile banking services affect customer loyalty among the United States International University-Africa graduate students.

The study adopted a descriptive research design employing a quantitative approach solely. The target population comprised of USIU-Africa graduate students from three different graduate degree programs whereby a sampling frame of 2,068 students was obtained. From the target population, a sample of 335 respondents was attained using Yamane formula. For data collection, a closed-ended questionnaire was administered for the gathering of primary data. The collected data, including both inferential and descriptive statistics, was then analyzed by use of the statistical package for social sciences (SPSS) Version 22. The data was then presented using tables and figures hence allowing for ease of interpretation of the analyzed data.

The research findings demonstrated that the speed of response of a mobile banking application significantly influences a customer’s choice of an application or the consistency of using the application. Specifically, the time taken before transaction as well as the time taken before the provision of services substantially influenced mobile banking application usage. The level of assistance offered also greatly influences a customer’s frequency of using a mobile banking application. The design of the mobile banking application also significantly affected the level of customer loyalty and the presentation of user navigation features influenced the customers’ selection and continued use of a given mobile banking application.

The research findings showed that that ease of product use influences the choice and consistent use of an application. Some of the attributes of ease of product use of a mobile
banking application that mainly affect customer loyalty are the ease of recognizing the application on the phone, clear and concise presentation of information, text legibility, and readability, and the effort exerted in the understanding of the various services presented within the application.

On the reliability of mobile banking services effect on customer loyalty among the United States International University-Africa graduate students it was noted that the various features linked to mobile banking services’ reliability affected their constant use of certain mobile banking applications. The consistency of the mobile banking application to function as expected, the availability of simple and easy to follow instructions and transaction functions, the application’s ability to allow completion of transactions, and the provision of privacy and security, were the highly ranked attributes that determined a user’s choice and consistent use of a specific mobile banking application.

The study concluded that there was significant relationship between speed of response and increased customer loyalty levels. The capacity of a mobile banking application to respond to customer requirements in a flexible and timely manner also greatly affect customer loyalty. It was concluded that the perceived ease of product use in mobile banking greatly affected the customers’ selection and continued use of the given application. Therefore, the ease of mobile banking application use is a critical determinant of customer loyalty. It was concluded that mobile banking services’ reliability affected customer loyalty in multiple ways and the element of trust among the customers influenced the degree of customer loyalty.

The study recommends that for the enhancement of the speed of response and customer loyalty, mobile banking applications should also be quick in resolving issues encountered during transactions and processing customer complaints. The study recommends the constant testing of the ease of mobile banking application used by institutions to ensure that the customers can deem them as simple to exploit or operate in search of the desired financial objectives. The project recommends the consideration of the provision of convenience in mobile banking application before the launch and during an application’s lifecycle. Institutions can offer their customers convenience by ensuring that the applications function as expected.
ACKNOWLEDGEMENT

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DEDICATION

I would like to dedicate this project to my wife, Diana Adeya who has supported and encouraged me throughout the writing of this project and my Masters Studies in general.
# TABLE OF CONTENTS

STUDENT’S DECLARATION ........................................................................................................... ii
COPYRIGHT ................................................................................................................................. iii
ABSTRACT ................................................................................................................................ iv
ACKNOWLEDGEMENT ................................................................................................................ vi
DEDICATION ............................................................................................................................... vii
TABLE OF CONTENTS ................................................................................................................ viii
LIST OF TABLES .......................................................................................................................... x
ABBREVIATIONS AND ACRONYMS ............................................................................................ xi

## CHAPTER ONE ...................................................................................................................... 1

1.0 INTRODUCTION ............................................................................................................... 1
1.1 Background of the Problem ............................................................................................ 1
1.2 Statement of the Problem ............................................................................................ 6
1.3 General Objective ......................................................................................................... 8
1.4 Specific Objectives ......................................................................................................... 8
1.5 Importance of the Study .............................................................................................. 8
1.6 Scope of the Study ........................................................................................................ 10
1.7 Definition of Terms ..................................................................................................... 11
1.8 Chapter Summary ......................................................................................................... 11

## CHAPTER TWO .................................................................................................................. 13

2.0 LITERATURE REVIEW ................................................................................................. 13
2.1 Introduction .................................................................................................................. 13
2.2 Speed of Response and Customer Loyalty ............................................................... 13
2.3 Ease of Product Use and Customer Loyalty .............................................................. 17
2.4 Mobile Banking Services’ Reliability and Customer Loyalty .................................. 22
2.5 Chapter Summary ......................................................................................................... 28

## CHAPTER THREE ................................................................................................................. 29

3.0 RESEARCH METHODOLOGY ....................................................................................... 29
3.1 Introduction .................................................................................................................. 29
3.2 Research Design .......................................................................................................... 29
LIST OF TABLES

Table 3.1: The Project’s Target Population Distribution………………………………………28
Table 3.2: Sample Size Distribution ...........................................................................29
Table 3.3: Reliability Analysis......................................................................................31
Table 4.1: Gender Category........................................................................................36
Table 4.2: Distribution of Respondent’s by Age .........................................................37
Table 4.3: Utilization of Mobile Banking Services ......................................................37
Table 4.4: Frequency of Utilization of Mobile Banking Services .........................38
Table 4.5: Period lapsed as mobile banking customer..............................................39
Table 4.6: Relationship between Speed of Response and Customer Loyalty ........41
Table 4.7: Correlations of Speed of Response and Customer Loyalty ...................42
Table 4.8: Model Summary of Speed of Response and Customer Loyalty ............43
Table 4.9: ANOVA of Speed of Response and Customer Loyalty .......................43
Table 4.10: Regression Coefficients of Speed of Response and Customer Loyalty ....44
Table 4.11: Statements Relating to Ease of Product Use and Customer Loyalty .......46
Table 4.12: Correlations of Ease of Product Use and Customer Loyalty ...............47
Table 4.13: Model Summary of Ease of Product Use and Customer Loyalty ..........48
Table 4.14: ANOVA of Ease of Product Use and Customer Loyalty ....................48
Table 4.15: Regression Coefficients of Ease of Product Use and Customer Loyalty ...49
Table 4.16: Statements Assessing Mobile Banking Services and Customer Loyalty ....51
Table 4.17: Pearson Correlations of Mobile Banking Services Reliability on Customer Loyalty .........................................................................................................................52
Table 4.18: Model Summary of Mobile Banking Services Reliability on Customer Loyalty 54
Table 4.19: ANOVA of Mobile Banking Services Reliability on Customer Loyalty ....54
Table 4.20: Coefficients of Mobile Banking Services Reliability on Customer Loyalty ...54
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATM</td>
<td>Automated Teller Machines</td>
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<tr>
<td>FSD</td>
<td>Financial Sector Deepening</td>
</tr>
<tr>
<td>HTML</td>
<td>Hypertext Markup Language</td>
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<tr>
<td>NACOSTI</td>
<td>National Commission for Science, Technology &amp; Innovation</td>
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<tr>
<td>SMS</td>
<td>Short Message Services</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for The Social Sciences</td>
</tr>
<tr>
<td>USIU</td>
<td>United States International University</td>
</tr>
<tr>
<td>WAP</td>
<td>Wireless Access Protocol</td>
</tr>
</tbody>
</table>
CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Problem

Technological development has brought about a mobile revolution that has significantly transformed the banking segment. As a result, the banking sector has turned out to be among the primary industries relying on the application of new technologies on consumer markets. The modern mobile revolution has not only provided a means of communication for people across the world, with the removal of geographical and time barriers but also offered basic financial access through phone-based money storage and transfer has significantly enhanced many lives. As a result, the revolution, marked by increased technological advancements, has brought about exceptionally high adoption rates of mobile banking services across the globe (KPMG, 2015).

The mobile banking revolution can be dated back to 1999 when United States banks introduced the use of Short Message Services (SMS) banking services (Rahmani, Tahvildari, Honarmand, Yousefi & Daghighi, 2012). Similarly, a report by KPMG (2015) associates the origin of mobile banking to the early developments of Wireless Access Protocol (WAP) and SMS offerings. Specifically, the earliest mobile banking activities were undertaken by the use of SMS, SMS banking. However, the introduction of WAP-enabled phones in 1999 brought about a means for the individuals to gain access to the web which later on created a channel for mobile banking activities. Other technologies which have paved the way for mobile banking services include the emergence of Personal Office Mobile Services and mobile money in 2000. Despite increased technological adoption, the period between 2000 and 2005 reported a low mobile banking penetration rate. These minimal adoption rates were linked to the availability of multiple constraints regarding mobile banking scope of functionality and the service remaining relatively marginal (KPMG, 2015). Nonetheless, in the modern world, almost all banks practice some aspect of mobile banking offering, either developed by a third-party specialist vendor or designed in-house.
In the modern world, globally, mobile technology has emerged as the main engine of economic growth and development. According to Bezerra, Bock and Chai (2015), mobile technology has stimulated enormous spending by the private sector, and the same has also led to Research and Development (R&D) in various sectors of the global economy. It has likewise transformed the daily lives of individuals (Bezerra et al., 2015). The dramatic improvements in the performance of mobile communication standards have propelled the technology to be the fastest adopted technology of all time. It is, however, vital to indicate that mobile technology is not just restricted to communication, it is also evident in the banking systems at the global level. Mobile banking systems enable users to access financial and banking services through the use of telecommunication gadgets. The services under this category include information and monetary transactions which have evolved from simple SMS banking to the complex process of access to investments, supports, and information as well as content services (Thomas, 2019). The services cover business sectors as well as individuals. Thomas (2019), posits that the geological regions covered by mobile banking and which have witnessed massive growth in mobile banking technology include, Asia, North America, Pacific Europe, Middle East and Africa (Thomas, 2019).

The advancement of technologies has generated a significant expansion in mobile banking penetration across the world. As a result, there has been a substantial increment in the number of global banking users worldwide. Surprisingly, KPMG (2015) reported that the mobile banking adoption rates are higher in developing countries like India and China, reaching 60-70% than in developed nations such as the United Kingdom, Canada, and the United States. Nonetheless, the developed nations including Sweden, South Korea, Singapore, the United States of America, and the United Kingdom have also reported a rise in mobile banking penetration. Khraim, Al-Shoubaki & Khraim (2011) claim that in diverse nations like Brazil and China, mobile banking penetration has contributed to the soaring of new users to over 100% within one year. According to Marraccini (2018), until recently, the most passionate users of financial applications and mobile banking services were identified as the millennial generation. However, 2018 reported a tipping point for mobile banking with the Baby Boomers and Generation Xers contributing to the overall global smartphone banking penetration to reach 52% (Marraccini, 2018). On the other hand, KPMG (2015)
identified the primary demographic for mobile banking internationally to be the mid-to-late-thirties.

The search for new digital experiences has brought about the rise of multiple trends within the mobile banking industry worldwide. For instance, 2019 has been associated with a growth of the integration of new technologies into the mobile banking field. The use of mobile banking applications in the withdrawal process in Automated Teller Machines (ATMs) is one of the new advances within the field that provides customers with convenient means of withdrawing money without requiring an ATM card. Other emerging trends include the dominance and prominence in voice banking as well as the growth of biometric authentication. With the increased technological advancements which serve as platforms for sophisticated hacker attacks, some banks are leaning towards the replacement of passwords with biometrics. Besides, biometric authentication is perceived to be a more convenient and secure process compared to password use. There has also been the rise in the employment of earlier identification verification in recent times as a measure for potential fraud minimization. This method utilizes ‘crowd sourced’ data for monitoring of transactions and digital identity tracking across various geographical locations and entities thus enabling the financial institutions to make improved real-time decisions for the eradication of fraudsters (Perera & Priyanath, 2018)

In Africa, mobile banking has been on the rise in the past decade (Rouse & Verhoef, 2016). The Africa continent has some of the fastest growing economies in the world, but most of these countries have limited formal banking systems. For that reason, a huge percentage of the populace experience greater financial exclusion. Furthermore, open and free transactions are significantly curtailed in these regions. However, mobile technology offers cheap and faster transactions and transfer of money and this has made the technology more popular in most parts of Africa. According to Rouse & Verhoef, (2016), the African appetite for mobile banking developed due to the technological revolution and explosion of mobile technology not just in the content but also globally (Rouse & Verhoef, 2016).

The emergence of mobile technology and its subsequent growth led to the advancement of mobile banking on the continent. It is important, however, to highlight that the mobile phone companies stood up to the challenge and addressed the growing demand for mobile banking
services. Some of the challenges that the companies had to contend with include the need to
to address the peculiar geographies of inaccessibility and remoteness (Rouse & Verhoef, 2016).
The companies in collaboration with banks developed strategies of financial inclusion that
would ensure that they capture a diverse market population. In South Africa for example,
strategies for financial inclusions were developed by the inherent sophisticated financial
systems which affected the unbanked demand for the mobile money products (Rouse &
Verhoef, 2016). The same applies to M-Pesa, another mobile banking service which has
witnessed massive success in East Africa and particularly in Kenya. M-Pesa remains the
most successful and the fastest growing mobile money service product in Africa. The service
has already delivered myriads innovations in mobile money products and services. But it is
also important to note that one of the challenges that hindered the growth of mobile banking
in most African countries is regulatory rigidity. The bureaucracy and regulatory rigidity
affected the take-up of mobile money service in some African markets. However, in overall
mobile communications introduced innovative technologies that helped extend mobile
banking into remote and inaccessible regions of the content (Rouse & Verhoef, 2016).
According to Rouse and Verhoef (2016), the rapid expansion of mobile money service in the
African markets has stimulated entrepreneurial activities. The same has led to the creation of
jobs, and it serves as a leading contributor to state revenue in cases where liberal market
economics permit (Rouse & Verhoef, 2016).

In Kenya, just as other parts of the world traditional banking operated from brick and mortar
premises. It then means that the consumers have to visit the banking halls physically.
Furthermore, all the banking activities were primarily done on paper and documentation was
at the center of traditional banking. But this has changed with the advent of Mobile
technology in that consumers do not have to visit the banks to get served (Bezerra et al.,
2015). Customers can access banking services at the comfort of their homes or workplaces
on their mobile phones or through the internet. Mobile technology has completely changed
the concept of banking in Kenya as we have always known it. The question that comes to the
mind when evaluating these dynamics is, what do these changes mean to customer loyalty?
What then are the implications of mobile banking on customer loyalty? It then means that the
measures that the banks had put in place to guarantee consumer loyalty must be reviewed to
factor in the aspect of mobile banking. For example, queue management in the bank and the
efficiency of teller operations will not lead to consumer loyalty, especially for consumers who mainly use mobile banking (Bezerra et al., 2015). The banks must then understand the dynamics that mobile banking has brought into the picture. Furthermore, consumer loyalty, in this case, will be determined by a wide range of variables considering the complexity of the market as brought about by the disruptive nature of mobile technology. The ubiquitous nature of information in the digital era has also led to the creation of a more informed customer base and this is a huge challenge when it comes to consumer loyalty. Customers have enough information at their fingertips, thanks to mobile technology and hence they can make comparisons and decide independently hence the need to understand the complexity of these dynamics when cultivating customer loyalty.

According to data gathered by FinAccess between 2009 and 2016, Kenyan women, men, and young adults portrayed dissimilar mobile banking adoption rates during the seven-year period. The study revealed that approximately 76% of Kenya’s adult male population reported employing mobile banking services in a diverse range of transactional activities. Besides, of the 76% of the male mobile banking users, 61% asserted that they used the services for saving purposes whereas 10-15% declared that they used the services for business needs like the receipt and making of payments and wages (FinAccess, 2016). On the other hand, compared to the male users, the female mobile banking users were found to be relatively less active, with 68% reporting usage of the services. Nevertheless, the study revealed that despite less active users, the female population had a higher probability of maintaining consistency of using the mobile money services every month in comparison to the male users. Finally, the research also pinpointed that the young adults had the same adoption rate as the female population but tended to be the fastest adopters of new mobile banking products (FinAccess, 2016).

Mobile banking adoption by students is affected by several constructs, including the perceived ease of adoption, intention to use, social influence, perceived ease of use, and the perceived value (Govender & Sihlali, 2014). In the Kenyan context, Mwaniki (2017) revealed that the youth are the leading users of mobile banking in Kenya. Specifically, a report by Financial Sector Deepening Kenya, FSD (2016), uncovered that approximately half of the Kenyan population aged between 18 and 35 years used mobile banking, contributing to
the growth of financial inclusion in the country to reach 82.6 percent, representing a 7.5 rise from 2013. Nonetheless, no studies have been undertaken in exploration of the effects of mobile banking on customer loyalty among the Kenyan students. This project, therefore, seeks to determine the effects of mobile banking on customer loyalty among the Kenyan students with a specific focus on USIU-Africa graduate students.

As reported earlier, there has been a rise in the mobile banking adoption rates on a global scale, especially among the developing nations. Nonetheless, most studies undertaken on the subject matter have found a correlation between mobile banking practices and customer satisfaction (Jailani et al., 2015; Al-Msallam, 2015; Behera, 2018; Chiguvi & Guruwo, 2017; Liu & Wang, 2017). Despite that most scholars have focused on the study of customer satisfaction; little has been done in the exploration of the effects of mobile banking services on customer loyalty. Regarding demographics, most researches, especially in the Kenyan context, have focused on the prevalence of mobile banking adoption rates within the country’s general population (FSD, 2016; Mwaniki, 2017), without a special focus on certain age groups. As such, there are several unresolved issues linked to the study of the subject matter, including the effects of mobile banking services on customer loyalty as well as the impact of the two variables on graduate students. Therefore, there is a need for a comprehensive study that examines the two variables, the effects of mobile banking services and customer loyalty, in the context of graduate students, specifically the USIU-Africa graduate students. As such, the current research seeks to answer the question; what is the effect of mobile banking on customer loyalty among USIU-Africa graduate students?

1.2 Statement of the Problem

Mobile Banking in Kenya commonly known as M-Banking is the provision of banking services through the help of mobile telecommunication devices (Oloo & Macharia, 2014). The scope of mobile banking in Kenya include facilities to conduct bank transactions such as cash transfers, loan applications, savings and overdraft request among others. Research studies conducted by the Kenya Bankers Association center shows that Mobile Banking has been on the rise due to the increased invention and innovation (Oloo & Macharia, 2014). Bitange Ndemo also argues that government policies which support technological adoption and the spread of mobile phones has hugely led to the growth and development of mobile
banking. The development has created the countrywide speed of responsiveness, the convenience of accessibility and customer attitude (Ndemo, 2016). According to Oloo and Macharia (2014), the growth in Mobile Banking in Kenya has been attributed to the emerging wave of information-driven economies. It then shows that the banking sector in Kenya finds itself unable to resist the technological indulgence. These new developments have led to laying down of a strong base for low-cost banking.

The previous studies have concentrated on issues such as the effect of mobile Banking on customer satisfaction. Furthermore, most studies focus on the relationship between customer satisfaction and mobile banking adoption. For instance, at the global level, Saleem and Rashid (2011) studied the relationship between customer satisfaction and mobile banking in Pakistan and the results showed that Mobile banking promotes customer satisfaction (Saleem & Rashid, 2011). Machogu and Okiko (2015), conducted research on the complexities and lasting effects mobile banking has on customer satisfaction in Rwanda. Machogu and Okiko (2015) argue that technological innovations have destroyed the legal, geographical and industrial barriers in the banking, and this leads to the understanding of the complex nature of mobile banking and how it has transformed banking in Rwanda. On the other hand, Kabiru (2012) conducted a research on the factors affecting E-banking services in Kenya, and she brought the inherent factors that affect mobile banking in Kenya and some of the issues of interest according to this research included speed, customer attitude accessibility, technological infrastructure and interconnectivity (Kabiru, 2012).

Considering these research studies, it emerges that while a lot may have been done on how mobile banking impacts customer satisfaction, little has been done on how the same technology drives customer loyalty which involves repeat purchasing and not switching to the competition. This research aims to fill the stated gap with analysis and study of three fundamental features and variables of mobile banking which include; convenience of accessibility, speed of response and customer attitude.

This study seeks to use USIU-Africa graduate students as the base of the study and analyze how the three variables affect customer loyalty. In this context, customer loyalty is viewed as the extent in which customers are devoted to a company’s products or services and how strong is their tendency to select the brand over that of the competition. It then means that
loyal customers tend to purchase an organization’s product exclusively and they are often not willing to switch their preference over a competitive firm or organization (Obeng & Peter, 2017). The study sought to determine the relationship between mobile banking reliability, ease of product use, and speed of responses of mobile banking and customer loyalty at the organizational level.

1.3 General Objective

To examine the effects of mobile banking on customer loyalty among USIU-Africa graduate students.

1.4 Specific Objectives

1.4.1 To examine the effect of speed of response of mobile banking on customer loyalty among the United States International University-Africa graduate students.

1.4.2 To determine the effect of ease of product use of mobile banking on customer loyalty among the United States International University-Africa graduate students.

1.4.3 To examine how reliability of mobile banking services affect customer loyalty among the United States International University-Africa graduate students.

1.5 Importance of the Study

The contents of this research aim to add to the growing literature on mobile banking and its impact on customer loyalty. Besides, the study will make a useful contribution to the understanding of mobile banking by covering a research gap regarding the subject matter by focusing its effects on customer loyalty. In addition to augmenting the theoretical aspect of mobile banking, this study will be of value to various stakeholders, including academicians and researchers, marketers, and the banking industry.

1.5.1 Academicians and Researchers

For the academicians and researchers, the project will augment the knowledge base in the banking field by adding on the existing literature on mobile banking and customer loyalty. The project will also bring to the fore factors and variables that affect consumer loyalty in the mobile banking sector. It provides evidence of a correlation between the implementation of
mobile banking and consumer loyalty in addition to highlighting areas for future research based on the existing gaps.
1.5.2 Marketers
For the marketers, the project helps in the further exploration of the customer loyalty aspect by focusing on different customer loyalty models with a specific focus on the mobile banking sector. The project also discusses some of the factors that would enable financial institutions to enhance customer experiences, for instance, through modification of mobile banking user design and interface for increased customer retention and acquisition. Furthermore, the project also highlights areas for future research based on the existing gaps.

1.5.3 The Banking Industry
The banking industry in Kenya has witnessed massive technological disruption, and mobile banking has been at the core of this disruption. Consequently, an understanding of how mobile banking affects customer loyalty is invaluable. The knowledge obtained from this project can help banks optimize their product offerings and innovations for improved customer loyalty thus enabling banking institutions to not only survive the disruptions in the current market but also remain successful in the dynamic market landscape.

1.6 Scope of the Study
This project focused on providing relevant information on mobile banking and their impacts on the Kenyan students’ customer loyalty, with a specific focus on the USIU-Africa graduate students. The research was conducted in 2019 between May 11th to 3rd August and had a target population of 2,068 respondents of graduate students from USIU Africa. In the course of this project, several challenges were encountered, especially regarding the accuracy of the obtained data due to the respondents’ subjectivity and tendency to be biased. On the other hand, the reliance on data from USIU-Africa graduate limits the generalizability of the obtained information.
1.7 Definition of Terms

1.7.1 Internet Banking

Internet banking entails the employment of the Internet and other electronic means in conducting of financial transactions. Furthermore, Internet banking has been explained as a system that allows customers and businesses to gain access to their accounts, acquire bank account information, pay bills, and other banking related services by use of the Internet (Mukhtar, 2015).

1.7.2 Mobile Banking

Mobile Banking is a banking service that enables customers to conduct financial transactions remotely using mobile phones. According to Oloo and Macharia (2014) mobile banking is a service provision that allows customers to conduct remote transactions through an automated mobile phone platform (Oloo & Macharia, 2014).

1.7.3 Customer Loyalty

Bitange Ndemo (2016) posits that customer loyalty is the extent to which customers are devoted and committed to a company’s products or services. It is the measure of how strong their tendency is to choose one brand over the competition. The three variables relevant to customer loyalty in this case include reliability, ease of product use, and speed of response.

1.7.4 Customer Satisfaction

Customer satisfaction denotes the degree at which an entity meets or exceeds customer expectations based on the facilitation of services and goods (Behera, 2018).

1.8 Chapter Summary

The chapter is a presentation of background information on the relationship between consumer loyalty and mobile banking strategies. The background information takes a funnel approach where illustrations begin from the global perspectives, moving to Africa point of view and finally to the Kenyan context and then narrowing down to a case of the United States International University-Africa graduate students. The section also highlights problem statement, objectives, scope and significance of the study. However, chapter two will be based on review of literature guided by the research objectives. Chapter three on the other
hand is the methodology section and highlights the various methods and procedures that the researcher will use to conduct the research process. Chapter four is the presentation of results and findings. Finally, chapter five is the discussion section and is also guided by the specific objectives. The culmination of the research process entails conclusion of the findings and the suitable recommendations.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter employs an in-depth and systematic analysis of secondary data sources regarding the effects of mobile banking on customer loyalty with a specific emphasis on the three objectives discussed in the previous chapter. This segment aims at presenting adequate information on the subject matter alongside pinpointing any research gaps within the field. It also establishes the required methodological focus and theoretical framework to guide the project.

2.2 Speed of Response and Customer Loyalty

2.2.1 Speed of Response as a Component of Service Quality

As a component of service quality, responsiveness denotes the capacity to respond to customer requirements in a flexible and timely manner. In the modern competitive business landscape, the adoption of emerging technologies and agility in responding to change in customers’ needs and preferences is fundamental in the attainment of highly competitive levels (Iberahim, Taufik & Saharuddin, 2016). According to Malviya (2015), mobile banking responsiveness entails the provision of prompt responses to the customers’ queries, quick correction of any mistakes, and fast resolving of any issues linked to mobile banking. Concerning promptness, responsiveness is viewed as the time that a bank employee spends before providing the service requested by the customer.

These services consist bill settlements, portfolio management, stock trading, funds transfer to a third-party account, transaction history retrieval, and account balance retrieval which can be accessed through a mobile phone or a desktop (Mwendwa, Makokha & Namusonge, 2016). Regarding the correction of mistakes, responsiveness can be viewed as a bank’s capacity to modify a service whenever issues arise. In mobile banking, Sathiyavany and Shivany (2018) describe the concept as also measured based on the level of assistance by a user during their search or when interacting with the provided mobile banking services. Besides, banks that devote significant time and effort in helping their customers to manage
their finances properly are linked to high customer satisfaction levels and the same can translate to customer loyalty. As such, for increased profitability, financial institutions should assist their customers in understanding their financial conditions and financial progress as well as the nature of the transactions that they undertake. For instance, they could design a mobile banking application with an in-built capacity to carry out financial analysis (Mwendwa et al., 2016). Nonetheless, the promptness of a bank’s site is also affected the website’s design, particularly the ease of interaction, which positively impacts a customer’s online trust towards a brand.

The nature and level of customer participation and interactivity with a mobile banking application or website significantly affects a user’s quality of service perception as well as their satisfaction intensities. Regarding human-computer interactions, the presence of interactive components like user navigation features positively impacts on the customer’s perceived information quality (Hayikader et al., 2016). Besides, the provision of a highly detailed and up-to-date information corresponding to the current customer needs also affects the responsiveness levels in mobile banking.

Furthermore, in the search for enhancement of site responsiveness, some banks have adopted responsive design (Mwendwa et al., 2016). This concept is built upon ensuring that all bank’s web content is accessible and readable across multiple devices. It also saves on time and costs through avoidance of the management of several sites by a bank. As such, responsive web design comprises of the creation of a flexible web page with a layout that automatically changes based on the capabilities and size of a device hence allowing users to easily deposit checks, make money transfers, and monitor their account balances on different gadgets.

2.2.2 Mobile Banking Interface Usability and Speed of Response

Mobile interface design and usability are among the core factors mobile banking application’s speed of response. In mobile banking applications and websites, interface design addresses multiple aspects, which are generally divided into four classifications (Klaassen, 2017). These categories comprise of experience design, graphic design, navigation, and information design. Experience design entails the overall user experience alongside the other three classifications. Navigation design, on the other hand, focuses on the formulation of mechanisms for the facilitation of interaction with the interface whereas the
graphic design category is attributed to the visual presentation (Sangar & Rastari, 2015). The last category, the information design, is linked to the identification and grouping content items. Despite that the four categories significantly affect mobile banking application’s or website’s responsiveness, the experience design has the most impact on the speed and accuracy of the mobile banking application as well as substantially affects user experiences, satisfaction, and loyalty.

The experience design addresses the general impression that users gain from a mobile banking service or website. In addition to augmenting the visual elements of a website or an application, the experience design also ensures the fast loading of pages and the ease of interactivity between the user and the interface (Klaassen, 2017). For mobile devices with lower connection speeds compared to standard personal computers, the experience design interface ensures the modification of a site’s or a mobile banking application’s content and design for fast responsiveness (Sangar & Rastari, 2015).

Responsive web design and interface, according to Hussian and Mkpojiogu (2015), not only helps in solving user experience problems but also significantly a site’s responsiveness. This aspect permits for increased responsiveness to users’ environment and behavior regardless of a device’s orientation, screen resolution, and size. Subsequently, responsive web design and interface allow a site to adapt itself to any screen width or device by the presentation of flexible media queries, images, and grid layout while responding and recognizing to mobile features such as device orientation and geo-location (Doyle, 2011). As a result, a mobile banking user can obtain relevant feedback and information fast and at a speed that matches a user utilizing the banking website for the same information or feedback.

Besides boosting mobile banking services responsiveness, mobile interface usability also enhances user experiences, which substantially affect customer loyalty. Mobile interface usability augments user experiences by enabling users to realize specified goals with satisfaction, efficiency, and effectiveness (Hussian & Mkpojiogu, 2015). Moreover, mobile interface usability allows for the users’ involvement and interactivity with the system, product offerings, and services hence affecting the affective, experiential, and emotional aspects, which further amplify the user’s satisfaction and loyalty (Hussian & Mkpojiogu,
In addition to ease of interactivity and effective mobile interfaces, regarding responsiveness, the customers also demand for fast processing of their complaints.

2.2.3 Mobile Banking Complaint Processing

Proper and respectful treatment of the customer, both in the offline and online contexts, is a primary determinant of the customer loyalty levels in all industries. In the banking industry, handling of customer complaints promptly not only affects the perceived responsiveness speed but also impacts on the customers’ service quality perception. Besides, how the customers’ needs are met and the way that their problems are solved affects their long-term view of the institution, which further impacts on their loyalty levels to a particular banking institution.

A comprehensive understanding of the customer affects a banking institution’s capacity to help process customer complaints and solve their problems. For the realization of a clear understanding of the customers, the banking institution is obligated to being aware of the customer’s demographics attributes like gender, education levels, occupation, and age (Njeri, 2013). Besides, the institution can gain this awareness by collecting customer data from multiple online platforms for the establishment of customer relationship management. Moreover, social media platforms expedite customer service functions like handling customer complaints, tracking orders, and answers customers’ queries, which further strengthens customer loyalty (Kotler & Armstrong, 2012).

A study by Salim (2016) discovered that mobile banking responsiveness is impacted by the perceived convenience of services, speed of problem-solving, and promptness of services. Regarding complaint processing, the study discovered that competence, entailing the possession of knowledge and capability to solve problems, significantly affected the customers’ perception of service quality levels and loyalty levels. Salim (2016) also stated that access played a primary role in the customers’ perceptions regarding a mobile banking application’s speed of response. In the mobile banking context, access entails account access without any constraints, regardless of the user’s geographical location, email access, phone access, ATM access, and availability of help at all times (Salim, 2016).
Communication also plays a significant role in the perceived complaint processing speed and speed of response. Communication, in the mobile banking responsiveness context, means availability of transaction status, provision of relevant information to the customer, and provision of clear answers to customer queries (Njeri, 2013). Besides, increased collaboration between the mobile banking services and customers in solving the customers’ problems and complaints also contributes to the customers’ outlook on the speed of complaint processing and responsiveness.

Furthermore, in the mobile banking field, a financial institution’s internal processes’ power to accurately process the customers’ complaints and queries also affect their perceptions of an application’s or site’s speed of response (Salim, 2016). The speed of complaint processing is impacted by the clarity of the processes’ articulation and composition. As such, the availability of clear processes dedicated to the receipt and addressing of customer complaints considerably affects the degree of service quality and customer loyalty levels (Salim, 2016).

2.3 Ease of Product Use and Customer Loyalty

2.3.1 The Concept of Ease of Product Use in Mobile Banking

The perceived ease of use and convenience is among the primary elements that drive the delivery and development of mobile banking services as well as a critical component of determining the success of an online banking application or website (Sangar & Rastari, 2015). The concept is related to the availability of an easy-to-remember layout and content, terms and conditions, understandable and concise content, and ease of navigation (Sangar & Rastari, 2015). Ease of use also refers to the extent to which a customer deems a site or an application as simple to exploit or operate in search of the desired objective or result. For an online banking application, not only should it be simple to run but it should also be easy to learn and understand its function. Adoption of a mobile banking application is also significantly reliant on the customers’ acceptance levels based on the application’s ease of use. According to Abbasi, Kamran and Akhtar (2017), the lesser the complexity or difficulty level of an online application, the higher the likelihood of its adoption. However, an application’s ease of use is determined by many factors.
A customer’s perceived ease of use can be measured based on the required effort to operate, learn, and understand an application or a banking website. At times, customers judge an application’s ease of use based on the mental effort required to use it (Sangar & Rastari, 2015). Besides, not only should the customers be able to realize their financial objectives or goals but also accomplish them effectively. The minimum effort is exerted in the navigation and use of sites with proper layout and aesthetic design. As such, there is a need for banks to test the accessibility of their websites by the employment of user accessibility trials and automated tools. They should also evaluate their site’s information presentation, data organization, information retrieval, and knowledge elicitation capabilities (Sangar & Rastari, 2015). The effort applied in finding the intended banking service can also be minimized through the integration of personalization in an application or a website. Personalization represents the degree of offering customized information or services that directly satisfies the unique customer preferences and expectations. On the other hand, the provided content serves as the core of each application and website (Sangar & Rastari, 2015). For ease of readability, a banking application should consider aspects like legibility, by having a proper contrast between the background and text alongside having the readable font, and ease of comprehension.

### 2.3.2 Interface and Interaction Design as Measures of Perceived Ease of Product Use

The nature of the user interface and the interaction design determine an application’s perceived ease of use. The correlation between interface design and interaction design helps ensure that there exists an interaction between the user and the interface. In designing applications’ interfaces, there is a need for focusing on designing for the user to access relevant digital information (Ismail et al., 2016). The developer should also ensure that there is a link between the application and the user. It also incorporates the semantic needs, quality experience, ergonomics, perception, and cognition factors into the design process. This process leads to the development of significant user experience (Ismail et al., 2016).

The accessibility and site navigation factors also affect a financial institution site’s perceived ease of use. Regarding navigation, customers search for efficiency by examining the number of actions, such as the number of clicks, required to gain accessibility to a page of interest. Findability of the relevant content by a user also affects a site’s perceived ease of use.
Findability involves the availability of sufficient features like navigation buttons, links, and search boxes that assist in getting a hold of relevant information. The information architecture, marked by how well web pages are organized and categorized, also has an impact on a site’s ease of navigation. On the other hand, the accessibility function entails the delivery of information as well as the ease of access to online banking services by all people regardless of the difference in demographic factors. For ensuring accessibility to all customers, including the special needs users, banks ought to test multiple factors including the site’s color choice. The selected color should not hinder customers with poor vision or color blindness from undertaking online transactions. The application of a semantic HTML markup is also significant in ensuring ease of accessibility of an application’s information. Finally, cross-platform features, such as ensuring a website runs in all browsers, also ought to be considered before launching a mobile banking application.

The increased use of multiple devices and the rapid development of technology has prompted the consideration of compatibility in measuring a mobile banking application’s or site’s ease of use. In an attempt to remain up-to-date, most smartphone users constantly upgrade their device’s operating systems (Sangar & Rastari, 2015). Therefore, there is a need for financial institutions to ensure that their applications are compatible with various software programs. Moreover, most users utilize different devices including tablets, personal computers, and mobile phones as well as distinct platforms, like iOS and Android, in gaining access to their financial data. The banks, as such, ought to ensure that their online banking applications and websites can operate on various platforms alongside synching their customer information across the numerous devices.

The presentation of clear and concise content boosts an application’s effectiveness and perceived ease of use. For a mobile app, it is common knowledge to consider simplification of the provided content. However, the presented information should be adequate in supporting the customer goals for withholding of necessary information can result in decreased conversion rates. For instance, the application should have sufficient and complete information to enable buyers to make purchases. The provided content should also be tailored to be easily accessible by mobile users. Regarding clarity, the application should contain a few fields to input data, buttons, and pages (Ismail et al., 2016). The application should also
present a simple approach to completing any financial process or action and focus on making the experience as natural as possible. In doing so, the site or application also boosts the ease of remembering the action steps.

Concerning the memorizing, the mobile banking application should require minimum effort by the user in mastering the different functionalities. As such, the concept entails the user’s ability to retain knowledge on how to use an application effectively (Jailani et al., 2015). Most applications may not be utilized frequently and might only be used sporadically at times. Therefore, it is essential for the users to recall how to use the application without requiring a relearning process after every period of inactivity.

Regarding the layout, the orientation and organization of content play a significant role in the site’s or application’s optimal usability. An excellent mobile banking application ought to have a proper landscape orientation (Jailani et al., 2015). The application should easily accommodate both landscape and portrait orientations without loss of its aesthetic value and appearance. A site’s layout should also consider content prioritization. As such, the users ought to be able to get most of the presented information, if not all, within their screen’s layout. Unnecessary rolling, especially side-scrolling, in search of information should be avoided for the action leads to the hiding of valuable information.

### 2.3.3 User Experiences and Perceived Ease of Product Use

The ability of an application to meet the customers’ expectations, namely utility, plays a major role in determining its ease of use. If the provided service fails to satisfy the customers’ demands and wants, then the customer loyalty decreases significantly (Sangar & Rastari, 2015). Based on utility, three elements are taken into account in the assessment of usability. These factors include the user, the intended outcome, and the context of use. Regarding the user, there is a need to consider the application’s end user during the development procedure (Ismail et al., 2016). For instance, with the eradication of the need for a mouse and keyboard and the adoption of alternative input methods, some users may experience some hardships in the usage of these approaches due to physical limitations. For Tetraplegic users with controlled mobility in their upper extremities, the utilization of a touch
screen may result in high error rates. Another aspect which ought to be deliberated before the design of an application is the user’s previous experience (Sangar & Rastari, 2015).

For experts in a given task, the use of shortcut keys in the undertaking of any activity tends to be the most utilized method of data entry. Regarding novice users, they lean towards the utilization of an intuitive interface marked with ease of navigation and finding of what they need. Concerning the intended outcome, the banking application can be equipped with multiple features to allow the user to accomplish numerous tasks with a single application. However, the application development team should also be aware of the decrease of usability and increment of the application’s complexity, which lowers the capacity of the user’s attainment of their initial goal, linked to extra functionality. Lastly, the context of use factor incorporates the idea of the environment in which the user will utilize the application into its design. The feature also includes other attributes like activities that the user may be attempting to accomplish while using the app and their interactions with other objects or people (Jailani et al., 2015).

An application’s capability to monitor and pinpoint the errors made by the users aids in improving its efficiency and effectiveness. A reliable mobile banking application evaluates the mistakes made by users in their interaction with the application (Ismail et al., 2016). This process permits the developers to pinpoint the most problematic areas for users and boost the functionality of these areas in the ensuing development iterations. The feature also aids in the reflection of how well the users can finish the desired tasks without mistakes. Besides, the users’ error rate can also be employed in the extrapolation of a system’s simplicity.

Cognitive load denotes the quantity of cognitive processing needed by the user to utilize an application. Contrary to the traditional perception that the user undertakes only a single task in an application, modern users utilize the applications while carrying out other functions. Moreover, in a mobile context, whenever a user uses an application, the action impacts on their ability to operate the mobile app and move (Hayikader et al., 2016). As a result, there is a need for the consideration of the two dimensions in the assessment of a mobile application’s usability.

Finally, an application’s ease of use can be measured based on the level of human-computer interaction. The concept refers to the interface’s design and its capability to simplify and
facilitate user interaction with the application (Jailani et al., 2015). An application can attain human-computer interaction by adapting several attributes. These characteristics include the application’s allowance of one-handed text entry alongside other data entry methods, the ability to utilize voice recognition and receive voice input, the diversification and maximization of the utilization of the stylus pen on a touch screen. The human-computer interaction can also be achieved by an application’s use of multiple human gestures like scroll and swipe as well as the application of finger gestures to either zoom out or in and the provision of a virtual keyboard for data entry.

Nevertheless, there is a need to point out that people have diverse perceptions concerning usefulness or the level of involvement in running an application that they perceive as easy. The people’s needs also differ significantly thus affecting their perception for usefulness. Other factors such as cognitive capacity and literacy levels impact on users’ consideration of an application as easy to use. Moreover, the customers’ expectations may also interfere with their ability to determine the effort required to obtain the desired outcome from a mobile banking application. On the other hand, focusing on the exerted mental efforts in deciding an application’s level of ease of use may provide inaccurate results for applications requiring the least mental effort may contain many difficulties to the user (Hayikader et al., 2016). As such, in the evaluation of an application’s perceived ease of use, there is a need for application of objective criteria in measuring the complexity as well as an in-depth analysis of the obtained findings.

2.4 Mobile Banking Services’ Reliability and Customer Loyalty

2.4.1 Reliability in Mobile Banking

Reliability is perceived as a primary determinant of service quality in the banking industry (Liu & Wang, 2017). Multiple studies have found reliability as a significant element in not only mobile banking but also in online banking in general (Khurana, 2009; Ramseook-Munhurrun & Naidoo, 2011; Shamdasani et al., 2008). Generally, online banking reliability has been described as the accurate deliverance of banking information and services through the use of websites and applications as well as the proper functionality of the online banking sites and applications (Foon & Fah, 2011). Various dimensions, therefore, can be utilized in
the measurements of mobile application reliability. Some of these measures include the application’s functionality, accuracy and relevancy of information provided, security, confidentiality, availability of desirable functions, durability, and its ability to conform to the customers’ expectations.

In the Kenyan context, a study by Gakere (2016) uncovered that the mobile banking user’s population understanding of reliability was founded on the perceived convenience and dependability levels. Regarding convenience, the study’s findings discovered that the speed and ease of bill payment services affected the correspondents’ outlook on the mobile banking services reliability as well as the level of loyalty to the banking institution. The ease to follow mobile banking instructions, provision of satisfactory feedback during mobile banking transactions, mobile banking personalization, and the aspect of the adequacy of balance inquiry are also among the factors that affect mobile banking reliability in the Kenyan landscape. Furthermore, the research also found that mobile money transfer functions reliability had a significant effect on customer loyalty. Reliability in mobile money transfer services entails the presence of features that support quick transfer services and dependability and the availability of an element of trust during the participants’ transactions process (Gakere, 2016).

2.4.2 Mobile Banking Credibility

Perceived credibility, a construct formed based on a customer’s reliability perception, represents a significant construct that affects customer loyalty. The concept refers to the belief that the promise presented by a financial institution can be depended upon at all times, including under unforeseen situations. Mir, Ara and Dar (2013) suggest that perceived credibility has a substantial impact on the acceptance levels of provided services and builds trust in a brand. Some of the primary dimensions that drive credibility are privacy and security. In the context of mobile banking, the concept represents the customers’ trust on a banking application’s or website’s safety levels which determine their ability to undertake online transactions (Bhatt & Bhatt, 2016). The security concern, therefore, has an impact on the users’ attitudes towards the adoption of mobile banking services which is further linked to customer loyalty.
The creation of a secure mobile banking framework has been associated with increased perceived reliability which further translates to a rise in customer loyalty (Ahamad et al., 2014). Besides, with the continued technological advancement and the increment in the use of online banking services, privacy and security measures have become primary determinants of customer satisfaction and loyalty (Mwendwa et al., 2016). The emerging technologies and the continued advancement of the Internet offer a platform for hackers to carry out different cyber-attacks as well as a means of developing sophisticated cyber threats. In the modern world, there are numerous ways of compromising customers’ bank information by expert criminal hackers. They include corrupting the quality of an information system’s performance, data degradation, spreading of malicious viruses, and modification of a bank’s online information system (Mwendwa et al., 2016). As such, for banks seeking to gain customer loyalty, there is a need for the creation of a robust, consistent, and safe online environment from where the customers can carry out transactions and access different banking services. Moreover, the security concept also encompasses the encryption of shared data as well as ensuring the privacy of payment and credit information (Sathiyavany & Shivany, 2018).

On the other hand, the rise of internet banking, particularly mobile banking, has prompted the emergence of new security vulnerabilities. For example, mobile banking supports account aggregation services whereby the customers can manage multiple accounts by use of a single banking application. Once the users log on to the mobile banking applications or websites that promote account aggregation, they are permitted to not only access their accounts but also undertake financial transactions, and activities like cash withdraw and transfer (Mwendwa et al., 2016). Besides, logging on the account aggregation supporting application automatically opens the other accounts. As a result, despite that this service offers convenience to the customers, it can also be utilized by a hacker to monitor all transactions and launch an attack on all the user’s accounts leading to significant financial losses.

Mobile banking systems are exposed to multiple potential security breaches that may result in the loss or modification of customers’ personal data. The hackers use different techniques to gain unauthorized access to confidential financial information (Hayikader et al., 2016). For instance, they use phishing by masquerading as a trustworthy source through the creation of a
forged website, quick emails, or messages to gain access to personal data like credit card information. The use of malware, precisely spyware, is also common in the mobile banking segment. This approach entails the creation of a malicious program appearing as a legitimate software aimed at transmitting and capturing private data such as personal identification numbers, without the users’ awareness (Hayikader, Hadi & Ibrahim, 2016). Furthermore, upon acquiring the customers’ information like driver’s license number and bank information, some of the attackers impersonate the person, the process is referred to as identity theft. Other methods used by hackers include employment of worms, viruses, trojan horses, spyware, pharming, and keystroke logging. The increment of these cyber-attacks has called for the application of security measures across all phases of online banking.

For security efficiency and an increment in mobile banking reliability, privacy should be ensured from the login and registration phase within a site or a mobile banking application. Despite that that most banks have a standard registration phase, they differ significantly in the login phase based on their security levels. This phase is apportioned into two security levels, with the first level entailing the utilization of a transaction password and user ID. On the other hand, the second level comprises the use of an advanced program such as e-token, security questions, biometric systems, QR code, grid authority card, or a one-time password (Sathiyavany & Shivany, 2018). The transaction password and user ID require the use of a unique password and id for user verification. The one-time password is used in combination with the conventional id and password for personal identification before gaining access to banking information and services. The technique authenticates entry into a mobile banking application and online transaction through downloading a unique password-generation program, which formulates a new password every minute, to a customer’s smartphone. Another security measure that provides a one-time PIN is the e-token strategy. This approach offers a customer with an additional security feature before gaining access to internet banking services by offering a user a one-time login PIN, which remains valid for a single session. The QR code, on the other hand, represents a Quick Response Protocol, a secure authentication system that can be used on untrusted devices and for encrypted data. The system comprises a two-factor authentication through a combination of a camera-equipped mobile phone and a password, with the phone functioning as an authentication token (Hayikader, Hadi & Ibrahim, 2016). Nevertheless, financial institutions are primarily entitled
to establishing the required authentication levels for the protection of the customers’ information.

2.4.3 Confidentiality Aspect in Mobile Banking

The enhancement of confidentiality levels in bank calls for the implementation of authentication measures. Authentication encompasses an organization’s capacity to prove the identity of their users hence deterring unauthorized access to confidential or sensitive organizational information (Jawanjal & Joshi, 2015). The concept also comprises authorization by carrying out verification processes for any information provided by the user. Authorization aids in the limiting of the operations or actions carried out by authenticated individuals within a networked environment. On the other hand, some banks employ audits as a data protection measure whereas audits help in the pinpointing of a program or a person that undertakes specific actions and the identification of information on access of specific resources utilizing certain privileges. Furthermore, confidentiality can also be established through prevention of the alteration or modification of data in storage or during transmission (Jawanjal & Joshi, 2015). For advanced maintenance of integrity, financial institutions should ensure that the data being conveyed through a transmission medium reaches its destination without any reordering of parts, deletions, additions, or modifications. However, most customers have inadequate awareness regarding the availability of various cybersecurity threats that affect online banking service users as well as the in-built security measures that can protect their personal data.

In addition to protecting customer financial and personal information, banks are also entitled to informing their customers of data protection measures that can prevent confidential data loss and modification. The banks ought to offer their customers with awareness on the need for the maintenance and installation of up-to-date security programs. The financial institutions should also educate their customers on ways of distinguishing between phishing and real emails from the bank. For instance, most banks currently incorporate the customer’s name on messages and notifications thus offering a manner of pinpointing an authentic message (Al Zaabi & Tubaishat, 2015). Moreover, banks that secure their applications and websites motivate and encourage their customers to use them for transactions which further translates to the creation of sustainable online relationships. Besides, the customers’ security
perception and respect of privacy offered by a website or a mobile banking application serve as critical determinants of online trust. Sathiyavany & Shivany (2018) state that there exists a positive relationship between conative, affective, and cognitive loyalty dimensions and online trust. The latter factor also significantly affects a customer’s willingness to participate in online exchanges of personal and sensitive information and money. As such, financial institutions should utilize different types of security protocols and algorithms to ensure secure connection and protection of their customers’ personal information and the provision of a safe online transaction platform.
2.5 Chapter Summary

This chapter assessed the impact of mobile banking on customer loyalty in the Kenyan industry. For the development of a proper understanding of the subject matter, different theoretical frameworks have been utilized throughout the segment to help provide background information on the topic. An empirical review, with a focus on current data sources, has also been carried out discussing various factors that affect customer loyalty. Among the analyzed factors include mobile banking service qualities like availability, security and responsiveness, ease of product use, and consumer attitudes. The following chapter, the research methodology, will utilize primary data and the most appropriate research design to generate new information concerning the subject matter.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

For the study of the effects of mobile banking on customer loyalty among USIU-Africa Graduate Students, this study adopted a quantitative research methodology. Besides, a descriptive research design was also employed for a further exploration of the subject matter. For the presentation of a detailed research methodology section, the chapter is divided into multiple including the research design, population and sampling design, data collection methods, research procedures, and data analysis methods.

3.2 Research Design

According to Labaree (2009), the research design is the overall selected strategy for the integration of the various elements of the study in a logical and coherent manner thus allowing the effective addressing of the research problem. Besides, a research design comprises the foundation and the framework of techniques and methods selected by the researcher to guide the data collection, measurement, and analysis procedures. For this project, a descriptive research design was employed. A descriptive research design is perceived to be an empirical and systematic investigation of a phenomenon or event in which the data used in the research is readily available, and thus the variables cannot be manipulated (Atmowardoyo, 2018). The research design also focuses on ascertaining the nature of the specific studies under investigation, thus making it applicable in the exploration of the effects of mobile banking on customer loyalty among USIU-Africa Graduate Students. Besides, the research design permits a description of the characteristics and relationships among the study variables. As such, the employment of descriptive research design in the current project enabled the ease of investigation of the relationship between speed of response, ease of product use, and reliability of mobile banking services and customer loyalty among USIU-Africa Graduate Students.
3.3 Population and Sampling Design

3.3.1 Population

A study population entails the aggregate set of units or elements that a given researcher aims at studying and deducting a generalized inference (Cooper & Schindler, 2014). According to Asiamah and Mensah (2017), a study population should possess observable traits such that the results can be generalized. For this project, the study population was drawn from the students of USIU-Africa University and the school directory served as the primary source of the relevant student information. Specifically, the project’s target population comprised of USIU-Africa graduate students from three different graduate degree programs as indicated in the Table below.

Table 3.1: The Project’s Target Population Distribution

<table>
<thead>
<tr>
<th>Category</th>
<th>Population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of Business</td>
<td>1,225</td>
<td>59</td>
</tr>
<tr>
<td>School of Humanities</td>
<td>734</td>
<td>36</td>
</tr>
<tr>
<td>School of Sciences</td>
<td>109</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>2,068</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: USIU-Africa School Registry (2019)

3.3.2 Sampling Design

3.3.2.1 Sampling Frame

According to Taherdoost (2016), a sampling frame is a list from which the sample is selected. The significance of formulating a sample frame in research is to permit the researcher to deal with authentic subjects that meet the research needs, hence increasing the study findings’ credibility. For this project, the sampling frame was derived from the school’s nominal roll, listing students enrolled in different graduate degree programs within USIU-Africa.

3.3.2.2 Sampling Technique

Sampling techniques are essential in drawing of sub-set of the target population for observation, especially in cases whereby it is not feasible to study the entire population under
study. In this project, a stratified sampling technique was utilized to ensure fair representation and generalization of finding to the general population. The stratified sampling technique was applicable for this project for not only does it guarantee a high precision but also helps in the minimization of biases in the sample selection procedure (Lynn, 2016). Besides, the employment of the stratified sampling for this project is justified by the technique’s ability to allow for the use of different research procedures and methods to be applied in the different strata alongside providing sufficient data for the analysis of the numerous sub-populations. For ensuring heterogeneity in the various sub-stratas and homogeneity in each stratum, the entire study population was divided into three sub-groups, the School of Business, the School of Humanities, and the School of Sciences.

### 3.3.2.3 Sample Size

Determination of the proper sample size is vital because huge margins samples may prove lengthy and costly, while too small margins may produce incorrect results. For this project, the study population consisted of 2,068 graduate students, from which the Yamane formula was applied in determination of a sample size of 335 respondents, as shown in the computation below. Moreover, the project assumed a 5% margin of error and a 95% confidence level, signifying that the response attained lied between either plus or minus 5% of the true state of affairs. The sample size was calculated as follows;

\[
    n = \frac{N}{1 + N(e)^2}
\]

Where \( n \) is the sample size, \( N \) is the population size and \( e \) is the margin of error

\[
    n = \frac{2068}{1 + 2068(0.05)^2} = 335 \text{ Respondents}
\]

<table>
<thead>
<tr>
<th>Category</th>
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<th>Percentage</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
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<td>59</td>
<td>198</td>
</tr>
<tr>
<td>School of Humanities</td>
<td>734</td>
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<td>119</td>
</tr>
<tr>
<td>School of Sciences</td>
<td>109</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,068</strong></td>
<td><strong>100</strong></td>
<td><strong>335</strong></td>
</tr>
</tbody>
</table>
3.4 Data Collection Methods

The data collection exercise is a critical element of any type of research study because it assists the researcher to determine the most appropriate methodology for the research. The presence of a suitable data collection methodology also helps the researcher in ensuring data credibility, analysis, and verification. Nonetheless, despite that numerous tools exist for data collection purposes, a researcher’s selection of a data collection tool is dependent on the type of research one is undertaking. For examination of the effects of mobile banking on customer loyalty among USIU-Africa graduate students, this project used primary research data and adopted a questionnaire as the ideal data collection instrument. Questionnaires are linked to objectivity observance due to their confidential nature and facilitate the collection of descriptive data from a somewhat large population, hence justifying the use of the instrument in the project.

For the collection of primary data, structured questionnaires, containing closed-ended questions, were administered. The utilization of structured questionnaires is attributed to the generation of high accuracy, and response levels for it demand a low cognitive load on the respondent. The use of structured questionnaires is also beneficial to the researcher, for it offers a simple way for data coding and analysis (Cheung, 2014). The scale used for the questions was the likert scale due its ease of analysis with closed ended questions. Where 1 was to represent ‘strongly disagree, 2 was to represent ‘disagree’, 3 was to represent ‘neutral’, 4 was to represent ‘agree’ and 5 ‘strongly agree’.

3.5 Research Procedures

Research procedures are critical in a study for they help provide a systematic and detailed step-by-step process that a researcher undertook in the fulfilment of the study objectives and completion of the research work (Cooper & Schindler, 2014). In this project, after the formulation of the questionnaire and approval of the research proposal, the researcher obtained an introduction letter from the United States International University-Africa as well as the permission to use the institution’s authority and name to undertake the study. The introduction letter aimed at validating the research and thus helping the researcher the respondents’ trust. Before carrying out the research, the researcher carried out a pilot test where 15 questionnaires were administered to the target population for assessment of the
questionnaires’ clarity, accuracy, precision, and completeness. The identified areas requiring improvement were then corrected before the main study. Afterwards, the researcher disseminated the questionnaires and adopted self-administration method for shortening of response times and enabling immediate clarification of any of the respondents’ concerns. Besides, the questionnaires were filled and returned on the same day to ensure a high return rate for leaving questionnaires behind lengthens the process of data collection because respondents tend to forget to fill it once the researcher leaves.

3.5.1 Reliability Results

The able below represents the reliability of the results which was tested by the use of Cronbach’s alpha.

**Table 3.3: Reliability Analysis**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed of Response</td>
<td>.726</td>
<td>10</td>
</tr>
<tr>
<td>The Impact of Ease of Product Use</td>
<td>.803</td>
<td>13</td>
</tr>
<tr>
<td>Mobile Banking Services’ Reliability</td>
<td>.763</td>
<td>13</td>
</tr>
</tbody>
</table>

Reliability of the questionnaire was evaluated through Cronbach’s Alpha which measures the internal consistency and establishes if items within a scale measures the same construct. The index alpha was computed using SPSS and measured the average of measurable items and its correlation. Cronbach’s Alpha was established for every variable which formed a scale as shown below. The table shows that the impact of ease of product use had the highest reliability ($\alpha=0.803$). It was followed by mobile banking services’ reliability at ($\alpha=0.763$) and speed of response ($\alpha=0.726$). This illustrates that all the three variables were reliable as their reliability values exceeded the prescribed threshold of 0.7 (Cooper & Schindler, 2013).

3.5.2 Validity Results

Gill and Johnson (2008) point out that validity is how much the sample is a representation of the phenomenon it is desired to represent. Content validity was used to test the validity of the questionnaire so as to correct any inconsistencies that might have arisen in the actual study.
There were few inconsistencies obtained after the pilot study was done and where they arose, they were corrected by checking the content of the results which improved the questionnaire validity.

3.6 Data Analysis Methods

Data analysis, according to Taherdoost, (2017), is a research practice for the efficient, objective, and qualitative description of the evident content of research. After completing the data collection, the data collected from the questionnaires were subjected to data wrangling to ensure completeness and consistency. The statistical package for social sciences (SPSS) Version 22 was employed in the analysis of descriptive and regression statistics. The data was then presented using tables allowing for ease of interpretation of the analyzed data.

For the determination of the relationship between the effects of mobile banking and customer loyalty, the project adopted the regression analysis model formulae below:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \]

Where:

- \( Y \) = Customer Loyalty
- \( \beta_0 \) = Coefficient of Intercept (Constant)
- \( \beta_1 \ldots \beta_3 \) = Coefficient of Variable \( X_1 \ldots X_3 \)
- \( X_1 \) = Speed of Response
- \( X_2 \) = Ease of Product Use
- \( X_3 \) = Mobile Banking Services’ reliability

3.7 Chapter Summary

This chapter presents the research methodology that was applied in the main study. In describing the research design, the research has explained that using a descriptive research design would be best in meeting the study's objective. In outlining the population and sampling design, the research described the target population, the sampling design, and the sample size. In the data collection methods section, the administration of questionnaires was selected as the most applicable method for the study. Moreover, in the data analysis section,
SPSS was found to be the ideal statistical analysis package for exploration of the effects of mobile banking on customer loyalty among USIU-Africa graduate students, version 22 was used in the analysis. Besides, for the determination of the relationship between study variables, the regression analysis model was adopted. The next chapter discusses the project’s findings and results. The next chapter offers a summary of the findings, discussion, conclusion and recommendations.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

The chapter gives a discussion of data analysis, interpretations and presentation. The analysis of quantitative data was done by application of inferential which included T-test (ANOVA) and Pearson Correlation and Descriptive Statistics which included Measures of Frequency, Central Tendency and Variation. Presentation of data was done through frequency tables, percentages and frequency distributions in order to easily understand and interpret the findings. The study had a sample population of 335 respondents. Of the sample population 325 respondents completed the questionnaires making a response rate of 97%. The response rate is considered sufficient based on the Mugenda & Mugenda (2012) who indicated that a 50% rate of response is enough for analyzing and also reporting, a 60% rate of response is good whereas 70% and over is considered excellent.

4.2 Background Information

The study commenced with an in-depth analysis of the background information of the respondent. Particularly, areas which were sought consisted gender category, age, utilization of mobile banking services frequently in use mobile banking services and period which the participant has been a mobile banking customer

4.2.1 Gender Category

Respondents were required to indicate their gender category. As shown in Table 4.1, the majority of the respondent’s (59.1%) were males whereas 40.9% were female. This implies that both genders were fairly involved in this study and thus the finding of this study did not suffer from gender biasness.

<table>
<thead>
<tr>
<th>Table 4.1: Gender Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
### 4.2.2 Distribution of Respondent’s by Age

Respondents were required to indicate their age category. Results are presented in Table 4.2. This was sought in view of ensuring that respondents of various age categories were involved in this study. Results show that most of the respondents (60.9%) were aged between 18 years – 27 years 22.2% of the respondents were aged between 28 years – 37 years while 16.9% of the respondents were aged 38 years or more. This implies that the age distribution was well captured by the research.

**Table 4.2: Distribution of Respondent’s by Age**

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 years – 27 years</td>
<td>198</td>
<td>60.9</td>
</tr>
<tr>
<td>28 years – 37 years</td>
<td>72</td>
<td>22.2</td>
</tr>
<tr>
<td>38 years or more</td>
<td>55</td>
<td>16.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

### 4.2.3 Utilization of Mobile Banking Services

Respondents were required to indicate whether they were currently using mobile banking services such as M-Pesa or Tala Application. Results in Table 4.3 show that all the respondents (100%) were utilizing mobile banking services there forte implying that were in a position to give credible information relating to quality mobile banking services. To gain more insight on customer experience with the application, the study required the participant to clarify on how frequently they utilized use mobile banking services.

**Table 4.3: Utilization of Mobile Banking Services**

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>325</td>
<td>100.0</td>
</tr>
</tbody>
</table>
4.2.4 Frequency of Utilization of Mobile Banking Services

Respondents were required to indicate whether their frequency of utilization of mobile banking services. Results in Table 4.4 show that majority of the participants (39.1%) utilized mobile banking services several days in a week, 33.2% indicated on daily basis, 17.2% indicated occasionally, while 10.5% indicated once a month. This implies that considerable number of participants had used these applications regularly which in turn indicates that they had vast experience with the platform.

Table 4.4: Frequency of Utilization of Mobile Banking Services

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>108</td>
</tr>
<tr>
<td>Several days in a week</td>
<td>127</td>
</tr>
<tr>
<td>Once a month</td>
<td>34</td>
</tr>
<tr>
<td>Occasionally</td>
<td>56</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
</tr>
</tbody>
</table>

4.2.5 Period Lapsed as Mobile Banking Customer

Further respondents were required to indicate the period which they had been a mobile banking customer. The feedback was as shown in Table 4.5. Results showed that most of the participants (41.5%) had been a mobile banking customer for more than 3 years, 29.5% indicated 1 to 3 years, 25.5% of the respondents indicated 6 months to less than a year while 3.4% of the respondents indicated less than 6 months. This implies that most of participants been a mobile banking customer for a considerable period of time.
### Table 4.5: Period Lapsed as Mobile Banking Customer

<table>
<thead>
<tr>
<th>Period</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 6 months</td>
<td>11</td>
<td>3.4</td>
</tr>
<tr>
<td>6 months to less than a year</td>
<td>83</td>
<td>25.5</td>
</tr>
<tr>
<td>1 year to less than 3 years</td>
<td>96</td>
<td>29.5</td>
</tr>
<tr>
<td>3 years or more</td>
<td>135</td>
<td>41.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

#### 4.3 Speed of Response and Customer Loyalty

The study sought to determine the extent to which respondent’s agreed with statements as in Table 4.6 which assess on speed of response and customer loyalty.

Majority of the respondent strongly agreed that the speed of resolving of issues encountered during the use of mobile banking services influences my selection and continued use of a specific mobile banking application (Mean = 4.74 Std Dev =0.55), the time taken in processing of complaints determines customer frequency of using a specific mobile banking application (Mean = 4.63 Std Dev =0.60), the provision of prompt answers to the queries influences customer selection and continued use of a specific mobile banking application (Mean =4.62 Std Dev =0.59), the level of assistance offered during a search or interaction with the provided mobile banking service determines customer frequency of using a specific mobile banking application (Mean = 4.54 Std Dev =0.66). These findings concur with the study findings by Liu & Wang, (2017) which established reliability as a significant element in not only mobile banking but also in online banking in general.

The study further revealed that the flexibility of a mobile banking application with a layout that automatically changes based on the capabilities and size of a device affects the frequency of using the specific mobile banking application (Mean = 4.43 Std Dev =0.77 ) the presence of user navigation features which cut down the time spent on pinpointing the required online banking content and functions influences customer selection and continued use of a specific mobile banking application (Mean = 4.42 Std Dev =0.74) These findings
concurs with the study findings by Naidoo, 2011; Shamdasani et al., 2008) describes online banking reliability as the accurate deliverance of banking information and services through the use of websites and applications as well as the proper functionality of the online banking sites and applications.

The study further revealed that the time taken before the requested service is provided influences customer selection and continued use of a specific mobile banking application (Mean = 4.41 Std Dev =0.75 ) the time taken before a transaction is initiated determines customer frequency of using a specific mobile banking application (Mean = 4.34 Std Dev =0.83). The provision of online self-services, thus eliminating the need for banking employees’ services, influences customer selection and continued use of a specific mobile banking application. (Mean = 4.21 Std Dev =0.89) and that the application’s possession of an in-built capacity to carry out financial analysis hence reducing the time taken in measuring financial progress and condition influences customer frequency of using a specific mobile banking application (Mean = 3.87 Std Dev =0.84). These findings are in line with the study findings by Shamdasani et al., (2008) uncovered that found that mobile money transfer functions reliability had a significant effect on customer loyalty.
### Table 4.6: Relationship between Speed of Response and Customer Loyalty

<table>
<thead>
<tr>
<th>Statements</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The time taken before a transaction is initiated determines customer frequency of using a specific mobile banking application.</td>
<td>4.34</td>
<td>0.83</td>
</tr>
<tr>
<td>The time taken before the requested service is provided influences my selection and continued use of a specific mobile banking application.</td>
<td>4.41</td>
<td>0.75</td>
</tr>
<tr>
<td>The level of assistance offered during a search or interaction with the provided mobile banking service determines my frequency of using a specific mobile banking application.</td>
<td>4.54</td>
<td>0.66</td>
</tr>
<tr>
<td>The provision of prompt answers to my queries influences my selection and continued use of a specific mobile banking application.</td>
<td>4.62</td>
<td>0.59</td>
</tr>
<tr>
<td>The speed of resolving of issues encountered during the use of mobile banking services influences my selection and continued use of a specific mobile banking application.</td>
<td>4.74</td>
<td>0.55</td>
</tr>
<tr>
<td>The time taken in processing of complaints determines my frequency of using a specific mobile banking application.</td>
<td>4.63</td>
<td>0.60</td>
</tr>
<tr>
<td>The provision of online self-services, thus eliminating the need for banking employees’ services, influences my selection and continued use of a specific mobile banking application.</td>
<td>4.21</td>
<td>0.89</td>
</tr>
<tr>
<td>The application’s possession of an in-built capacity to carry out financial analysis hence reducing the time taken in measuring my financial progress and condition influences my frequency of using a specific mobile banking application.</td>
<td>3.87</td>
<td>0.84</td>
</tr>
<tr>
<td>The presence of user navigation features which cut down the time spent on pinpointing the required online banking content and functions influences my selection and continued use of a specific mobile banking application.</td>
<td>4.42</td>
<td>0.74</td>
</tr>
<tr>
<td>The flexibility of a mobile banking application with a layout that automatically changes based on the capabilities and size of a device affects my frequency of using the specific mobile banking application.</td>
<td>4.43</td>
<td>0.77</td>
</tr>
</tbody>
</table>

#### 4.3.1 Pearson Correlations of Speed of Response and Customer Loyalty

Table 4.7 displays the results of correlation test analysis between the dependent variable (ease of product use of mobile banking) and the independent variable (speed of response of mobile banking). The study found a positive correlation between speed of response of mobile banking (X1) and customer loyalty among USIU-Africa graduate students as shown by correlation factor of 0.405. This positive relationship was found to be statistically significant as the significant value was 0.000 which is less than 0.05. These outcomes agree with those
of Khurana, (2009) uncovered that speed and ease of bill payment services affected the correspondents’ outlook on the mobile banking services reliability as well as the level of loyalty to the banking institution.

### Table 4.7: Correlations of Speed of Response and Customer Loyalty

<table>
<thead>
<tr>
<th>Customer loyalty among USIU-Africa graduate students</th>
<th>Speed of response of mobile banking (X1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer loyalty among USIU-Africa graduate students</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>1</td>
</tr>
<tr>
<td>N</td>
<td>325</td>
</tr>
<tr>
<td>N</td>
<td>325</td>
</tr>
</tbody>
</table>

#### 4.3.2 Regression Test of Speed of Response and Customer Loyalty

The focus of test regression one was to determine the influence of speed of response of mobile banking on customer loyalty among USIU-Africa graduate students. To test the first regression, the index of customer loyalty among USIU-Africa graduate students as index of dependent variable was regressed upon the identified sub measures of speed of response of mobile banking as a composite of independent variable.

#### 4.3.2.1 Model Summary of Speed of Response and Customer Loyalty

The R² refers to the percentage of variance on dependent variable uniquely described by independent variables. This model has a coefficient of determination (R²) of 0.164 which means 16.4 % of the variations on customer loyalty among USIU-Africa graduate students can be attributed to speed of response of mobile banking.
Table 4.8: Model Summary of Speed of Response and Customer Loyalty

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.405&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.164</td>
<td>.161</td>
<td>.69974</td>
</tr>
</tbody>
</table>

4.3.2.2 ANOVA of Speed of Response and Customer Loyalty

From the ANOVA statistics, the study established the regression model had a significance level of 0.000 which is an indication that the data was ideal for making a conclusion on the population parameters as the value of significance (p-value) was less than 5%. The calculated value of F was 63.331 compared to the critical value of F which was 3.87 and hence the calculated value of F was greater than the critical value an indication that the speed of response of mobile banking had a significant impact on customer loyalty among USIU-Africa graduate students. The significance value was less than 0.05 indicating that the model was significant.

Table 4.9: ANOVA of Speed of Response and Customer Loyalty

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>31.009</td>
<td>1</td>
<td>31.009</td>
<td>63.331</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>158.150</td>
<td>323</td>
<td>.490</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>189.159</td>
<td>324</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.3.2.3 Regression Coefficients of Speed of Response and Customer Loyalty

Results from the regression model, show that continued adoption speed of response of mobile banking while holding the other factors constant would enhance customer loyalty among USIU-Africa graduate students (Y) by a factor of 0.726. The findings concurred with Liu & Wang, (2017) have found that Reliability in mobile money transfer services entails the presence of features that support quick transfer services and dependability and the availability of an element of trust during the participants’ transactions process. The regression model is \( Y = 4.435 + 0.726 X_1 + \varepsilon \)
Table 4.10: Regression Coefficients of Speed of Response and Customer Loyalty

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>4.435</td>
<td>.216</td>
</tr>
<tr>
<td>Speed of response of mobile banking (X₁)</td>
<td>.726</td>
<td>.091</td>
</tr>
</tbody>
</table>

4.4 Ease of Product Use and Customer Loyalty

The study sought to determine the extent to which respondent’s agreed with the following statements relating to ease of product use and customer loyalty.

Majority of the respondent strongly agreed that the required effort in understanding the application’s functions influences customer frequency of using the specific mobile banking application (Mean = 4.52 Std Dev =0.78) the required effort in finding the intended services influences customer selection and continued use of a mobile banking application (Mean = 4.40 Std Dev =0.77), the presentation of clear and concise information affects customer continued use of a mobile banking application (Mean = 4.32 Std Dev =0.70), the ease of recognizing bank’s mobile banking application on the phone influences customer frequency of using the specific mobile banking application (Mean = 4.28 Std Dev =0.83).

Results also revealed that the application’s degree of offering customized information and services that directly satisfy the unique online banking preferences (Mean = 4.19 Std Dev =0.79). The application’s ability to pinpoint errors made during transactions affects customer frequency of using a specific mobile banking application. The text legibility and ease of readability affects customer selection and continued use of a mobile banking application. The application’s simplicity and allowance of use by users with low technology proficiency levels influences customer frequency of using the specific mobile banking application (Mean = 4.14 Std Dev =0.81). These findings concur with the study findings by Jawanjal & Joshi, (2015) financial institutions should educate their customers on ways of distinguishing between phishing and real emails from the bank in order to tighten security on their customers data.
Also, the study revealed that application’s compatibility with multiple devices influences my frequency of using the specific mobile banking application, (Mean = 4.06 Std Dev =0.88) the ease of memorability/mastering of different functionalities offered by the application influences customer frequency of using the specific mobile banking application. (Mean = 4.04 Std Dev =0.96). The study further revealed that the application’s ability to sync their customer information across numerous devices affects the selection and continued use of the specific mobile banking application (Mean =3.97 Std Dev =0.98). The application’s allowance of different data entry methods, including voice recognition, influences customer selection and continued use of a mobile banking application (Mean = 3.81 Std Dev =0.86).
<table>
<thead>
<tr>
<th>Statements</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ease of recognizing my bank’s mobile banking application on my phone influences my frequency of using the specific mobile banking application.</td>
<td>4.28</td>
<td>0.83</td>
</tr>
<tr>
<td>The presentation of clear and concise information affects my continued use of a mobile banking application.</td>
<td>4.32</td>
<td>0.70</td>
</tr>
<tr>
<td>The text legibility and ease of readability affects my selection and continued use of a mobile banking application.</td>
<td>4.14</td>
<td>0.81</td>
</tr>
<tr>
<td>The required effort in finding the intended services influences my selection and continued use of a mobile banking application.</td>
<td>4.40</td>
<td>0.77</td>
</tr>
<tr>
<td>The required effort in understanding the application’s functions influences my frequency of using the specific mobile banking application.</td>
<td>4.52</td>
<td>0.78</td>
</tr>
<tr>
<td>The ease of memorability/mastering of different functionalities offered by the application influences my frequency of using the specific mobile banking application.</td>
<td>4.04</td>
<td>0.96</td>
</tr>
<tr>
<td>The application’s allowance of different data entry methods, including voice recognition, influences my selection and continued use of a mobile banking application.</td>
<td>3.81</td>
<td>0.86</td>
</tr>
<tr>
<td>The application’s ability to pinpoint errors made during transactions affects my frequency of using a specific mobile banking application.</td>
<td>4.14</td>
<td>0.74</td>
</tr>
<tr>
<td>The mobile banking application’s ability to allow me to confirm the transaction as i proceed affects my selection and continued use of a mobile banking application.</td>
<td>4.09</td>
<td>0.98</td>
</tr>
<tr>
<td>The application’s simplicity and allowance of use by users with low technology proficiency levels influences my frequency of using the specific mobile banking application.</td>
<td>4.14</td>
<td>0.85</td>
</tr>
<tr>
<td>The application’s degree of offering customized information and services that directly satisfy my unique online banking preferences.</td>
<td>4.19</td>
<td>0.76</td>
</tr>
<tr>
<td>The application’s compatibility with multiple devices influences my frequency of using the specific mobile banking application.</td>
<td>4.06</td>
<td>0.88</td>
</tr>
<tr>
<td>The application’s ability to sync their customer information across numerous devices affects my selection and continued use of the specific mobile banking application.</td>
<td>3.97</td>
<td>0.98</td>
</tr>
</tbody>
</table>
4.4.1 Pearson Correlations of Ease of Product Use and Customer Loyalty

Table 4.12 displays the results of correlation test analysis between the dependent variable (customer loyalty among) and the independent variable (ease of product use of mobile banking). The study found a positive correlation between ease of product use of mobile banking (X2) and customer loyalty among USIU-Africa graduate students as shown by correlation factor of 0.325; this positive relationship was found to be statistically significant as the significant value was 0.000 which is less than 0.05.

Table 4.12: Correlations of Ease of Product Use and Customer Loyalty

<table>
<thead>
<tr>
<th>Customer Loyalty Among USIU-Africa Graduate Students</th>
<th>Ease of Product Use of Mobile Banking (X2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.405**</td>
</tr>
<tr>
<td>N</td>
<td>325</td>
</tr>
</tbody>
</table>

4.4.2 Regression Test of Ease of Product Use and Customer Loyalty

The focus of test regression two was to determine the influence of ease of product use of mobile banking on customer loyalty among USIU-Africa graduate students. To test the first regression, the index of customer loyalty among USIU-Africa graduate students as index of dependent variable was regressed upon the identified sub measures of ease of product use of mobile banking as a composite of independent variable.
4.4.2.1 Model Summary of Ease of Product Use and Customer Loyalty

The R\(^2\) refers to the percentage of variance on dependent variable uniquely described by independent variables. This model had a coefficient of determination (R\(^2\)) of 0.277 which means 27.7% of the variations on customer loyalty among USIU-Africa graduate students were explained by ease of product use of mobile banking.

Table 4.13: Model Summary of Ease of Product Use and Customer Loyalty

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.526(^a)</td>
<td>.277</td>
<td>.224</td>
<td>.52261</td>
</tr>
</tbody>
</table>

4.4.2.2 ANOVA of Ease of Product Use and Customer Loyalty

From the ANOVA statistics, the study established the regression model had a significance level of 0.002 which is an indication that the data was ideal for making a conclusion on the population parameters as the value of significance (p-value) was less than 5%. The calculated value of F was 94.335 compared to the critical value of F which was 3.87 and hence the calculated value of F was greater than the critical value an indication that ease of product use of mobile banking had a significant impact on customer loyalty among USIU-Africa graduate students. The significance value was less than 0.05 indicating that the model was significant.

Table 4.14: ANOVA of Ease of Product Use and Customer Loyalty

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>44.521</td>
<td>1</td>
<td>44.521</td>
<td>94.335</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>152.438</td>
<td>323</td>
<td>.472</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>196.959</td>
<td>324</td>
<td>.472</td>
<td></td>
</tr>
</tbody>
</table>

From the regression model obtained, ease of product use of mobile banking while holding the other factors constant would enhance customer loyalty among USIU-Africa graduate students (Y) by a factor of 0.702. The findings concurred with Jawanjal & Joshi, (2015) financial institutions should utilize different types of security protocols and algorithms to ensure
secure connection and protection of their customers’ personal information and the provision of a safe online transaction platform. The regression model is \( Y= 4.414+ 0.702 X_2 + \varepsilon \)

### 4.4.2.2 Regression Coefficients of Ease of Product Use and Customer Loyalty

**Table 4.15: Regression Coefficients of Ease of Product Use and Customer Loyalty**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Constant)</td>
<td>4.414</td>
<td>.218</td>
<td>20.209</td>
</tr>
<tr>
<td></td>
<td>Ease of Product Use of Mobile Banking ((X_2))</td>
<td>.702</td>
<td>.088</td>
<td>.405</td>
</tr>
</tbody>
</table>

### 4.5 Mobile Banking Services Reliability and Customer Loyalty

The study sought to determine the extent to which respondent’s agreed with the following statements assessing on mobile banking services and customer loyalty. Majority of the respondent’s agreed that provision of confidentiality during transactions influences customer selection and continued use of a specific mobile banking application \((\text{Mean} = 4.41, \text{Std Dev} =0.98)\), the ability to access any mobile banking service at any given time affects my continued use of a specific mobile banking application \((\text{Mean} = 4.36, \text{Std Dev} =0.96)\) the provision of adequate information on the in-built security measures that can prevent confidential data loss and unauthorized alteration affects customer continued use of a specific mobile banking application \((\text{Mean} = 4.35, \text{Std Dev} =0.99)\).

The study also revealed that the application’s ability to provide up-to-date mobile banking services information at all times affects customer selection and continued use of a specific mobile banking application \((\text{Mean} = 4.34, \text{Std Dev} =1.03)\). The provision of security and respect of privacy offered by a mobile banking application influences customer frequency of using the specific mobile banking application \((\text{Mean} = 4.29, \text{Std Dev} =0.95)\). The ability of a mobile banking application to function as needed at all times affects customer dependability on the specific mobile banking application \((\text{Mean} = 4.38, \text{Std Dev} = 0.92)\).
The study further revealed that the provision of simple and easy to follow instructions during transactions influences customer reliance on a specific mobile banking application (Mean = 4.19 Std Dev = 1.00), the provision of satisfactory feedback during mobile banking transactions influences customer selection and a continued use of a specific mobile banking application (Mean = 4.18 Std Dev = 0.94) the mobile banking application’s ability to allow for the completion of transactions affects customer reliability on the specific mobile banking application. (Mean = 4.15 Std Dev =0.98).

The study revealed that the relevancy and accuracy of the information provided affects my frequency of using a specific mobile banking application(Mean = 4.14 Std Dev =1.06) the provision of adequate awareness regarding the availability of various cybersecurity threats that affect online banking service users influences customer reliance on a specific mobile banking application (Mean =4.05 Std Dev =0.97) and that the level to which the mobile banking application enables me to manage my finances better affects customer selection and continued use of the specific application (Mean = 3.87 Std Dev = 1.04).
<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ability of a mobile banking application to function as needed at all times affects my dependability on the specific mobile banking application.</td>
<td>4.38</td>
<td>0.92</td>
</tr>
<tr>
<td>The availability of desirable transaction functions affects my dependability on a specific mobile banking application.</td>
<td>4.28</td>
<td>0.94</td>
</tr>
<tr>
<td>The provision of simple and easy to follow instructions during transactions influences my reliance on a specific mobile banking application.</td>
<td>4.19</td>
<td>1.00</td>
</tr>
<tr>
<td>The level to which the mobile banking application enables me to manage my finances better affects my selection and continued use of the specific application.</td>
<td>3.87</td>
<td>1.04</td>
</tr>
<tr>
<td>The provision of confidentiality during transactions influences my selection and continued use of a specific mobile banking application.</td>
<td>4.41</td>
<td>0.98</td>
</tr>
<tr>
<td>The relevancy and accuracy of the information provided affects my frequency of using a specific mobile banking application.</td>
<td>4.14</td>
<td>0.98</td>
</tr>
<tr>
<td>The provision of satisfactory feedback during mobile banking transactions influences my selection and continued use of a specific mobile banking application.</td>
<td>4.18</td>
<td>0.94</td>
</tr>
<tr>
<td>The mobile banking application’s ability to allow for the completion of transactions affects my reliability on the specific mobile banking application.</td>
<td>4.15</td>
<td>1.06</td>
</tr>
<tr>
<td>The ability to access any mobile banking service at any given time affects my continued use of a specific mobile banking application.</td>
<td>4.36</td>
<td>0.96</td>
</tr>
<tr>
<td>The provision of adequate awareness regarding the availability of various cybersecurity threats that affect online banking service users influences my reliance on a specific mobile banking application.</td>
<td>4.05</td>
<td>0.97</td>
</tr>
<tr>
<td>The provision of adequate information on the in-built security measures that can prevent confidential data loss and unauthorized alteration affects my continued use of a specific mobile banking application.</td>
<td>4.35</td>
<td>0.99</td>
</tr>
<tr>
<td>The provision of security and respect of privacy offered by a mobile banking application influences my frequency of using the specific mobile banking application.</td>
<td>4.29</td>
<td>0.95</td>
</tr>
<tr>
<td>The application’s ability to provide up-to-date mobile banking services information at all times affects my selection and continued use of a specific mobile banking application.</td>
<td>4.34</td>
<td>1.03</td>
</tr>
</tbody>
</table>
4.5.1 Pearson Correlations of Mobile Banking Services Reliability and Customer Loyalty

The Table below displays the results of correlation test analysis between the dependent variable (customer loyalty among USIU-Africa graduate students) and the independent variable (mobile banking services). The study found a positive correlation between mobile banking services (X3) and customer loyalty among USIU-Africa graduate students as shown by correlation factor of 0.320; this positive relationship was found to be statistically significant as the significant value was 0.000 which was less than 0.005.

Table 4.17: Pearson Correlations of Mobile Banking Services Reliability on Customer Loyalty

<table>
<thead>
<tr>
<th>Customer Loyalty Among Mobile Banking Services (X3)</th>
<th>Customer Loyalty Among Mobile Banking Services (X3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Customer Loyalty Among Mobile Banking Services (X3)</strong></td>
<td><strong>Customer Loyalty Among Mobile Banking Services (X3)</strong></td>
</tr>
<tr>
<td>Loyalty Pearson Correlation 1</td>
<td>.320**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>325</td>
</tr>
<tr>
<td>Mobile Banking Services (X3)</td>
<td>Mobile Banking Services (X3)</td>
</tr>
<tr>
<td>Banking Pearson Correlation .320**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>325</td>
</tr>
</tbody>
</table>

4.5.2 Regression Test of Mobile Banking Services Reliability on Customer Loyalty

The focus of test regression three was to determine the influence of mobile banking services on customer loyalty among USIU-Africa graduate students. To test the first regression, the index of customer loyalty among USIU-Africa graduate students as index of dependent variable was regressed upon the identified sub measures of mobile banking services as a composite of independent variable. The $R^2$ refers to the percentage of variance on dependent variable uniquely described by independent variables. This model had a coefficient of determination ($R^2$) of 0.103 which means 10.3 per cent of the variations on customer loyalty among USIU-Africa graduate students are explained by mobile banking services.
Table 4.18: Model Summary of Mobile Banking Services Reliability on Customer Loyalty

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.320a</td>
<td>.103</td>
<td>.100</td>
<td>.72492</td>
</tr>
</tbody>
</table>

From the ANOVA Statistics, the study established the regression model had a significance level of 0.001 which is an indication that the data was sufficient for making a conclusion on the population parameters as the value of significance (p-value) was less than 5%. The calculated value of F was 36.952 compared to the critical value of F which was 3.87 and hence the calculated value of F was greater than the critical value an indication that mobile banking services had a significant impact on customer loyalty among USIU-Africa graduate students. The significance value was less than 0.05 indicating that the model was significant.

Table 4.19: ANOVA of Mobile Banking Services Reliability on Customer Loyalty

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>19.419</td>
<td>1</td>
<td>19.419</td>
<td>36.952</td>
<td>.001B</td>
</tr>
<tr>
<td>Residual</td>
<td>169.740</td>
<td>323</td>
<td>.526</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>189.159</td>
<td>324</td>
<td>.526</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the regression model obtained above, further utilization of mobile banking services while holding the other factors constant would enhance customer loyalty among USIU-Africa graduate students (Y) by a factor of 0.642 as indicated in the regression model is \( Y = 4.612 + 0.642 X_3 + \varepsilon \)
Table 4.20: Coefficients of Mobile Banking Services Reliability on Customer Loyalty

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>4.612</td>
<td>.252</td>
</tr>
<tr>
<td>Mobile Banking Services (X₃)</td>
<td>.642</td>
<td>.106</td>
</tr>
</tbody>
</table>

4.6 Chapter Summary

Results showed that the speed of resolving of issues encountered during the use of mobile banking services influenced customer selection and continued use of a specific mobile banking application. The provision of online self-services thus eliminating the need for banking employees’ services, influenced the selection and continued use of a specific mobile banking application. The text legibility and ease of readability affected customer selection and continued use of a mobile banking application. The application’s ability to pinpoint errors made during transactions affected customer frequency of using a specific mobile banking application. The relevancy and accuracy of the information provided affected customer frequency of using a specific mobile banking application and that the provision of adequate information on the in-built security measures that can prevent confidential data loss and unauthorized alteration affected continued use of a specific mobile banking application. Chapter five provides a discussion, conclusion and recommendations on the findings of this research.
CHAPTER FIVE

5.0 DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter offers the discussion, conclusion, and recommendations obtained from the project’s findings. The first subsection is a presentation of the project’s summary, followed by the discussion of the research questions. The same treatment is also employed in the recommendations and conclusion.

5.2 Summary

The objective of this project was to examine the effects of mobile banking on customer loyalty among USIU-Africa graduate students. For a comprehensive analysis of this subject matter, the project was guided by several objectives related to the topic. The specific objectives for the project included: To examine the effect of speed of response of mobile banking on customer loyalty among the USIU-Africa graduate students. To determine the effect of ease of product use of mobile banking on customer loyalty among the USIU-Africa graduate students. To examine how reliability of mobile banking services affect customer loyalty among the USIU-Africa graduate students.

The study adopted a descriptive research design employing a quantitative approach solely. The target population comprised of USIU-Africa graduate students from three different graduate degree programs whereby a sampling frame of 2,068 students was obtained. From the target population, a sample of 335 respondents was derived from the application of a stratified sampling technique. For data collection, a closed-ended questionnaire was administered for the gathering of primary data. The collected data was then analyzed by use of the statistical package for social sciences (SPSS) version 22. The data was analysed using both descriptive and inferential statistics. The data was then presented using tables and figures hence allowing for ease of interpretation of the analyzed data.

The results showed that the project’s findings demonstrated that the speed of response of a mobile banking application significantly influences a customer’s choice of an application or the consistency of using the application as represented by a mean of 4.74. The time taken in
processing of complaints determines my frequency of using a specific mobile banking application as represented by a mean of 4.63. The level of assistance offered also greatly influences a customer’s frequency of using a mobile banking application as represented by a mean of 4.54. The time taken before a transaction is initiated determines customer frequency of using a specific mobile banking application as represented by a mean of 4.34. The study found a positive correlation between speed of response of mobile banking and customer loyalty as represented by correlation factor of 0.405. Results showed that continued adoption speed of response of mobile banking would enhance customer loyalty by a factor of 0.726.

The study findings showed that the required effort in understanding the application’s functions influenced the use of mobile banking application as represented by a mean of 4.52. The required effort in finding the intended services influenced the use of a mobile banking application as represented by a mean of 4.40. The presentation of clear and concise information affected the continued use of a mobile banking application as represented by a mean of 4.32. The ease of recognizing the bank’s mobile banking application influenced the use of mobile banking application as represented by a mean of 4.28. The study found a positive correlation between ease of product use of mobile banking and customer loyalty as represented by correlation factor of 0.325. The ease of product use of mobile banking while holding the other factors constant would enhance customer loyalty by a factor of 0.702.

The results established that the provision of confidentiality during transactions influenced the selection and continued use of a specific mobile banking application as represented by a mean of 4.41. The ability of a mobile banking application to function as needed at all times affected the dependability on the specific mobile banking application as represented by a mean of 4.38. The ability to access any mobile banking service at any given time affected the continued use of a specific mobile banking application as represented by a mean of 4.36. The provision of adequate information on the in-built security measures affected continued use of a specific mobile banking application as represented by a mean of 4.35. The study found a positive correlation between mobile banking services and customer loyalty as represented by correlation factor of 0.320. The utilization of mobile banking services while holding the other factors constant would enhance customer loyalty by a factor of 0.642.
5.3 Discussions

5.3.1 The Effect of Speed of Response on Customer Loyalty

In a world where all customers from various industries are seeking convenience and responsiveness, the capacity of a mobile banking application to respond to customer requirements in a flexible and timely manner would greatly affect customer loyalty. The project’s findings corresponded to this statement by establishing that the speed of response within the mobile banking services significantly influences the selection and continued use of certain mobile banking application. Besides, the finding complements the study by Iberahim, Taufik and Saharuddin (2016) which asserted that agility in responding to change in customers’ needs and preferences is fundamental in the attainment of highly competitive levels in the current dynamic and disruptive business landscape. Nonetheless, responsiveness in the mobile banking context can be measured through various factors.

Concerning promptness, responsiveness is viewed as the time that a bank employee spends before providing the service requested by the customer. The findings revealed that the time lapse between when a user logs into a mobile banking application and is provided with mobile banking services was a great determinant of customer loyalty. Malviya (2015) backs up this claim, in his study on mobile banking service quality elements, by stating that the customers’ perception regarding the promptness of the transactions and the time saved by using mobile banking services rather than ATM or branch services substantially affected customer satisfaction and loyalty.

The speed of response of a mobile banking application can also be determined by its capacity to correct mistakes and modify a service whenever issues arise. The project findings showed that the speed of resolving issues during transactions and the time taken in complaint processing were among the primary determinants of customer loyalty in mobile banking. Similarly, Malviya (2015) found that the effective and fast resolving of mobile banking issues as well as the provision of fast responses whenever the transaction is not processed considerably affected the customers’ perception of the application’s credibility which further influences the customer loyalty levels. In addition to fast problem-solving, Salim (2016) added that the speed of complaint processing also affected the degree of customer loyalty in
the mobile banking landscape. This discovery is consistent with the project's findings for a significant number of the correspondents stated that the provision of prompt answers to their queries as well as the time taken in complaint processing affected the frequency of using a given mobile banking application.

Klaasen (2017) identified mobile interface design and usability as among the core factors affecting mobile banking application’s speed of response and customer loyalty. This claim is complemented by the project’s findings which showed that the user navigation features, the presence of online self-services, and the ability of the application to adjust its contents based on the user’s device screen size greatly influenced the level of customer satisfaction. Doyle (2017) supplements this finding by arguing that responsive web design and interface allow a site to adapt itself to any screen width or device by the presentation of flexible media queries, images, and grid layout while responding and recognizing to mobile features such as device orientation and geo-location thus enabling the user to use the given mobile banking application across an array of devices. Moreover, Hussian and Mkpojiogu (2015) found that besides boosting mobile banking services responsiveness, mobile interface usability also enhances user experiences, which substantially affect customer loyalty.

5.3.2 Ease of Product Use in Mobile Banking and Customer Loyalty

The findings are in line with the study findings by Bakar & Haron (2015) which state that the application should easily accommodate both landscape and portrait orientations without loss of its aesthetic value and appearance. Mobile banking’s ease of use comprises of the extent to which a customer deems a site or an application as simple to exploit or operate in search of the desired objective or result. In the project’s findings, more than three-quarters of the sample population agreed that a mobile banking application’s perceived ease of use substantially influenced the choice and consistent use of the given application. However, the concept of ease of use in the mobile banking environment can be determined by various aspects.

According to Sangar and Rastari (2015), the concept is related to the availability of an easy-to-remember layout and content, terms and conditions, understandable and concise content, and ease of navigation. The significance of these elements in the determination of a mobile
banking application’s ease of use is backed by the project’s findings which denote that an application’s clear and concise information presentation critically affects its perceived ease of use which further influences the customer loyalty levels. The project also discovered that the text readability and legibility of an application greatly affected the user’s frequency of use of the given mobile banking application. This finding is in congruence with Abbasi, Kamran, and Akhtar’s (2017) conclusion that the lesser the complexity or difficulty level of an online application, the higher the likelihood of its adoption.

The users’ perception of a mobile banking application can also be defined by the nature of the user interface and the interaction design. A study by Ismail, Ahmad, Kamaruddin, and Ibrahim, (2016) on the usability issues in mobile applications found a strong correlation between an application user interface and interaction design and customer loyalty in mobile banking. The current project found that an application’s ability to sync all user information, relay customer information to the user’s preference, allow for use by individuals with low proficiency levels, and the presentation of a variety of data entry methods played a key role in ascertaining the customer loyalty levels. These findings agree with Jailani, Abdullah, Bakar, and Haron (2015) study deductions that the findability and availability of sufficient service features, the presentation, and categorization of banking information, and the ease of access to online banking services by all people regardless of the difference in demographic factors are vital customer loyalty determining factors.

On the other hand, customer loyalty in mobile banking can be measured based on the effort exerted by the user in their search for relevant information and functions. The project's findings showed that most respondents believed that the effort they employed in mastering the various functions within the application as well as the labor they put forth in finding the intended services and trying to understand the various application functions influenced their continued use of the specific application. Sangar and Rastari (2015) back up this finding by stating that at times, customers judge an application’s ease of use based on the mental effort required to use it. As such, the exertion of minimum effort in the use and navigation of mobile banking applications while the user realizes their financial objectives or goals effectively serves as a critical determining element of customer loyalty level.
M-banking based on previous interactions had a positive effect on customer loyalty. In addition, mobile interface usability and service were found to have a positive effect on customer satisfaction. In order to develop customer loyalty in m-banking, banks should prioritize user friendly interface and provide services valued by m-banking customers. The consumers might be attracted and encouraged to adopt mobile banking services with more user-friendly interfaces. Ease of use and usefulness play critical role on mobile banking environment. The icons and user interfaces should be designed with the actual users’ participations. Although ambiguous icons would raise various interaction problems, properly designed icons improve the performance of the end-users. It was found that the customized method is useful due to the high interest shown by the users in the results, and their enjoyment during the process.

5.3.3 Mobile Banking Services’ Reliability and Customer Loyalty

The finding concurs with the study findings by Sathiyavany & Shivany (2018) state that there exists a positive relationship between conative, affective, and cognitive loyalty dimensions and online trust. In the mobile banking sphere, reliability entails the presence of features that support quick money transfer services and dependability and the availability of an element of trust during the participants’ transactions process. The project’s findings revealed that numerous reliability-related elements affected the customer’s trust and dependability on a specific mobile banking application, which further influences their degree of loyalty. Some of the reliability aspects that are discussed in the findings include the availability of the desired functions and services, privacy and confidentiality measures, and accessibility and convenience of services in mobile banking applications.

Concerning user convenience, the project’s findings showed that the consistency of the mobile banking application to function as desired played a vital role in determining the degree of customer loyalty. This finding verifies the correctness of the study by Gakere (2016) which suggested that mobile banking customers in the Kenyan context judged a mobile banking application’s reliability and their likelihood of continuously using it based on the perceived convenience and dependability levels. The study also found that the ease to follow mobile banking instructions and provision of satisfactory feedback during mobile banking transactions, which are other convenience measures, affect the level of customer
loyalty. The same results were obtained in this project’s findings for a significant number of the correspondents agreed that the availability of simple and easy to follow instructions as well as the provision of adequate feedback affected their selection and dependability levels of a given application.

In the contemporary business world, characterized by the constant emergence of new and advanced technologies, security and privacy are two critical requirements that boost customer loyalty levels. In the context of USIU-Africa graduate students mobile banking users, the project uncovered that their dependability on a certain application was founded on its capability to offer security and confidentiality during transactions. The project also found that the presence of in-built security features considerably contributed to the variation on customer loyalty levels among mobile banking users. Similarly, Jawanjal and Joshi (2015) found a positive correlation between an application’s capacity to prove the identity of their users hence deterring unauthorized access to confidential or sensitive personal information and improved customer loyalty.

The project findings also asserted that the provision of cybersecurity awareness by the mobile banking application affected the customers’ trust and dependability levels on a given application. This was supported by Sathiyavany and Shivany (2018) who asserted that institutions that secure their applications and websites motivate and encourage their customers to use them for transactions which further translates to the creation of sustainable online relationships and enhanced customer loyalty. In addition to protecting customer financial and personal information, Al Zaabi and Tubaishat (2015) pinpointed that mobile banking applications are also entitled to informing their customers of data protection measures that can prevent confidential data loss and modification.

Results show that Service reliability is one of the important attributes of service providers as they regard measuring the service quality from consumers’ perspective as a top priority construct. Service quality is an indispensable factor for customer satisfaction, cost reduction, customer loyalty, customer relationship and retention, profitability and so on. Also result show that reliability dimensions should be enhanced to help increase customer loyalty. For instance, personalization, accessibility and efficiency which had a positive effect on customer loyalty need to be enhanced further to achieve high level of customer loyalty hence
profitability of banks. As banks continue with their innovations and introducing them to customers, customers need to be trained on how to use these technologies to improve their banking experiences and make sure that these technologies adopt security as a key aspect.

5.4 Conclusions

5.4.1 The Effect of Speed of Response on Customer Loyalty

The project’s findings showed a significant relationship between speed of response and increased customer loyalty levels. Some of the aspects of the speed of response that substantially influences the degree of customer loyalty in mobile banking were found to be the application’s promptness, its capacity to correct mistakes and modify a service whenever issues arise, and mobile interface design and usability aspects. Moreover, the capacity of a mobile banking application to respond to customer requirements in a flexible and timely manner also greatly affect customer loyalty. As such, speed of response is a significant determinant of customer loyalty in the mobile banking environment.

5.4.2 Ease of Product Use in Mobile Banking and Customer Loyalty

A mobile banking application’s perceived ease of use is a critical component of determining the success of an online banking application. The project’s findings uncovered that the perceived ease of product use in mobile banking greatly affected the customers’ selection and continued use of the given application. Specifically, the project found that availability of an easy-to-remember layout and content, understandable and concise content, ease of navigation, the application’s ability to sync all user information, relay customer information to the user’s preference, allow for use by individuals with low proficiency levels, and the presentation of a variety of data entry methods played a key role in ascertaining the customer loyalty levels. Moreover, the effort exerted in mastering the various functions, finding the intended services and understanding the various application functions influenced their continued use of the specific application. Therefore, the ease of mobile banking application use is a critical determinant of customer loyalty.

5.4.3 Mobile Banking Services’ Reliability and Customer Loyalty

Mobile banking services’ reliability affects customer loyalty in multiple ways, as shown in the project findings. Reliability, as a construct, can be measured by different elements. The
identified reliability-related elements include the presence of features that support quick money transfer services, the consistency of the mobile banking application to function as desired, the provision of security and confidentiality during transactions as well as informing their customers of data protection measures that can prevent confidential data loss and modification. The project concluded that these factors significantly affect a mobile banking application’s dependability levels and the element of trust among the customers, which further influences the degree of customer loyalty.

5.5 Recommendations

5.5.1 Recommendation for Improvement

5.5.1.1 The Effect of Speed of Response on Customer Loyalty

In the current dynamic and fast-paced world, the development of highly and fast responsive mobile banking applications should be at the forefront of all the application developers and banking financial institutions. Besides, the responsiveness can be attained by focusing on the mobile banking application’s user interface, design, and information presentation. As such, the banking institutions ought to ensure that their applications have an easy-to-remember layout with understandable and concise content alongside permitting for ease of navigation. For the enhancement of the speed of response and customer loyalty, mobile banking applications should also be quick in resolving issues encountered during transactions and processing customer complaints.

5.5.1.2 Ease of Product Use in Mobile Banking and Customer Loyalty

The project recommends the constant testing of the ease of mobile banking application used by institutions to ensure that the customers can deem them as simple to exploit or operate in search of the desired financial objectives. The banking institutions should also ensure the mobile banking applications have legible and readable text, permit for a variety of data entry methods, possess the capacity to sync all user information, relay customer information to the user’s preference, and allow for use by individuals with low proficiency levels. The applications should also require minimum effort from the users in mastering the various functions and finding the intended services.
5.5.1.3 Mobile Banking Services’ Reliability and Customer Loyalty

The project recommends the consideration of the provision of convenience in mobile banking application before the launch and during an application’s lifecycle. Institutions can offer their customers convenience by ensuring that the applications function as expected. They should also ensure that the instructions offered are easy to follow and that the customers receive adequate feedback during transactions. Moreover, in case the customers encountered problems during the transactions, the applications should be capable of resolving the issues besides supporting accessibility across multiple user devices. The provision of security and confidentiality during transactions should also be a significant consideration in mobile banking. The findings concur with findings by Bhatt & Bhatt, (2016) that perceived safety on customers data has an impact on the users’ attitudes towards the adoption of mobile banking services which is further linked to customer loyalty.

5.5.2 Recommendation for Further Studies

The current project aimed at examining the effects of mobile banking on customer loyalty among USIU-Africa graduate students. The study variables analyzed in this project consisted of the speed of response, ease of product use, and mobile banking services’ reliability. However, these elements are not exhaustive in determining the effects of mobile banking on customer loyalty. As such, future studies should focus on a more comprehensive analysis of mobile banking elements with respect to customer loyalty.
REFERENCES


APPENDICES

Appendix I: Introduction Letter

TO WHOM IT MAY CONCERN.

22ND JULY, 2019

Dear Sir/Madam,

REF: PERMISSION TO CONDUCT RESEARCH – KENEDET JUMA
STUDENT ID. NO. 656479

The bearer of this letter is a student of United States International University (USIU) -Africa
pursuing a Masters of Business Administration.

As part of the program, the student is required to undertake a dissertation on the “Effects of
Mobile Banking on Customer Loyalty,” which requires him to collect data.

Please note that information provided will be treated with utmost confidentiality and will only be
used for academic purposes.

Kindly assist the student get the appropriate data and should you have any queries contact the
undersigned.

Yours sincerely,

Prof. Amos Njogu,
Dean - School of Graduate Studies, Research and Extension
Tel: 730 116 442
Email: amnjogu@usi.ac.ke
Appendix II: Questionnaire

Section A: Background Information

(Please tick (√) the most appropriate)

1. What is your gender?
   (a) Male
   (b) Female

2. What is your age group?
   (a) 18 years – 27 years
   (b) 28 years – 37 years
   (c) 38 years or more

3. Do you use mobile banking services e.g. Mpesa, Tala?
   (a) Yes
   (b) No

4. How frequently do you use mobile banking services?
   (a) Daily
   (b) Several days in a week
   (c) Once a month
   (d) Occasionally

5. How long have you been a mobile banking customer?
   (a) Less than 6 months
   (b) 6 months to less than a year
   (c) 1 year to less than 3 years
   (d) 3 years or more
Section B: Speed of Response And Customer Loyalty

Kindly indicate the extent to which you agree with the following statements. Use the following Likert scale (5 = strongly agree, 4 = Agree, 3 = Neutral, 2= Disagree, 1 = Strongly Disagree).

<table>
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<tr>
<th>Statements</th>
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<tr>
<td>The time taken before a transaction is initiated determines my frequency of using a specific mobile banking application.</td>
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<td>The time taken before the requested service is provided influences my selection and continued use of a specific mobile banking application.</td>
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<td>The level of assistance offered during a search or interaction with the provided mobile banking service determines my frequency of using a specific mobile banking application.</td>
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<td>The provision of prompt answers to my queries influences my selection and continued use of a specific mobile banking application.</td>
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<td>The speed of resolving of issues encountered during the use of mobile banking services influences my selection and continued use of a specific mobile banking application.</td>
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<td>The time taken in processing of complaints determines my frequency of using a specific mobile banking application.</td>
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<td>The provision of online self-services, thus eliminating the need for banking employees’ services, influences my selection and continued use of a specific mobile banking application.</td>
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<td>The application’s possession of an in-built capacity to carry out financial analysis hence reducing the time taken in measuring my financial progress and condition influences my frequency of using a specific mobile banking application.</td>
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<td>The presence of user navigation features which cut down the time spent on pinpointing the required online banking content and functions influences my selection and continued use of a specific mobile banking application.</td>
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The flexibility of a mobile banking application with a layout that automatically changes based on the capabilities and size of a device affects my frequency of using the specific mobile banking application.

**Section C: Ease of Product Use and Customer Loyalty**

Kindly indicate the extent to which you agree with the following statements. Use the following Likert scale (5 = strongly agree, 4 = Agree, 3 = Neutral, 2= Disagree, 1 = Strongly Disagree).

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<td>The ease of recognizing my bank’s mobile banking application on my phone influences my frequency of using the specific mobile banking application.</td>
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<td>The presentation of clear and concise information affects my continued use of a mobile banking application.</td>
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<td>The text legibility and ease of readability affects my selection and continued use of a mobile banking application.</td>
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<td>The required effort in finding the intended services influences my selection and continued use of a mobile banking application.</td>
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<td>The required effort in understanding the application’s functions influences my frequency of using the specific mobile banking application.</td>
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<td>The ease of memorability/mastering of different functionalities offered by the application influences my frequency of using the specific mobile banking application.</td>
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<td>The application’s allowance of different data entry methods, including voice recognition, influences my selection and continued use of a mobile banking application.</td>
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<td>The application’s ability to pinpoint errors made during transactions affects my frequency of using a specific mobile banking application.</td>
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<td>The mobile banking application’s ability to allow me to confirm the transaction as I proceed affects my selection and continued use of a mobile banking application.</td>
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The application’s simplicity and allowance of use by users with low technology proficiency levels influences my frequency of using the specific mobile banking application.

The application’s degree of offering customized information and services that directly satisfy my unique online banking preferences.

The application’s compatibility with multiple devices influences my frequency of using the specific mobile banking application.

The application’s ability to sync their customer information across numerous devices affects my selection and continued use of the specific mobile banking application.

### Section III: Mobile Banking Services Reliability and Customer Loyalty

Kindly indicate the extent to which you agree with the following statements. Use the following Likert scale (5 = strongly agree, 4 = Agree, 3 = Neutral, 2= Disagree, 1 = Strongly Disagree).

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<tr>
<td>The ability of a mobile banking application to function as needed at all times affects my dependability on the specific mobile banking application.</td>
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<td>The availability of desirable transaction functions affects my dependability on a specific mobile banking application.</td>
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<td>The provision of simple and easy to follow instructions during transactions influences my reliance on a specific mobile banking application.</td>
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<td>The level to which the mobile banking application enables me to manage my finances better affects my selection and continued use of the specific application.</td>
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<td>The provision of confidentiality during transactions influences my selection and continued use of a specific mobile banking application.</td>
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<td>The relevancy and accuracy of the information provided affects my frequency of using a specific mobile banking application.</td>
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</table>
The provision of satisfactory feedback during mobile banking transactions influences my selection and continued use of a specific mobile banking application.

The mobile banking application’s ability to allow for the completion of transactions affects my reliability on the specific mobile banking application.

The ability to access any mobile banking service at any given time affects my continued use of a specific mobile banking application.

The provision of adequate awareness regarding the availability of various cybersecurity threats that affect online banking service users influences my reliance on a specific mobile banking application.

The provision of adequate information on the in-built security measures that can prevent confidential data loss and unauthorized alteration affects my continued use of a specific mobile banking application.

The provision of security and respect of privacy offered by a mobile banking application influences my frequency of using the specific mobile banking application.

The application’s ability to provide up-to-date mobile banking services information at all times affects my selection and continued use of a specific mobile banking application.

Thank you for your time and feedback
Appendix III: NACOSTI Letter

Republic of Kenya

National Commission for Science, Technology and Innovation

Ref No: 925588

Date of Issue: 29/July/2019

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This is to certify that Mr. Kenedy Juma of United States International University Africa, has been licensed to conduct research in Nairobi on the topic: Effects of Mobile Banking on Customer Loyalty for the period ending: 29/July/2020.

License No: NACOST/P/9/247

Applicant Identification Number: 925588

Director General
National Commission for Science, Technology and Innovation

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