

**FINTECH ADOPTION AND SERVICE DELIVERY; A STUDY OF MOBILE  
BANKING IN UGANDA, A CASE OF BUSIA MUNICIPAL COUNCIL,  
WESTERN DIVISION**

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UNIVERSITY**

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**UGANDA CHRISTIAN  
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**DECLARATION**

**DECLARATION**

I ODUKI SYDNEY ISAIAH do declare that this piece of work is original and has never been submitted to any academic institution for an academic award and it is true and accurate to the best of my knowledge

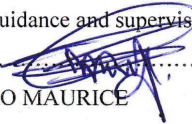
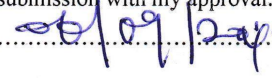
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# APPROVAL

## APPROVAL

This is to confirm that this dissertation was done by ODUKI SYDNEY ISAIAH J22B33/048 under my guidance and supervision and it is ready for submission with my approval.

Signature:  ..... Date:  .....

DR. OLOBO MAURICE  
(Research supervisor)

## **DEDICATION**

This research is dedicated to the loving memory of my late Dad, Wabudi Ezra (17<sup>th</sup> April 1967-08<sup>th</sup> March 2024). Though you are no longer with us, your spirit continues to inspire me, and your legacy lives on. This work is a testament of values you instilled in me and dreams you encouraged me to pursue.

*May your soul keep resting in peace*

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# TABLE OF CONTENTS

DECLARATION .....	II
APPROVAL .....	IV
DEDICATION .....	V
TABLE OF CONTENTS .....	VII
ABSTRACT .....	IX
CHAPTER ONE .....	1
1.0 Introduction .....	1
1.1 BACK GROUND OF THE STUDY .....	1
REASEARCH PROBLEM .....	3
1.3 RESEARCH OBJECTIVES .....	4
1.8 LIMITATIONS FROM THE STUDY .....	6
1.9 CONCEPTUAL FRAMEWORK .....	6
CHAPTER TWO .....	7
LITERATURE REVIEW .....	7
2.1 Introduction .....	7
2.2 DEFINITION OF KEY TERMS .....	7
2.2.1 FINTECH ADOPTION .....	7
2.2.2 SERVICE DELIVERY .....	7
2.2.3 MOBILE BANKING .....	8
2.4 INFLUENCE OF MOBILE BANKING ON CUSTOMER ENGAGEMENT AND SATISFACTION IN BANKING OPERATIONS .....	10
2.5 SECURITY CHALLENGES AND MEASURES ASSOCIATED WITH MOBILE BANKING .....	12
CHAPTER THREE .....	14
RESEARCH METHODOLOGY .....	14
3.0 INTRODUCTION .....	14
3.1 THE RESEARCH DESIGN .....	14
3.2 SAMPLING DESIGN .....	14
3.2.1 Sampling technique .....	14
3.3 TARGET POPULATION .....	14
3.4 SAMPLE SIZE .....	15
3.5 SAMPLING TECHNIQUES .....	15
3.6 DATA SOURCES .....	15
3.6.1 Primary data .....	15
3.6.2 Secondary data .....	16
3.7 DATA COLLECTION INSTRUMENTS .....	16
3.7.1 Questionnaires .....	16
3.8 Reliability of instruments .....	16
3.9 DATA ANALYSIS .....	16
3.10 ETHICAL CONSIDERATIONS .....	17
CHAPTER FOUR .....	17
4.1 Introduction .....	17
Table 4.1 RELIABILITY OF THE INSTRUMENTS .....	17
Table 4.2 GENDER .....	18
The table below gives a summary of the gender distribution of the respondents .....	18
Table 4.3 Age .....	18
Table 4.4 Education level .....	19
4.2 DESCRIPTIVE STATISTICS .....	20
The descriptive statistics provide a summary provide a summary of key variables measured in the study. This covers mean and standard deviations which help to understand the distribution and spread of the data	20
Table 4.2.1 CUSTOMER ENGAGEMENT & SATISFACTION .....	20
This table gives descriptive statistics summing up the responses related to customer engagement and satisfaction with mobile banking services. ....	20
TABLE 4.2.1 TIME .....	22

This table gives descriptive statistics summing up the responses related to how effective mobile banking is when it comes to time saving with mobile banking services .....	22
TABLE 4.2.3 PRIVACY .....	23
This table gives descriptive statistics summing up the responses related to privacy when it gets to mobile banking services. ....	23
4.2.4COST .....	24
This table gives descriptive statistics summing up the responses related to costs when it comes to mobile banking services. ....	24
4.2.5EMPATHY .....	25
This table gives descriptive statistics summing up the responses related to the empathy dimension of the servequal model when it gets t mobile banking services. ....	25
4.2.6RELIABILITY .....	26
This table gives descriptive statistics summing up the responses related to the reliability dimension of the servequal model when it gets to mobile banking services. ....	26
4.3CORRELATION ANALYSIS .....	27
4.4.1 REGRESION ANALYSIS .....	28
This section examines the relationship between the variables to determine the strength and direction of association. ....	28
4.4.2 ANOVA .....	29
4.4.3 REGRESSION COEFFICIENT .....	30
CHAPTER FIVE .....	31
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS .....	31
5.1SUMMARY OF SPECIFIC OBJECTIVES .....	31
5.1.1ROLE OF MOBILE BANKING IN FINANCIAL INCLUSION AND ACCESSIBILITY .....	31
5.1.2INFLUENCE OF MOBILE BANKING ON CUSTOMER ENGAGEMENT AND SATISFACTION IN BANKING OPERATIONS .....	32
5.1.3SECURITY CHALLENGES AND MEASURES ASSOCIATED WITH MOBILE BANKING;32	
5.2CONCLUSIONS .....	33
5.3 RECOMMENDATIONS .....	34
APPENDICES .....	35
APPENDIX 1 : QUESTIONNAIRE .....	35
REFERENCES .....	38

## **ABSTRACT**

This research aims to study Fintech adoption in particular mobile banking and how it impacts service delivery and it was carried out in Busia Municipal council western Division and it gives an overview of how fintech cause disruption of the traditional banking industry.

It is made up of five chapters with chapter one giving an overview of the study highlighting the study background, problem statement, study objectives, research questions, significance of the study and limitations

Chapter two covers review of literature about the objectives of the study, chapter three addresses the plan and strategy of accomplishing the study,

Chapter four gives a presentation and analysis of the study findings and Chapter five gives summary of the study objectives conclusions and recommendations

The study was carried out over a four months period from April- August 2024 and it adopted a qualitative and cross sectional design

**KEY WORDS ; FINTECH , MOBILE BANKING , SERVICE DELIVERY**

## CHAPTER ONE

### 1.0 Introduction

The chapters covers the study back ground, statement of the problem, objectives of the study, research questions, significance of the study scope and limitations

### 1.1 BACK GROUND OF THE STUDY

Digital technology is shaping how banking institutions create and deliver money management services. With the advancements in portable technology, automation, expert systems and distributed ledger technology has led to emergence of new financial technologies (fintech). KPMG (2017) explains financial technology entities as the ones leveraging technology to have an edge and cause disturbance in the financial industry.

For ages dating as far as the industrial revolution, banking has always existed and just like other sectors has experienced change, banking has not been spared. From the evolution of ATM machine around 1967 to the introduction of crypto currency by Satoshi Nakamoto in 2009, technology continues to shape the future of banking. Banks have for long been at the fore front of providing financial and banking service in Uganda. According to the DPF (Deposit Protection Fund of Uganda) Uganda has 25 commercial banks, Banks have been the main way of transacting such as making payments, transferring money and also holding client savings which implied that it was inevitable for one to hold a bank account. With the growing desire for quick and streamlined channels of payment internationally, the desire and popularity of digital mobile payments is on the rise( Flejterski & Labun 2016) and these platforms have done away with need for too many demand for creating an account in a bank.

“The use of tech has become a new way of extending financial services to customers with no need for reliance on expensive physical branch structures (Gu, Lee & suh 2009).” “Financial technology entities aren't listed traditional banks but are providers for payment service that leverage tech to enable transferring of funds on mobile handsets and electronic devices.” The growth in tech has opened the door for new

market players in the financial sector and these new entrants leverage technology to bring about a new form of banking.

The evolution of fintech brings about some opportunities for both the banks and the Fintech companies as well, by having partnerships or creating Fintech solutions by the banks themselves, the banks can increase the level of efficiency in operations, increase product offers, and strengthen customer relations (Petralia and others, 2019). the collaboration enables banks to attain cost efficiency by lowering costs related to transactions and bringing about faster service delivery (FSB 2017). this can give the traditional banks an ability to maintain competitiveness. (Chen, Wu ,and Yang 2017) found out that leaders in the banking sector who do invest in their innovativeness are in position to prevent the negative consequences that are brought about by the fintech competition.

On the other side of the coin, Fintechs are mounting pressure unto traditional banks; they are causing a disruption in the financial space. According to Buchak and others (2018) it was found out that fintech lenders provide convenience to the clients. And as a result of tight regulations around banks, there is either a fall in lending by banks (Cortes and others 2020) or it is becoming costly for some groups, causing people to move to the less regulated financial institutions (Irani and others,2020). IMF (2022) shows that Fintech have a direct competition with the banks, which greatly lowers the banks' income from interest on mortgages.

According to Allied Research (2021), the international financial tech lending field is likely to grow by \$ 4.9 trillion by 2030. And according to Statista (2022) the investment in fintech is believed to keep strengthening with the net figure growing from \$ 4 billion in 2021 to \$217 billion in 2019.

Bill Gates said in 1994, "Banking is necessary, but banks are not", Brett King said "Banking is no longer somewhere you go, it's something you do."

As a result of the increased competition, banks have to become highly innovative so as to survive the competition this led to the evolution of mobile banking. Mobile banking is defined as access to monetary services through the use of electronic portable devices for example handheld devices (Olweny & Shinho 2014). Mobile banking started taking shape in Uganda with the emergence of mobile money which saw banks collaborate with telecommunication companies such as Airtel Uganda and

MTN Uganda so as to enable access to the bank accounts be the clients and as well enable them to transact, however over the years the banks started developing mobile applications of their own and this came to be termed as mobile banking. They were also pushed further to start up something called agent banking.

Rendering of services to customers can be defined as any activity given to a client pre purchase, when purchasing and post purchase, aimed to improve satisfaction of customers hence meeting the customer needs (Gilbert, Meyer and Vaughan 2000). With the advent of mobile banking, there's a change in the way banks deliver services to the clients offering convenience and banking to clients beyond the traditional banking model (Adewoye 2013).

Because this is the goal of the banking sector, to provide efficient services, facilities like ATMs, the internet and mobile banking should be introduced. (Adewoye 2013).

Recent changes in technology have created an explosion in technology based self service (Dabholkar 2013) and as such the way service entities and clients interact has changed.

## **REASEARCH PROBLEM**

The government of Uganda set out with development goals widely known as UGANDA VISION 2040, under which one of them was improving ICT and this was referred to as Digital Uganda Vision 2040, and this "is a national policy and strategic framework that reviews, integrates, consolidates, and improves all the existing ICT strategies, policies and plans into one overarching digital Vision for Uganda by providing a unified direction for ICT development and an Integrated ICT project implementation approach" (Uganda Vision 2040 handbook, 2013). Despite the ambitious goals outlined in the Uganda Vision 2040 regarding the development and utilization of ICT, there are still significant challenges in leveraging the full potential of ICT for service delivery and financial inclusion, particularly in the area of mobile banking (Ndung'u, 2019).

Uganda's mobile phone penetration rate stood at around 60% as of 2020, indicating significant room for growth (Global System for Mobile Communications, 2021). However, the financial inclusion rate, which measures the proportion of the masses with access to formal financial services, was only around 59% as of 2018 (FinScope Uganda, 2018). This implies that there is a huge number of Ugandans who lack access to the banking services yet banking institutions ventured into mobile banking as a way of extending the services to all Ugandans. "Mobile banking offers the potential to increase and deepen financial inclusion across Uganda. Estimates indicated that over 9 million Ugandans had needed to travel more than an hour to access a bank branch. For customers, mobile banking means reduced travel time as well as greater access to and increased convenience of formal financial services." (UNCDF 2014). The Uganda Bankers Association worked closely with its member banks to promote growth of mobile and agent banking with the goal of extending financial services to un-served and under-served communities. (Uganda Bankers Association, 2022 p.18 )

Therefore, this study aims at finding out how effective and efficient mobile banking has been in extension of banking services to the masses in the Ugandan context.

### **1.3 RESEARCH OBJECTIVES**

To analyze the influence of mobile banking on customer engagement and satisfaction in banking operations.

To evaluate the role of mobile banking in financial inclusion and accessibility.

To explore the security challenges and measures associated with mobile banking.

### **1.4 RESEARCH QUESTIONS**

How does mobile banking influence customer engagement and satisfaction in banking operations?

What security challenges do banks face with mobile banking, and what measures are being implemented to address these challenges?

How does mobile banking contribute to financial inclusion and accessibility?

## **1.5 SCOPE OF THE STUDY**

### **1.5.1 CONTENT SCOPE**

The study focused on understanding mobile banking and service delivery within the competitive financial sector of Uganda.

### **1.5.2 GEOGRAPHICAL SCOPE**

The study focused on the clients who use the mobile banking applications and the focus is on Busia municipal council western division

### **1.5.3 TIME SCOPE**

The study took place between April to August 2024

## **1.6 RATIONALE FOR THE STUDY**

The financial sector in Uganda is facing various changes with the evolution of mobile banking which is posing a challenge to the dominance of traditional banks. By doing a comprehensive study to compare the two, valuable insights can be got into the factors fueling the competition as well as the implications for the financial inclusion and economic development.

The study shall add onto the existing body of knowledge on mobile banking and service delivery, with a limited research especially the Ugandan context, the study tries to cover the gap.

For fintech and banks in Uganda ,it would be important to understand the competitive ground which is important in developing business models since the study could highlight some insights important for players to respond to and address to keep grip of the market share.

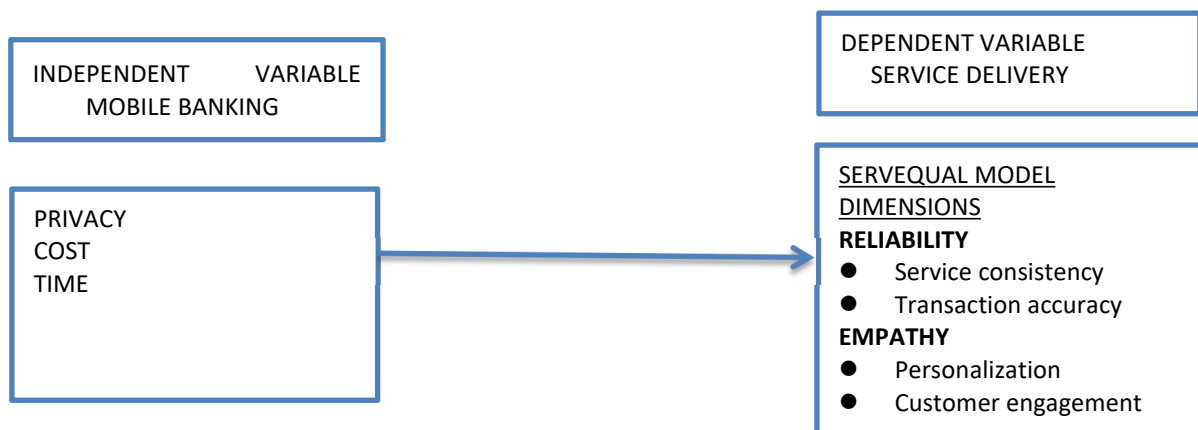
It brings out the impact of mobile banking disruption; with mobile banking causing a disruption of traditional banking models globally which doesn't spare Uganda. it is of great use to understand how the disruption is taking place for the different stakeholders such as regulators,policy makers, and investors to forecast trends and respond effectively'

In general, by exploring the way how mobile banking has impacted service delivery by banks in Uganda, the study aims to generate important insights into the changing market dynamics of the financial sector and this will provide a basis for informed decision making by different stakeholders.

### 1.8 LIMITATIONS FROM THE STUDY

- The research adopts a cross sectional design, hence gathering data once which may not fully capture the dynamics caused by mobile banking within the banking operations
- Time constraints; this is likely to affect the depth of the research hence causing ignoring some important details and incomplete data collection.
- Ethical limitations such as confidentiality of the participants as well as crucial but sensitive information may limit the details that can be reported
- Limitations to data access which may be due to privacy from the respondents could restrict the scope of the study

### 1.9 CONCEPTUAL FRAMEWORK



*Source: Modified by the author basing on the servequal model*

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter digs into the existing body of knowledge surrounding mobile banking, with a focus on its impact on customer engagement and satisfaction, role in financial inclusion and accessibility and the security challenges and measures to do with mobile banking. The chapters look into findings from prior research to create an understanding of these key areas. By examining the existing literature this chapter aims at identifying gaps and creates a theoretical framework that informs the subsequent analysis and discussion within the study.

#### **2.2 DEFINITION OF KEY TERMS**

##### **2.2.1 FINTECH ADOPTION**

Financial technology (fintech) refers to integration of technology into what an entity offers to the delivery and use. KPMG (2017) explains financial technology entities as the ones leveraging technology to have an edge and cause disturbance in the financial industry. Fintech includes a variety of applications for example mobile banking, online payment systems, peer to peer lending, and block chain technology e.t.c. Fintech adoption is the process by which consumers integrate and utilize fintech innovations in the financial service industry.

##### **2.2.2 SERVICE DELIVERY**

Service delivery refers to the process by which an organization or service provider extends services to the consumers. It includes several activities, resources, and strategies involved in ensuring that a service is effectively and efficiently provided to meet the need and expectations of the service users (Zeithaml et al 2017).

Lemon and Verhoef (2016) argue that organizations must focus on understanding and managing the entire customer experience, from pre-purchase to post purchase interactions, highlighting the role of technology such as digital platforms and mobile applications in enhancing service delivery and customer experience.

### **2.2.3MOBILE BANKING**

Mobile banking refers to the use of mobile devices for instance phones to access and perform several banking and financial activities. It has emerged as a significant component of the digital banking landscape in recent years (Shaikh & Karjaluo 2015). The increased accessibility and convenience have been key drivers of mobile banking adoption among consumers. Kamboj & Rahman (2017) emphasized the importance of mobile banking in enhancing financial inclusion especially in developing countries

### **2.3ROLE OF MOBILE BANKING IN FINANCIAL INCLUSION AND ACCESSIBILITY**

“The rapid increase in technology over the past years has brought about a difference in mode handling business by persons as well as their daily lives. The emergence of the internet and portable gadgets has caused a remarkable transformation to several fields from doing things manually to doing things automatically and from transacting without internet to being able to do so including in banking and financial industry. The traditional banking modal that had previously been used by financial institutions was not meeting shifts in consumer culture. The clients now like the easy and the convenient access to products and service. Grabbing the importance of the automated age, commercial banks have abandoned the normal ways of doing work in physical branches” (Thuy Thu Nguyen, 2020). The global increase and leveraging of internet and portable gadgets such as phones has led to the emergence of different ways of banking and financial sector which leads to the establishment of mobile banking. Usually mobile banking has been used interchangeably with terms such as digital banking, electronic banking, internet banking, and online banking.

The adoption mobile banking has changed the financial landscape in attaining financial inclusion by reducing expenses other than the normal banking and creates ability for wider access across the common geographic presence of the locale (Hyun-Soo Choi, 2020).

The idea of mobile banking can be explained as a transformation to a digital format of banking transactions which were originally offered when clients had to move to

physical banking halls (Darrly Proctor,2019).These could include things such as taking deposits, withdrawals, or money transfers.

(Yoonseock Son 2016) says mobile banking tech has impacted the heart of the banking sector and brought a shift in financial services operations , which had been subdued by off net worker-intended services had turned to on net based services. The on net based banking has increased productiveness and affordability of tech enabled service delivery processes have changed the management focus toward improving the productiveness of computerized ways of operating to lower operation related expenses. As an increasing percentage of banking institutions are offering computerized banking services, it is vital that banks to be aware of the ways clients utilize the computerized services and make use of their payoff to enhance client relations. (Yoonseock Son, 2016).

(Loh, 2020) says computer based banking has impacted various banks in reducing their physical activities that happened in the bank branches. The coming of mobile banking had transformed customers not to depend on transacting from physical bank branch. Besides,mobile banking brings a difference in the banking model by lowering costs in contrast to traditional banking and gives ease of access to its clients (Loh, 2020).This mobile banking is a distinguishing feature for the banks to outsmart competitors, reduce the exposure to risk and manage risk better in event it happened while simultaneously addressing the desire of their clients and respond to shifts in the market(Emily, 2017).

Notably, financial inclusion implies that persons and entities can not only be able to reach the financial services and having financial services handy but also having the ability and gladness to make use of them. The key issue is to what point the lack of inclusion arises from the lack of demand or having hurdles that hinder persons and entities from availability to financial services (World Bank, 2014).

The introduction of mobile banking at the moment aids with growth economically and socially in various countries across the globe. Basin on (John Vong, 2016) computerized banking can help both the rural population and the rural bank branches where it focuses on lowering poverty and enhancing the living standards of the rural population.

According to (Ivo Jenik and Kate Lauer, 2017) mobile banking can enhance inclusive finance by bringing recently developed, cheaper products or services that handle the demands of those kept out and the less served client segments. The taking on of mobile banking might bring about a growth in the competitiveness of the institutions dealing in financial services which could force banks to shift the focus to the segments that have been left out.

(North, 2018) emphasized that mobile banking has helped clients in the dimension of time constraints where there is no need to spend time and incur costs as it is not a must to move to the bank in so as to perform a transactions. It also eliminates the need to wait in long queues just to perform simple transaction.(North, 2018).

According to GDS Modellica 2020, digital banking is available 24\*7, from comfortably sitting at home,at work or in a moving car, customers can conduct banking operations. Hence no need for them to wait around for longer periods of time

Mobile banking also offers more product information via the internet where the consumers can get information about the services and products. This clients stay in touch with the bank and better attended to.

## **2.4INFLUENCE OF MOBILE BANKING ON CUSTOMER ENGAGEMENT AND SATISFACTION IN BANKING OPERATIONS.**

Satisfaction of customers is an important factor of the successful outcome of mobile banking services, since it literally affects customer retention, confidence, and profit margin for the banks (Shakya, 2016). Satisfaction of customers has been sighted as an key factor that fuels brand loyalty, client retention and post buy behavior of clients. Customer satisfaction can be measured after a client has consumed a product or service, it is something than can be analyzed post purchase. Before a client decides to use a service or product the posses a certain level of expectations about it and its upon an organization to be able to meet those expectations so as to meet customer satisfaction. It was discovered that about 50% of the clients abandoned accounts used for transactions because of bad customer service (David, 2018) and about 20% because of being dissatisfied with current financial services (Kahandawa &

Wijayanayake, 2014). It would be key for the banking field to warrant their digitized financial products and services such as mobile banking are so as to satisfy their customers (Wayamba journal of management, 2023).

Rogers put emphasis on the benefits of various elements for example trust that could create a huge effect on how customers perceive adjusting to the recently introduced technology (Waititu, 2019). Utilization of mobile banking and its level of satisfaction highly depends on the ability to go through the website encountering issues which are as minimal as possible. It is key to take into account that self-service technology is time and cost saving and reduces face to face interactions. Hence web-based satisfaction is crucial. (Wayamba journal of management, 2023). A vital consideration while availing services of mobile banking is security and reliability. It has been observed through research that trust works as a significant driver of online banking and it can also work as a strong predictor of customer happiness. Since most people normally anticipate insecurity, trust comes an important ingredient. Otherwise, the customer becomes quite difficult to use the online services and will not use the services in the future as well. (Wayamba journal of management, 2023).

People in the present world love to use things and methods than can simplify the busy and complicated schedules. The banking sector has taken up digitized applications, handling various hindrances for example as mediocre services, exorbitant, and inadequate access, among others, and given support in addressing their financial difficulties with lots of ease (Fiona & Perera, 2022).

In case the service providers could improve the reliability of their on net banking services, final users would be satisfied more with the facility and will increase their usage level. (Wayamba journal of management, 2023).

With the current age where the world is headed to a doing transactions without cash and individuals having tight work schedules, internet banking could be a great remedy to involve in the daily banking activities hence time saving. (Gomachab & Maseke, 2018). Literature has claimed that compared to traditional banking services the use of e-banking or mobile banking services will improve customer satisfaction and service effectiveness. (Wayamba journal of management, 2023).

## **2.5 SECURITY CHALLENGES AND MEASURES ASSOCIATED WITH MOBILE BANKING**

In spite of the great capability of the mobile banking in promoting financial inclusion, cutting the cost associated banking and improving convenience (Opili & Muturi, 2016), from the research carried out by He, Tian and Shen (2015) said the security threats related to mobile banking have been on a growth increasing in how often they occur and complexity. Hence the security threats to do with mobile banking are a grave concern to both the financial service providers and their customers.

Heggestuen (2014) found out in a study conducted in US showed that “31% of the clients that used mobile banking would go ahead to incur extra charges to ensure that their mobile transactions are secure. Another, 63% would choose mobile banking platforms that guarantee security in case a fault was noticed in their current mobile banking platforms. The study as well found out that 71% of the customers that use mobile banking would be willing to change accounts to those that assured them of a compensation in case they suffered a loss from failure of mobile banking security”.

In a study conducted by Positive Technologies, which focused on 14 different mobile banking applications, the findings showed that none of them gave enough level of security (Positive Technologies, 2023). The study showed that these applications had faults on either side of the customer and the server. Attackers were able to acquire the information belonging to customers in 13 /14 tested apps on the customer side. (Positive Technologies, 2023). In about 76% of the time, the weaknesses could be used with no need for physically having the gadget, and more than 1/3 of them could be accessed without administrator (jailbreak or root) rights (Akpan et al., 2022).

Islam (2014) carried out a review of literature about challenges to do with mobile banking between 2008 and 2012 in Malaysia and found out that unauthorized access, malicious hacking, malware and mobile viruses were the most significant threats during that period. A study by He, Tian and Shen (2015) recommends an innovative

account profiling technology; biometric based authentication and identification systems; and encryption as some of the strategies for addressing the mobile banking security threats. However, the study did not show empirical evidence for the same. “Developers may use secure communication protocols, ensure certificates are validated correctly, and utilize secure application design to lower the risks.” (Cinar & Kara, 2023).

“Encryption, multi-factor authentication, secure software development methods, and stoner mindfulness programs are just a few of the solutions that have come up and can reduce these issues.” (Mugo, 2023). Customers may be taught about the challenges of mobile banking and get training on how to spot and keep away from the possibility of threats such as phishing scams (Mamolo, 2022).

(Suh, Lee, and Lee 2020) studied the successfulness of several verification methods in mobile banking apps, focusing the benefit on of user friendly yet secure authentication mechanisms. It was found that the use of advanced analytics and artificial intelligence exhibited promising results in identifying and stopping frauds mobile banking (Huang et al., 2021)

(Chang, Leu, and Chen 2021) studied the effect of secure coding practices on mobile banking app security, highlighting the importance of taking on secure coding guidelines and reviewing codes often to address rising threats.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 INTRODUCTION**

This section presents the methodology the researcher used in collecting data. It focused on showing details about the research design, sampling design, target population, sample size, data sources, and data collection methods, data collection instruments and data analysis.

#### **3.1 THE RESEARCH DESIGN**

The research design outlines the overall plan and strategy for conducting the study. For this research, a qualitative design was employed. This design was used because it explored how mobile banking has enhanced service delivery

The researcher intended to apply a cross sectional design where by the data was to be collected once from a place

#### **3.2 SAMPLING DESIGN**

##### **3.2.1 Sampling technique**

The study involved the use of simple random sampling technique in the way that the the respondents were of randomly selected. This sampling technique was used because it gives an equal chance to every respondent to be selected, involves lesser degree of judgment hence it minimizes bias, cost- effective, less time consuming and comparatively easier way of sampling than other sampling techniques.

#### **3.3 TARGET POPULATION**

Target population as described by Cooper and Schindler (2019) is the total group to be studied or described and from whom samples may be drawn. This definition emphasizes that the target population represents the broader population of interest from which samples may be selected for the research study.

The study population comprised of 30 respondents who are residents of Busia municipal council western Division and the targeted were those that used mobile banking as well as agent banking merchants.

### **3.4 SAMPLE SIZE**

“Sample size refers to the number of units or people that are chosen from which the researcher wishes to gather information or data.” (Hair et al 2019). For the purpose of this study, the researcher used a mathematical formula of Taro Yamane to determine the sample size. It is illustrated as  $n = \frac{N}{1+N(e)^2}$ .

Where n= the sample size

N= Population

e= error term

$$n = \frac{30}{1+30(0.05)^2}$$

n = 28 respondents

### **3.5 SAMPLING TECHNIQUES**

The researcher intended to use purposive sampling techniques. Purposive sampling technique is one where the researcher lies on personal judgment to select participants of the study. It is a non probability sampling method.

### **3.6 DATA SOURCES**

#### **3.6.1 Primary data**

The researcher used primary data as a source of data. According to Bryman and Bell (2019), primary data refers to sources of data where raw facts are collected for the first time that is to say; data that is original in nature. In other words, it is the data that is obtained by the researcher from the respondents. This was done through administering questionnaires.

### **3.6.2 Secondary data**

The researcher was to also use secondary data as a source of data. Secondary data refers to the data collected by someone other than the primary user. In other words, it is the already existing data or information collected by other researchers. The data was to be obtained from the banks' annual reports, published journals, articles, available information on the internet as well as existing literature from researchers carried about the variables under study.

### **3.7 DATA COLLECTION INSTRUMENTS**

The data collection instruments for this study was majorly self administered questionnaires.

#### **3.7.1 Questionnaires**

Cohen (1999) describes a questionnaire as one which is arranged systematically and logically to achieve specific research objectives. The questionnaire was used because it ensures confidentiality and its cost and time saving. The questionnaires contain closed ended questions related to the study objectives was given to respondents.

#### **3.8 Reliability of instruments**

Reliability refers to consistency of the items or tools used in the study indicating that a test or method gives consistent results across different settings or occasions. The reliability of the instruments was assessed using the Cronbach's alpha coefficient test to assess the internal consistency of the instrument

If the alpha value is equal to 0.7 and above then the instrument was considered satisfactory. (cronbach 1951; Serkaran & Bougie 2010).

### **3.9 DATA ANALYSIS**

According to Hyndman (2018), data processing involves translating the answers on a questionnaire into a form that can be manipulated to produce statistics. This involves coding, editing, data entry and monitoring the whole data processing procedure. The results were be presented using tables, graphs and charts for ease of understanding hence it would be easy to interpret the findings generated and recommendations from the findings.

SPSS version 20 software was used to analyze the data

### **3.10 ETHICAL CONSIDERATIONS**

In data collection and analysis, the researcher followed ethical guidelines. All respondents provided informed consent, ensuring their voluntary participation and the confidentiality of their responses. The research was also carried out in accordance with the university's ethics review board.

## **CHAPTER FOUR**

### **4.1 Introduction**

This chapter covers presentation and analysis of the findings which were based on the objectives of the study.

#### **RESPONSE RATE**

A total of 28 questionnaires were distributed out and all of them were returned which is 100% of the responses gathered.

**Table 4.1 RELIABILITY OF THE INSTRUMENTS**

#### **Reliability Statistics**

Cronbach's Alpha	N of Items
.846	2

**Source: Primary data**

A measure of 0.7 is considered acceptable and values above 0.8 are considered good. The high value of the Cronbach's Alpha of 0.846 suggests a high level of internal consistency among the items, hence the items are reliably measuring

**Table 4.2 GENDER**

The table below gives a summary of the gender distribution of the respondents

**Gender**

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Valid Male	14	48.3	50.0	50.0
Valid Female	14	48.3	50.0	100.0
Total	28	96.6	100.0	
Missing System	1	3.4		
Total	29	100.0		

**Source; Primary data**

From the table above, of the total respondents 50% were male and females accounted for 50% as well which showed that both gender was equally considered when conducting the study.

**Table 4.3 Age**

The age of the respondents was taken into consideration and the results are presented below

**Age Group (years)**

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Valid 18-25	23	79.3	82.1	82.1
Valid 26-35	4	13.8	14.3	96.4
Valid 36-45	1	3.4	3.6	100.0
Total	28	96.6	100.0	
Missing System	1	3.4		
Total	29	100.0		

**Source; Primary data**

The observation drawn based on the findings is that the majority of the participants were within the age group of 18-25 and accounted for 82.1% of the sample size, this could imply that it's the youths who are so fond of using mobile banking services

**Table 4.4 Education level**

The education levels of the respondents were considered when carrying out the study and the findings are presented below

**Education level**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Primary education	1	3.4	3.6	3.6
Secondary education	1	3.4	3.6	7.1
Tertiary education	21	72.4	75.0	82.1
University degree	2	6.9	7.1	89.3
Postgraduate degree	3	10.3	10.7	100.0
Total	28	96.6	100.0	
Missing System	1	3.4		
Total	29	100.0		

**Source; Primary data**

From the findings in the table, at least 3.6% of the respondents attained primary education, 3.6% attained secondary education, 75% acquired Tertiary education, 7.1% attained a University degree and 10.7% got a postgraduate degree. This implies that all the respondents had at least the basic education which could enable them to read

and write therefore able to respond to the questionnaire with minimal guidance of the researcher

#### 4.2 DESCRIPTIVE STATISTICS

The descriptive statistics provide a summary provide a summary of key variables measured in the study. This covers mean and standard deviations which help to understand the distribution and spread of the data

**Table 4.2.1 CUSTOMER ENGAGEMENT & SATISFACTION**

This table gives descriptive statistics summing up the responses related to customer engagement and satisfaction with mobile banking services.

Customer engagement

##### **Descriptive Statistics**

SECTION F:	N	Mean	Std. Deviation
1)Mobile banking enhances my engagement with my bank	28	3.79	1.067
2)I feel more connected to my bank due to mobile banking services	28	3.64	1.162
3)Mobile banking provides timely updates and notifications about my transactions	28	4.07	.979
Valid N (listwise)	28		

**Source; Primary data**

From the table above, an analysis of descriptive statistics is made to see how mobile banking enhances client engagement;

From the statement “ Mobile banking enhances my engagement with my bank” the mean is 3.79 and a standard deviation of 1.067, this implied that most of the respondents agreed that mobile banking influenced their engagement with the banks, however the relatively high standard deviation showed a bit of variation in the responses.

The respondents felt more connected to their banks due to mobile banking services and with a high mean of 3.64 and a standard deviation of 1.162 which showed a huge agreement among respondents and a little variability in responses because of a high standard deviation.

The respondents strongly agreed that mobile banking provided timely updates and notifications about transactions as evidenced by a high mean of 4.07 and a relatively low standard deviation of 0.979 hence a relatively closer agreement.

Conclusively , clients had a positive perception about the possibility of mobile banking enhancing their engagement with their banks.

**TABLE 4.2.1 TIME**

This table gives descriptive statistics summing up the responses related to how effective mobile banking is when it comes to time saving with mobile banking services.

TIME

**Descriptive Statistics**

Section E: Time	N	Mean	Std. Deviation
1) Mobile banking saves me time compared to visiting a bank branch	28	3.32	1.278
2) Transactions are processed quickly through mobile banking	28	3.18	1.124
3) I can access my banking services anytime anywhere with mobile banking	28	3.46	1.319
Valid N (listwise)	28		

**Source: Primary data**

From the table, above the relatively high mean showed a general consensus among the respondents about mobile banking being time effective but the high standard deviations implied a variation in the responses.

The customers generally agreed that mobile banking saved them time compared to visiting a physical bank branch having a mean of 3.32 and a standard deviation of 1.278 which showed a slight variability in the responses

The clients as well agree that transactions are processed quickly through mobile banking having a mean of 3.18 and relatively high standard deviation of 1.124 hence a variability in the responses.

The customers as well generally agreed to be able to access mobile banking services at anytime having a standard deviation of 3.46 and a standard deviation of 1.319 which showed a slight variation in the responses.

To conclude, the data shows that the respondents see mobile banking as a tool that can save them time, process transactions quickly, and give them access to flexible banking services. The high standard deviations indicated that not all the respondents did agree

**TABLE 4.2.3 PRIVACY**

This table gives descriptive statistics summing up the responses related to privacy when it gets to mobile banking services.

**Descriptive Statistics**

PRIVACY	N	Mean	Std. Deviation
1) I feel my personal information is secure when using mobile banking	28	3.75	1.266
2) Mobile banking providers have clear privacy policies	28	3.57	.997
3) I trust mobile banking providers to protect my financial data	28	3.79	1.031
Valid N (listwise)	28		

**Source: Primary data**

The findings from the table above show a general consensus about the confidence customers have with mobile banking when it comes to privacy with the high mean values

The respondents felt that their information was secure when using mobile banking having a mean value of 3.75 and a relatively high standard deviation of 1.266 showed that there is a bit of variation in the responses

The respondents felt that mobile banking providers have clear privacy policies with a high mean of 3.57 and a relatively low standard deviation of 0.997 which showed that the respondents were in a very close agreement

The respondents agreed that mobile banking providers could protect their financial data having a mean of 3.79 but the relatively high standard deviation of 1.031 implied a slight variation in the responses

Therefore the data showed that the customers felt that their privacy was upheld due to the high mean values however the high standard deviation values implied a bit of disagreement among the respondents.

#### 4.2.4COST

This table gives descriptive statistics summing up the responses related to costs when it comes to mobile banking services.

##### Descriptive Statistics

	N	Mean	Std. Deviation
1)Mobile banking services are cost effective compared to traditional banking	28	3.32	1.278
2)The fees associated with mobile banking are reasonable	28	3.18	1.124
3)I save money using mobile banking services	28	3.54	1.232
Valid N (listwise)	28		

**Source: Primary data**

From the table above, an analysis of descriptive statistics is made to see whether mobile banking is cost effective

From the statement “ Mobile banking services are cost effective compared to traditional banking” the mean is 3.32 and a standard deviation of 1.278, this implied that most of the respondents slightly agreed that mobile banking was cost effective as compared to traditional banking , however the relatively high standard deviation showed a bit of variation in the responses.

The respondents felt the fees associated with mobile banking are reasonable and with a high mean of 3.18 and a standard deviation of 1.124 which showed a bit of variability in responses because of a high standard deviation.

The respondents relatively agreed that they do use mobile banking to save money as evidenced by a relatively low mean of 3.54 and a relatively high standard deviation of 1.232 hence a variation in the responses made

Conclusively, respondents relatively agreed that mobile banking was cost effective as compared to traditional banking.

#### 4.2.5 EMPATHY

This table gives descriptive statistics summing up the responses related to the empathy dimension of the service quality model when it gets to mobile banking services.

##### Descriptive Statistics

	N	Mean	Std. Deviation
1) Mobile banking services are personalized to meet my needs	28	3.68	1.020
2) Mobile banking providers engage with me effectively to address my concerns	28	3.79	1.031
3) Customer service for mobile banking is empathetic and understanding	28	3.54	.838
Valid N (listwise)	28		

Source: Primary data

From the table above, an analysis of descriptive statistics was made to see whether mobile banking met the empathy dimension of the servequal model

From the statement “Mobile banking services are personalized to meet my needs” the mean is 3.68 and a standard deviation of 1.020, this implied that most of the respondents agreed that mobile banking was tailored to meet there needs however the relatively high standard deviation showed a bit of variation in the responses.

The respondents felt that mobile banking providers engaged with them effectively to address their concerns and with a high mean of 3.79 and a standard deviation of 1.031 which showed a bit of variability in responses because of a high standard deviation.

The respondents relatively agreed that they do use mobile banking to save money as evidenced by a relatively low mean of 3.54 and a relatively low standard deviation of 0.838 hence a negligible variation in the responses made showing a bit of agreement among the respondents.

Conclusively, respondents relatively agreed that mobile banking met the empathy dimension of the servequal model.

#### 4.2.6RELIABILITY

This table gives descriptive statistics summing up the responses related to the reliability dimension of the servequal model when it gets to mobile banking services.

#### Descriptive Statistics

	N	Mean	Std. Deviation
1)Mobile banking services are consistent and reliable	28	4.14	1.044
2)Transactions via mobile banking are accurate and error free	28	3.57	.836
3)Mobile banking services are available whenever I need them	28	3.71	1.243
Valid N (listwise)	28		

Source: Primary data

From the table above, an analysis of descriptive statistics was made to see whether mobile banking met the reliability dimension of the servequal model

From the statement “Mobile banking services are consistent and reliable” the mean is 4.14 and a standard deviation of 1.020, this implied the respondents strongly agreed that mobile banking services were consistent and reliable, however the relatively high standard deviation showed a bit of variation in the responses.

The respondents as well relatively agreed that transactions via mobile banking were accurate and free of errors and with a high mean of 3.3.57 and a low standard deviation of 0.836 which showed negligible level of variability in responses.

The respondents relatively agreed that mobile banking services were available when they needed them as evidenced by a moderately high mean of 3.71 and a high standard deviation of 1.243 hence a variation in the responses made.

Conclusively, respondents relatively agreed that mobile banking mets the reliability dimension of the servequal model.

#### 4.3CORRELATION ANALYSIS

##### Correlations

		privacy	cost	TIME	service delivery
privacy	Pearson Correlation	1	.467*	.540**	.850**
	Sig. (2-tailed)		.012	.003	.000
	N	28	28	28	28
cost	Pearson Correlation	.467*	1	.942**	.578**
	Sig. (2-tailed)	.012		.000	.001
	N	28	28	28	28
TIME	Pearson Correlation	.540**	.942**	1	.619**
	Sig. (2-tailed)	.003	.000		.000
	N	28	28	28	28
service delivery	Pearson Correlation	.850**	.578**	.619**	1
	Sig. (2-tailed)	.000	.001	.000	
	N	28	28	28	28

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

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

There was a moderate positive correlation between privacy and cost with a correlation value of 0.467 and significance value of 0.012 which implied that as privacy improved the perceived cost might have also increased. Privacy and time held a moderate positive correlation suggesting that better privacy was associated with more time in regards to efficiency in mobile banking. Cost and time had a very strong positive correlation with a Pearson correlation of 0.942 and significance at 0.000 this implied that the cost of mobile banking was highly related to time efficiency.

Privacy and service delivery possessed a strong positive correlation between privacy and service delivery with a correlation value of 0.850 and significance level of 0.000 this implied that as privacy in mobile banking the quality of service delivery improves significantly. Cost and service delivery had a moderate positive correlation with the correlation value at 0.578 and significance at 0.0001 implying that as the cost of mobile banking increases there is a tendency for service delivery to improve. Time and service delivery had a moderate to strong positive correlation between time and service delivery suggesting that as time efficiency improved so did the quality of service delivery having a correlation figure of 0.619 and significance at 0.000

#### 4.4.1 REGRESION ANALYISIS

This section examines the relationship between the variables to determine the strength and direction of association.

##### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.874 <sup>a</sup>	.765	.735	.32120

a. Predictors: (Constant), TIME, PRIVACY, COST

The R value of 0.874 indicated a strong positive correlation meaning that there is a strong positive relationship between time, privacy, and cost and service delivery any change in the values of time, privacy and cost is likely to improve service delivery.

An R square of 0.765 implied that approximately 76.5% of the variability in service delivery can be explained by the predictors. The adjusted R square value of 0.735

implied that about 73.5% of the variability in the service delivery is accounted by the model even when adjusting for the number of predictors

The findings suggest that mobile banking factors such as Time, privacy, and cost have a significant and strong positive impact on service delivery. The high adjusted R square indicated that the model explains a large portion of variance in service delivery and the relatively low standard error of the estimate further supported the reliability of model predictions

#### 4.4.2 ANOVA

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.041	3	2.680	25.978	.000 <sup>b</sup>
	Residual	2.476	24	.103		
	Total	10.517	27			

a. Dependent Variable: service delivery

b. Predictors: (Constant), TIME, PRIVACY,COST

The table above is an analysis of variance (ANOVA) and evaluates the significance of the regression model

The ANOVA results indicated that the regression model was a good fit for the data with the predictors significantly explaining the variation in service delivery.

The F value of 25.978 and the p-value of 0.000 confirmed that the relationship between predictors (Time,cost and privacy) and service delivery is statistically significant meaning that the model was much likely to be accurate.

The results therefore validated the importance of mobile banking factors (time, cost and privacy) in influencing service delivery

#### 4.4.3 REGRESSION COEFFICIENT

The table below presents the coefficients from the regression analysis which show the relationship between mobile banking and service delivery

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.231	.296		4.163	.000
	PRIVAC	.555	.089	.742	6.229	.000
	Y					
	COST	.143	.186	.230	.769	.449
	TIME	.002	.200	.002	.008	.994

a. Dependent Variable: service delivery

Privacy is the most critical factor influencing service deliver in the context of mobile banking as evidenced by the high unstandardized coefficient (0.575) and beta value of (0.742) which are all significant (0.0000) R=0.742; P<0.05)

Cost had a smaller positive impact on service delivery but the impact is not significant statistically (sig.=0.449). Time appeared to have a negligible impact on service delivery which is as well not significant statistically (sig.=0994).

The findings indicated that enhancing privacy in mobile banking is likely to result into improved service delivery, the time and cost variables don't have significant effects hence not important in predicting service delivery the outcomes

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **Introduction**

This chapter contains a summary of the specific objectives a conclusion and recommendations from the researcher.

#### **5.1SUMMARY OF SPECIFIC OBJECTIVES**

##### **5.1.1ROLE OF MOBILE BANKING IN FINANCIAL INCLUSION AND ACCESSIBILITY**

This section discusses how adoption of mobile banking has transformed the financial landscape by improving financial inclusion and accessibility. And it highlights the following

Mobile banking reduces costs compared to traditional banking and enables greater accessibility across geographical locations, reaching underserved populations. it has affected the core of the banking business shifting from offline employee oriented services to online customer centered services. This has improved the efficiency and cost effectiveness of technology enabled service delivery.

Mobile banking offers competitive advantages to banks by reducing the operational costs and risk exposure while responding to changing market dynamics and customer needs.

Financial inclusion involves not just access to financial services but also the capability and willingness of individuals and firms to utilize them. Mobile banking helps address barriers to inclusion. It benefits both rural populations and bank branches, contributing to economic growth and social development by reducing poverty and improving living standards.

Mobile banking offers operational efficiencies that allow financial service providers to profitably serve low margin, underserved customer segments at scale.

### **5.1.2 INFLUENCE OF MOBILE BANKING ON CUSTOMER ENGAGEMENT AND SATISFACTION IN BANKING OPERATIONS**

This section discusses how mobile banking impacts customer engagement and satisfaction which are key determinants of the success of mobile banking services and it highlights the following;

Customer satisfaction is crucial as it directly impacts customer loyalty, trust and overall profitability of banks customers form certain expectations before using a service, and organizations must meet these expectations to achieve customer satisfaction. Poor customer service and dissatisfaction with existing financial services are major reasons why customers quit their transaction accounts.

Mobile banking features like convenience, 24/7 accessibility, transparency and enhanced product information help improve customer engagement and satisfaction. Satisfied customers are more likely to continue using mobile banking services, leading to increased customer retention and loyalty.

### **5.1.3 SECURITY CHALLENGES AND MEASURES ASSOCIATED WITH MOBILE BANKING;**

#### **Security threats and concerns**

Mobile banking security threats have been increasing in frequency and complexity posing grave concerns for both financial service providers and customers. Studies have established that customers would be willing to pay extra charges or switch providers to ensure secure mobile transactions.

Analyses of various mobile banking apps revealed security vulnerabilities with 13 out of 14 apps tested allowing attackers to access customer information without physical access to the device. Common security threats include unauthorized access, malicious hacking, malware and mobile viruses.

#### **Security measures and recommendations**

Researchers recommended innovative solutions such as account profiling technology; biometric authentication; secure communication protocols and encryption address mobile banking security challenges. Secure software development methods, user education and awareness programs, and advanced analytics or machine learning for fraud detection have also been proposed as countermeasures.

Adopting secure coding practices, conducting regular code reviews, and implementing multi factor authentication are emphasized as important measures to enhance mobile banking application security.

Financial institutions and app developers need to stay updated on emerging threats and continuously implement robust security measures to protect customers and maintain trust in mobile banking services

## **5.2 CONCLUSIONS**

Privacy has the most significant positive impact on service delivery within the mobile banking sector in Busia Municipal Council, western Division, Uganda. The regression analysis reveals a strong and statistically significant relationship between privacy and service delivery. This indicates that customers place a high value on protection of their personal and financial information the more secure and private the mobile banking as reliable and satisfactory. The more secure and private the mobile banking services are, the more likely customers are to perceive the services as reliable and satisfactory therefore to address the objective of security challenges and measures associated with mobile banking it is key to address privacy issues.

Cost has a positive but statistically insignificant impact on service delivery, while lower costs may be appreciated by customers they do not play a critical role in determining the overall perception of service delivery this could suggest that customers are willing to pay for services they perceive as valuable and secure placing less emphasis on cost as a decisive factor. While cost considerations do affect financial inclusion and accessibility, the findings in the study do show that clients where willing to incur extra costs associated with mobile banking due to the service delivery satisfaction that comes with it

Time has a negligible and statistically insignificant impact on service delivery as evidenced by the regression analysis this could imply that the speed of transactions or the time efficiency of mobile banking does not significantly influence customer engagement and satisfaction in the area of study. Hence time efficiency is not a critical factor influencing service delivery in mobile banking within the context of Busia Municipal Council, western Division

### 5.3 RECOMMENDATIONS

Review and date existing regulations to address evolving risks and challenges in the mobile banking landscape. Establish clear guidelines and standards for data privacy, consumer protection, and responsible lending practices.

Enhance privacy measures ;Given that privacy is the most critical factor financial institutions should prioritize strengthening the security features of their mobile banking platforms, this includes implementing advanced encryption technologies, ensuring secure authentication processes, and regularly updating security protocols to protect consumer data and build data.

Educate customers on security practices; Banks should also invest in customer education, making sure users are aware of the best practices for maintaining their privacy and security while using mobile banking. This could involve regular communication campaigns and user friendly guidelines.

Real Time alerts and monitoring; Provide users with real time alerts for any suspicious activity or login attempts and offer immediate options to secure their accounts if unauthorized access is detected this allows clients to respond quickly to potential security threats reducing the likelihood of successful fraud.

Conduct regular security audits and penetration testing on mobile banking platforms to identify and address potential vulnerabilities, fixing security flaws before they are exploited ensures that mobile banking environment remains secure,protecting customer data breaches.

Enhance security measures by implementing a strong multi factor authentication mechanisms to secure customer accounts, regularly update security protocols and software to stay, conduct security audits and penetration testing to identify and address system vulnerabilities

Continuously gather customer feedback on the mobile banking experience and make necessary improvements to applications and enhance in app support and responsiveness to customer to customer queries and issues.

## APPENDICES

### APPENDIX 1 : QUESTIONNAIRE

#### QUESTIONNAIRE FOR THE STUDY; “ FINTECH ADOPTION AND SERVICE DELIVERY; A STUDY OF MOBILE BANKING IN UGANDA, A CASE OF BUSIA MUNICIPAL COUNCIL WESTERN DIVISION

Dear participant, my name is ODUKI SYDNEY ISAIHAH a student of BSAF at Uganda Christian University Mukono. I am carrying out a research about ‘FINTECH ADOPTION AND SERVICE DELIVERY; A STUDY OF MOBILE BANKING IN UGANDA, in Busia Municipal council western Division Uganda. The information gathered will inform scholars, policy makers, practitioners as well as fellow researchers about Mobile banking and service delivery. I would wish to seek for your consent to take part in this study as my respondent. I would like to as well guarantee confidentiality, your identity as a respondent shall be protected.

All the information gathered shall only be used for academic purposes.

#### SECTION A :DEMOGRAPHIC

##### 1. Gender: (tick where applicable)

Male	
Female	

##### 2. Age Group (years) (tick where applicable)

18-25	
26-35	
36-45	
46-55	
Above 56 years	

##### 2. Education level (tick where applicable)’

Primary education	
Secondary education	
Tertiary education	
University degree	
Postgraduate degree	

### SECTION A: RELIABILITY

The table below shows the aspects of mobile banking and its impact service delivery . Indicate to what extent you agree with the statements by ticking. 1=strongly disagree (SD), 2=Disagree(D), 3 =Not sure (NA),4 Agree (A), 5= strongly agree ( SA)

Statement	SD	D	NA	A	SA
1)Mobile banking services are consistent and reliable	1	2	3	4	5
2)Transactions via mobile banking are accurate and error free	1	2	3	4	5
3)Mobile banking services are available whenever I need them	1	2	3	4	5

### SECTION B: EMPATHY

1)Mobile banking services are personalized to meet my needs	1	2	3	4	5
2)Mobile banking providers engage with me effectively to address my concerns	1	2	3	4	5
3)Customer service for mobile banking is empathetic and understanding	1	2	3	4	5

### SECTION C: PRIVACY

1)I feel my personal information is secure when using mobile banking	1	2	3	4	5
2)Mobile banking providers have clear privacy policies	1	2	3	4	5
3) I trust mobile banking providers to protect my financial data	1	2	3	4	5

**SECTION D: COST**

1) Mobile banking services are cost effective compared to traditional banking	1	2	3	4	5
2) The fees associated with mobile banking are reasonable	1	2	3	4	5
3) I save money using mobile banking services	1	2	3	4	5

**SECTION E: TIME**

1) Mobile banking saves me time compared to visiting a bank branch	1	2	3	4	5
2) Transactions are processed quickly through mobile banking	1	2	3	4	5
3) I can access my banking services anytime anywhere with mobile banking	1	2	3	4	5

**SECTION F :CUSTOMER ENGAGEMENT**

1) Mobile banking enhances my engagement with my bank	1	2	3	4	5
2) I feel more connected to my bank due to mobile banking services	1	2	3	4	5
3) Mobile banking provides timely updates and notifications about my transactions	1	2	3	4	5

***THANK YOU FOR YOUR PARTICIPATION***

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