

**THE EFFECT OF TECHNOLOGICAL INNOVATION ON THE PERFORMANCE  
OF COMMERCIAL BANKS : A CASE STUDY OF STANBIC BANK**

**GRACE OMONDI ANYANGO**

**J22B05/029**

**A DISSERTATION SUBMITTED TO THE SCHOOL OF BUSINESS OF PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A DEGREE OF BACHELOR  
OF BUSINESS ADMINISTRATION OF UGANDA CHRISTIAN UNIVERSITY**

**October, 2024**



**UGANDA CHRISTIAN  
UNIVERSITY**

*A Centre of Excellence in the Heart of Africa*

## DECLARATION

I **Anyango Grace Omondi**, a Student at Uganda Christian University hereby declare that the information presented in this report is original. I also confirm that the report is only prepared for my academic requirement and not for any other purpose.

SIGNATURE *Anyango Grace Omondi* .....

DATE *9<sup>th</sup> SEPT 2024* .....

REG NO. *J22B05/029* .....

## APPROVAL

I hereby certify that this academic research was conducted under my supervision as the academic supervisor, and has been reviewed and approved.

**NAME:** Ms. Akinyi Lorraine

**SIGNATURE**

A handwritten signature in black ink, appearing to read 'Akinyi Lorraine', written over a horizontal line.

**DATE:** 09/09/2024

## **ACKNOWLEDGEMENT**

First, I would like to thank God for the wisdom and perseverance that He has bestowed upon me during this research project and throughout my life.

Second, I offer my sincerest gratitude to my supervisor; Mrs. Akinyi Lorraine who has supported me throughout this research project with their patience and knowledge while allowing me the room to work in my way. I appreciate the odd hours we spent discussing the reports.

I also thank Uganda Christian University as a whole, for providing a conducive environment for carrying out my research. The university provided me with the internet and a library rich in knowledge books that aided me in carrying out research.

I wish to thank the respondents who participated in this study, my fellow students, and my parents for supporting me throughout my research. I can't express my gratitude in words for my family.

## **DEDICATION**

I dedicate this work to my wonderful family, Mr. and Mrs. Omondi, and my siblings for their unfailing support throughout this time of my research. I'm so grateful for your support. May the almighty bless you for me.

## TABLE OF CONTENTS

DECLARATION .....	i
APPROVAL.....	ii
ACKNOWLEDGEMENT .....	iii
DEDICATION .....	iii
LIST OF TABLES .....	viii
ABSTRACT .....	ix
CHAPTER ONE.....	1
INTRODUCTION .....	1
1.1 Introduction.....	1
1.2 Background to the Study.....	1
1.3 Statement of the problem .....	2
1.4 Purpose of the Study .....	3
1.5 Objectives of the study.....	3
1.6 Research questions .....	3
1.7 Scope of the study .....	3
1.7.1 Subject scope.....	3
1.7.2 Geographical scope .....	4
1.8 Significance of the study.....	4
1.9 Conceptual framework .....	4
CHAPTER TWO .....	7
LITERATURE REVIEW .....	7
2.1 Introduction.....	7
2.2 Theoretical framework .....	7
2.2.1 Diffusion of Innovation Theory .....	7

2.2.2 Disruptive Innovation Theory .....	7
2.3 Internet banking and financial performance.....	8
2.4 Agency banking and financial performance.....	9
2.5 ATM banking and financial performance .....	11
2.6 Mobile banking and financial performance .....	13
2.7 Conclusion.....	15
CHAPTER THREE .....	16
RESEARCH METHODOLOGY.....	16
3.1 Introduction .....	16
3.2 Research design.....	16
3.3 Study population .....	16
3.4 Sampling size .....	16
3.5 Sampling technique .....	17
3.5.1 Random Sampling.....	17
3.6 Data sources .....	17
3.6.1 Primary Data .....	17
3.6.2 Secondary Data .....	18
3.7 Data collection instruments.....	18
3.7.1 Questionnaires.....	18
3.7.2 Observations.....	18
3.8 Data analysis .....	18
3.9 Ethical considerations .....	19
3.10 Conclusion.....	19
CHAPTER FOUR.....	20
PRESENTATION, INTERPRETATION AND ANALYSIS OF THE FINDINGS .....	20

4.0 Introduction .....	20
4.1.1 Gender of Respondents .....	20
4.1.2 Age of respondents.....	20
4.1.3 Education Level of Respondents.....	21
4.1.4 Duration in the Bank .....	22
4.2 Descriptive Statistics Basing on Study Objectives .....	22
4.2.2 The effect of agency banking on financial performance.....	25
4.2.4 The effect of mobile banking on financial performance .....	30
4.3 Conclusion.....	31
CHAPTER FIVE .....	32
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION .....	32
5.1 Introduction .....	32
5.2 Summary of major findings. ....	32
5.2.1 Internet banking and financial performance.....	32
5.2.2 Agency banking and financial performance.....	32
5.2.3 ATM banking and financial performance .....	32
5.2.4 Mobile banking and financial banking.....	33
5.3 Conclusion.....	33
5.4 Recommendation.....	34
5.5 Areas for Further Study.....	34
REFERENCES .....	35
APPENDICES .....	37
APPENDIX 1: QUESTIONNAIRE.....	37

## **LIST OF TABLES**

Table 1: Gender of Respondents

Table 2: Age of respondents

Table 3: Level of Academic Qualification

Table 4: Duration in the Organization

Table 5: Descriptive statistics on the effects of Internet banking on financial performance.

Table 6: Descriptive statistics on the effects of agency banking on financial performance.

Table 7: Descriptive statistics on the effects of ATM banking on financial performance

Table 8: Descriptive statistics on the effects of mobile banking on financial performance.

## **ABSTRACT**

The effect of technological innovation on the financial performance of commercial banks was analyzed based on a study context. The objectives that informed the study included; ascertaining the effect of Internet banking, agency banking, ATM banking, and mobile banking on the bank's financial performance.

A cross-sectional survey design approach was adopted for the study, and the study was focused on Stanbic Bank. The targeted population of the study was 50 respondents, while the sample size was 44, though the actual participants were 40. The collection of data was through both qualitative and quantitative research approaches. The data collection instrument used in the study was the questionnaire.

The study therefore established that the relationship between technological innovation and financial performance was a positive one. The results mean that the utilization of the different innovations is positively related to performance, and hence using them much more would increase the performance of Stanbic Bank.

The technological innovation and financial performance relationship is important in the practice of financial institutions. The study recommended that commercial banks need to extend their electronic services in a well-planned and articulated strategy for the long run since this will increase clients' satisfaction and also increase the institution's profits. The banks were also requested to carry out awareness and promotional campaigns so that the customers are aware of the benefits of using e-banking.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Introduction**

This research paper explores the relationship between technological innovations and the financial performance of commercial banks. This chapter will provide an overview of the study's background, statement of the problem, objectives, research questions, scope, significance, and the conceptual framework of the study.

#### **1.2 Background to the Study**

According to the Bank of Uganda, the Uganda banking sector is composed of 25 licensed commercial banks and these include; Equity Bank, Stanbic Bank, Centenary Bank, Bank of Baroda, Capital Bank, Bank of Africa, Bank of India, Barclays Bank, CBA, Cairo International bank, CITI bank, DFCU bank, Diamond Trust bank, Eco bank, Finance Trust bank, GT bank, Housing Finance bank, Exim bank, KCB, NC bank, Orient bank, Standard Chartered bank, Tropical bank and UBA Uganda. The Ugandan banking sector remains resilient to shocks, with adequate buffers in its capital and liquidity. The different indicators of financial soundness outline the improvement of banks in December 2015 in comparison to 2104. The ratio of tier 1 capital held by commercial banks in 2015 stood at 18.6% compared to the minimum regulatory requirement of 8%. Annual net profit after tax grew 11.5% to Ugandan shillings 541.2 billion between December 2014 and December 2015.

"The development of information and communication technology (ICT) is radically changing the way business is done. Electronic commerce is now thought to hold the promise of a new commercial revolution by offering an inexpensive and direct way to exchange information and sell products and services. This revolution has set in motion a readjustment in the banking sector in which the transaction system is compatible with the demands of the electronic marketplace" (Bresnahan, 1997; Singleton & Wilson, 1998).

Innovations in information processing, telecommunications, and related technologies – known collectively as “information technology” (IT) – are often credited with helping fuel strong growth in many market economies (Bresnahan, 1997). According to Shaukat and Zafarullah (2009),

technological innovation affects not just banking and financial services, but also the direction of any economy and its capacity for continued growth. It is defined as the modern handling of information by electronic means, which involves its access, storage, processing, transportation, or transfer and delivery (Ige, 1995; Lewis & Mitchel, 1994).

According to Alu (2002), IT affects financial institutions by easing inquiry, saving time, and improving service delivery. In recent decades, investment in IT by commercial banks has served to streamline operations, improve competitiveness, and increase the variety and quality of services provided. Implementing information technology and communication networking has revolutionized the functioning of banks and financial institutions. It is argued that dramatic structural changes are in store for the financial services industry due to the Internet revolution; others see a continuation of trends already underway.

Commercial banks are making what appear to be huge investments in technology to maintain and upgrade their infrastructure in a bid not only to provide new electronic information-based services but also to do cost-effective management of their risk positions and pricing. (Ngugi, 2006). At the same time, new off-the-shelf electronic services such as online retail banking are making it possible for very small institutions to take advantage of new technologies at quite reasonable costs. These developments may ultimately change the competitive landscape in the financial services. Various studies have concluded that IT has appreciable positive effects on bank productivity, cashier's work, banking transactions, bank patronage, bank service delivery, customers' services, and bank services. They went further to conclude that these have a positive influence on the growth of banking (Bresnahan, 1997).

### **1.3 Statement of the problem**

Innovative practices can give banks, a competitive edge since banks can expand their market by establishing new channels for product distribution, introducing new products, and entering new markets. Due to fierce competition in the financial sector, banks need to be innovative to remain profitable (Mabrouk & Mamoghli, 2010). In the present day, banks provide customers with efficient, fast, and convenient banking services through technological innovations such as ATMs, Online Banking, and Mobile Banking.

However, it's important to note that technological innovations are not without their challenges. They can be risky ventures, leading to potential failure, increased fraud, and legal implications. Research by Aduda and Kingoo (2012) suggests a positive relationship between e-banking and bank performance. However, there is still a need to distinguish between different categories of technology innovation to gain a comprehensive understanding of their impact. Similarly, Nyamwembe (2011) identified factors hindering the adoption of technological innovation by commercial banks, including resistance to change and internal politics. However, the specific effect of technological innovation on the financial performance of commercial banks remains an open question. Therefore, the research aims to address this gap by exploring the effect of technological innovations on the financial performance of commercial banks.

#### **1.4 Purpose of the Study**

The research is aimed at examining the effect of technological innovation on the financial performance of commercial banks using Stanbic Bank as a case study.

#### **1.5 Objectives of the study**

1. To assess the effect of Internet banking on the financial performance of commercial banks.
2. To examine the effect of agency banking on the financial performance of commercial banks.
3. To examine the effect of ATM banking on the financial performance of commercial banks.
4. To assess the effect of mobile banking on the financial performance of commercial banks.

#### **1.6 Research questions**

1. What is the effect of Internet banking on the financial performance of commercial banks?
2. Examine the effect of agency banking on the financial performance of commercial banks.
3. Examine the effect of ATM banking on the financial performance of commercial banks.
4. Assess the effect of mobile banking on the financial performance of commercial banks.

#### **1.7 Scope of the study**

##### **1.7.1 Subject scope**

The study will place its emphasis on analyzing the influence of technological innovation on the financial performance of commercial banks, with a particular focus on Stanbic Bank. The research

will meticulously investigate the various facets of financial innovation, including Internet banking, ATM banking, Mobile banking, and Agent banking, to comprehensively evaluate their impacts on financial performance.

### **1.7.2 Geographical scope**

The study will be conducted in Stanbic Bank, Mukono Town Council in Mukono district, Central Uganda, Buganda Region. It is located just opposite Capital Shoppers Supermarket approximately 24km away from Kampala on Jinja Highway.

### **1.8 Significance of the study**

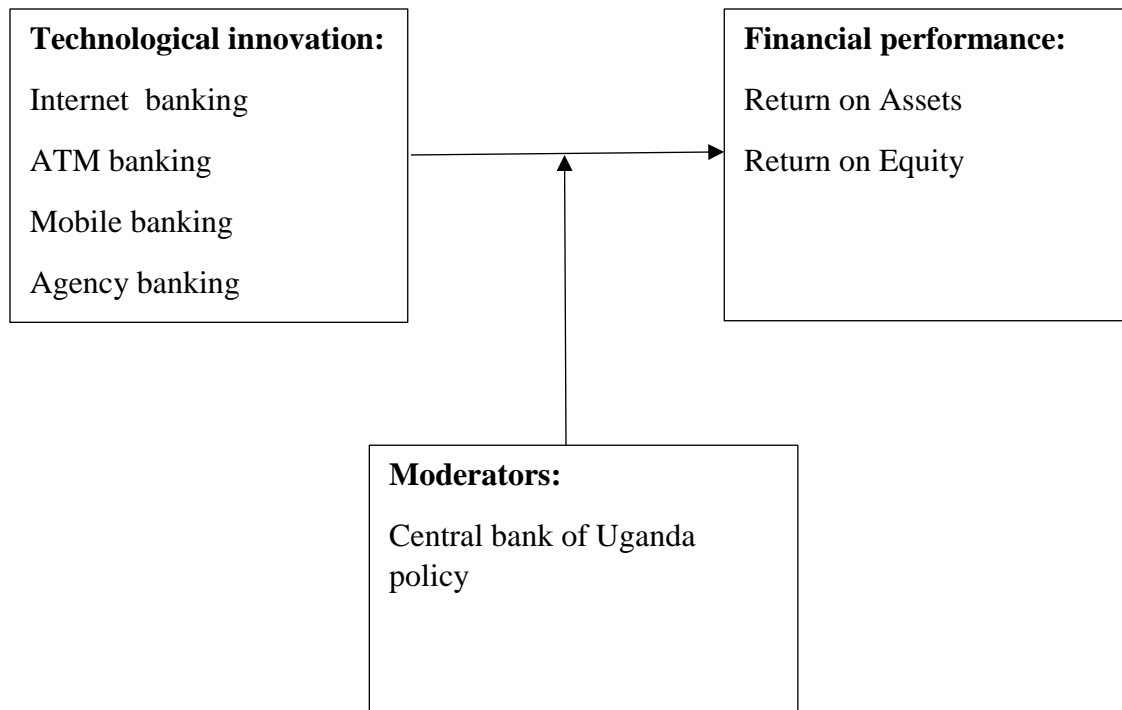
The study's findings will provide valuable assistance to regulators in formulating guidelines for commercial banks to embrace technological innovations. Banking firms will benefit from clear guidance on the adoption process and risk mitigation. The study's insights will empower banking managers to make informed decisions regarding the adoption of innovative products or processes, which can enhance sustainability and competitive advantage, leading to superior financial returns. Moreover, the study will contribute to academic discourse on technological innovations, aiding in theory building and reducing the ambiguity and controversy surrounding this topic. The comprehensive analysis will offer a deeper understanding of the impact of technological innovations on the banking sector, shedding light on best practices and potential pitfalls. Additionally, the study will serve as a foundational resource for policymakers, industry professionals, and researchers seeking to navigate the complex landscape of technological advancements in banking.

### **1.9 Conceptual framework**

The conceptual framework explains the relationships between the independent and dependent variables through the conceptual model as it will be illustrated in the figure below. In this context, the independent variable is technological innovation, which is found to be linked to the financial performance of commercial banks. These variables include Internet banking, agency banking, ATM, and mobile banking. The moderating variable that could affect the financial performance is the Central Bank of Uganda policy. The dependent variable is the financial performance of the bank which is profitability i.e. the return on equity (ROE) and return on assets (ROA).

## INDEPENDENT VARIABLES

## DEPENDENT VARIABLES



*Source: Ineri & Kimutai 2020, "Financial innovations and performance of commercial banks in Kenya"*

The financial sector, particularly commercial banks, has been fundamentally transformed by technological innovation. From the introduction of ATMs and online banking to the latest advancements in fintech, the industry has experienced profound changes. Technological Innovation encompasses the introduction and adoption of new technologies in banking operations. Key components include digital banking platforms like Internet and mobile banking applications; ATMs, which are machines that facilitate cash withdrawals and other transactions without human intervention; and agency banking. The financial performance of commercial banks can be assessed using Return on Assets (ROA) and Return on Equity (ROE), which are the traditional financial metrics that reflect overall performance. The impact of technological innovation on the financial performance of commercial banks can be mapped through direct impact, which includes the immediate benefits from technological investments such as cost savings from automation and increased transaction volumes from internet and mobile banking. The indirect impact consists of

long-term benefits from improved customer satisfaction and loyalty, leading to higher customer retention and acquisition. The conceptual framework of technological innovation's effect on commercial banks' financial performance highlights a multifaceted relationship. Technological advancements drive operational efficiency, enhance customer experiences, and ultimately improve financial performance. However, banks must navigate associated challenges carefully to fully realize these benefits. Continuous investment in technology and a strategic approach to innovation are essential for sustaining competitive advantage and achieving long-term financial success.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

This section presents a review of the related literature on technological innovation and financial performance of commercial banks as well as their relationship through measuring the magnitude of their scope.

#### 2.2 Theoretical framework

##### 2.2.1 Diffusion of Innovation Theory

This theory was formulated and expounded by Rogers (1995) who defines diffusion as the process through which any means of innovation acquires momentum and then spreads it to a particular demography or any social integration. This therefore means diffusion is only possible through perception and integration in the social system. The diffusion of innovation theory therefore states that the diffusion rate is characterized by any innovation's dynamism, integration, superiority, testability, perception, and degree of compatibility (Rogers, 1983 & 2003).

In this light, the diffusion theory is relevant because it explains the reason why banks adopt technical innovations. One of the reasons why banks adopt technical innovations is a relevant advantage. That is to say, those banks adopting this innovation have relatively better financial advantages compared to those that don't. DOI theorizes that the rate of diffusion is influenced by an innovation's relative advantage, complexity, compatibility, trialability, and observability. An innovation's relative advantage according to Rogers 1995, is 'the degree to which an innovation is seen as being superior to its 11 predecessors.

##### 2.2.2 Disruptive Innovation Theory

Disruptive innovation is probably one of the most important innovation theories of the last decade. The term disruptive innovation as we know it today first appeared in the 1997 best-seller *The Innovator's Dilemma*. In the book Harvard Business School professor Clayton Christensen investigated why some innovations that were radical reinforced the incumbent's position in a certain industry, contrary to what previous models would predict. More specifically he analyzed extensively the disk drive industry because it represented the most dynamic, technologically discontinuous, and complex industry one could find in our economy. Disruptive theory is relevant

in that it explains the type of technology banks adopt. The banking technology is disruptive because it does away with traditional banking.

### **2.3 Internet banking and financial performance**

"Internet banking in the world was built in 1981 in the USA, after that some famous bank introduced their internet banking one after another, such as Citibank and Bank of America" (Malak, 2007). "Banking through the Internet has emerged as a strategic resource for achieving higher efficiency, control of operations, and reduction of cost by replacing paper-based and labor-intensive methods with automated processes thus leading to higher productivity and financial performance" (Malhotra, 2009). "Internet banking is a new-age banking concept; it uses technology and brings the bank closer to the customer. Internet banking refers to systems that enable bank customers to get access to their accounts and general information on bank products and services through the use of bank websites, without the intervention or inconvenience of sending letters, faxes, original signatures, and telephone confirmations" (Thulani., et al, 2009).

"The modern Internet banking methods are new to the Ugandan banking sector. All banks in Uganda are lagging in adopting technological advancements, and they should set a timeline for integrating and advancing technologically" (Gardachew, 2015). Various studies conducted worldwide have examined the impact of Internet banking on the financial performance of banks. For example, a study in US banks (K., 1998) found no evidence of a difference in the financial performance of Internet and non-internet banking.

"In contrast to the results of (K., 1998), (Furst, 2000a, 2000b) found that 'banks in all size categories offering Internet banking generally had better performance and tended to rely less significantly on traditional banking activities in comparison to non-Internet banks.' (Deyoung, 2001 & 2005) The study conducted in the US, 12 internet-only banking in 1997 and 2001 the result was poor financial performance but higher assets growth of pure-play internet banking. (Sathye, 2005), studies conducted in Australia during 1997-2001 in credit unions the results show internet banking doesn't have a significant impact on financial performance and risk profile. However, the findings in different firms revealed mixed and contradicting results of Internet banking on banks' performance. In comparison with this research studies carried out in developed countries, to the best of the researcher's knowledge, no study has not yet examined the effect of Internet banking on the financial performance of commercial banks in Uganda."

England, et al. (1998) was the most important study, which estimated the number of US banks offering Internet banking and analyzed the structure and performance characteristics of these banks. It establishes no evidence of major differences in the performance of the group of banks offering Internet banking activities compared to those that do not offer such services in terms of profitability, efficiency, or credit quality. However, transactional Internet banks differed from other banks primarily by size.

In contrast to the results of England, et al. (1998), Furst et al (2000a, 2000b,) found that banks in all size categories offering Internet banking were generally more profitable and tended to rely less heavily on traditional banking activities in comparison to non-Internet banks. An exception to the superior performance of Internet banks was the new start-up Internet banks, which were less profitable and less efficient than non-Internet banking. The authors concluded that Internet banking was a too small factor to have affected banks' profitability.

Sullivan (2000) found that click-and-mortar banks in the 10th Federal Reserve District incurred somewhat higher operating expenses but offset these expenses with somewhat higher fee income. On average, this study found no systematic evidence that banks were either helped or harmed by offering the Internet delivery channel. Similar to the results of Furst et al., this study also found that de novo click-and-mortar banks performed significantly worse than de novo brick-and-mortar banks.

Hassan et al. (2003) study result says that the Internet banking institutions were performing significantly better than the non-Internet groups. Additionally, the risk variables associated with the Internet group continued to be lower relative to the non-Internet group. Carlson, (2001) conducted a study in U.S. 2517 national banks on the impact of Internet banking on financial performance. The result revealed that Internet banking does not have an independent impact on financial performance.

## **2.4 Agency banking and financial performance**

The agency banking system has allowed banks to expand their businesses and accelerate financial inclusion using intermediaries as agents. A variety of banking services is being provided

to the customers through an agent of a bank and this method is gaining popularity among the people for its accessibility and cost-effective banking services. Since agency banking can be offered without opening a full-fledged bank branch, this mode of banking is cost-effective and also can be available in remote areas. Agency banking makes it possible for the customer of the bank to have access to the banking services within reach and at the very comfort of the neighborhood. The agency gives customers a chance to ease the accessibility of financial products and related services at the places and within reach of the customer. Such an opportunity eliminates barriers like accessibility and timeliness of service delivery.

There are many aspects of the financial performance that can be analyzed. Aburime (2009) observed that profit is the essential prerequisite of a competitive banking institution. It is not only a result but also a necessity for successful banking in a period of growing competition in financial markets; hence the basic aim of every bank is maximizing profits. The banks need to explore other services other than money transfer to improve their performance through agent banking which includes: secure operating systems capable of carrying out real-time transactions, generating an audit trail, and protecting data confidentiality and integrity. Financial performance is a conclusion drawn from the financial analysis of a firm. Financial analysis is the choice, evaluation, and interpretation of financial data, alongside other pertinent information, to assist in investment and financial decision-making (Bizimana& Mulyungi, 2018). It is used internally to determine issues like employee performance, the efficiency of operations, and credit policies, and externally to evaluate potential investments and therefore the creditworthiness of borrowers, among other things (Drake, 2006).

Financial performance is a subjective measure of how well a firm uses its assets from its primary mode of business to generate revenue (Greenwood &Jovanovic, 2014). This term is additionally a general measure of the firm's overall financial health over a given period and may be used to compare similar firms across an equivalent industry or to match industries or sectors in aggregation (Hales, 2015). According to Drago (1990), the financial performance of commercial banks refers to growth in sales, increased return on investment (ROI), increased return on sales (ROS), increased return on equity (ROE), and increased earnings per share. Further analysis of financial performance uses methodologies such as financial ratio analysis, benchmarking, measuring performance against budget, or a combination of these (Barnet et al, 2016).

Agency banking has the potential to both contribute to increased financial inclusion in Uganda, also on function as a payment channel for development organizations. As such, it's a channel worth exploring by any development organization that creates bulk disbursements or promotes financial inclusion. There are significant improvements within the banking sector with the introduction of Agency banking in Uganda, an innovative delivery channel that seeks to bring access to financial services much closer to clients.

## **2.5 ATM banking and financial performance**

In the banking industry, most customers are motivated by the accuracy of records and the timely service delivery they receive. This has not only made the banking industry sophisticated but dynamic and ultimately became complex with the introduction and invention of the Automated Teller Machine (ATM). Thus, many studies have investigated the effect of the ATM payment system on the banking industry. Adewoye (2013), for instance, observes that ATM is an innovative customer delivery service tool that offers diversified services such as cash withdrawals, funds transfer, payment of bills, etc. The use of ATMs as a customer service delivery strategy has enabled bank customers to transact banking business using a coded ATM card, wherever an ATM facility is located, customers can access their accounts at any hour of the day.

According to Adeniran (2014), among the developments in the banking services delivery is the introduction of Automated Teller Machine (ATM) that intends to decongest the banking halls as customers now can go to any nearest ATM outfit to consummate their banking transactions such as cash withdrawal, cash deposit, bill payments, and transfer of fund between accounts. The research made use of a cross-sectional survey design that questioned respondents on ATM services. The findings revealed that the impact of ATM services in terms of their perceived ease of use, transaction cost, and service security is positive and significant. However, the result also indicates that the impact of ATM services in terms of the availability of money is positive but insignificant.

In a similar study Idris, (2014), is of the view that the Automated teller machine (ATM) among others was one of the services introduced by banks to provide customers quick access to their finances, as well as reducing the cost of such access. The research investigated the perceived customer satisfaction towards the introduction of automated teller machines (ATMs) in Nigerian banks. The researcher used questionnaires and descriptive statistics to analyze the study. This

covered perceived ease of use, perceived accessibility, and perceived security to measure customer satisfaction with ATM service quality. The result indicated that the customers with agreed responses on perceived ease of use and perceived accessibility had higher mean and standard deviation, while the perceived security responses had higher mean and standard deviation of disagreed responses. Also, Komal (2009) examined the Impact of ATM on Customer Satisfaction and established that ATM services enhance operations and customer satisfaction in terms of flexibility of time, and add value in terms of speedy handling of voluminous transactions which traditional services were unable to handle efficiently and expediently.

Massoud (2003) tested the effect of ATM surcharges on large versus small banks. Specifically, they examined the impact of ATM surcharges on bank customer incentives to switch accounts, from smaller banks to larger banks, to avoid ATM surcharges. The studies find that ATM surcharges increase the market share of deposits of large banks and decrease the market share of smaller banks. ATM surcharges also positively impact the profitability of larger, but not smaller, banks. Ebiringa (2010) investigated the effects of ATM infrastructure on the success of e-payment. The study is motivated by the apparent low level of satisfaction with the level of the e-payment services irrespective of the increased deployment of ATM by banks and the need to isolate the critical factors responsible for this. The study was principally based on primary data collected from users of the ATMs and a total of one thousand, one hundred and forty-one (1,141) users of ATM were sampled. The study used weighted scores of the responses to success factors identified in the literature that were analyzed using the Factor analysis simulation model. The study concluded that the provision of adequate infrastructure such as power is critical for the effective integration of the Nigerian banking system to the global network of electronic payment via ATMs.

Discussing the positive impacts of ICT and its business value, Saloner and Shepard, 1995, in comprehensive research conducted in the USA reveal that the interest in network effect is significant in utilizing ATMs. According to Mohammed and Dada (2014), with the emergence of ATMs in Nigeria, it has been possible for bank customers to have access to financial transactions outside the banking hall, such as in public places, without the services of a cashier or bank teller. An ATM is designed to carry out the main functions of bank staff through a magnetic-strip plastic card known as the ATM card, which is usually availed by the financial institution. It has a unique card number and some security information like serial number, expiration date, etc. Hence, the

card is replacing cheques, personal attendance of the customer, banking hour restrictions, and as well as paper-based verification.

## **2.6 Mobile banking and financial performance**

"Mobile banking is said to be the service provided by financial institutions in cooperation with mobile phone operators, that allows its customers with busy lives to conveniently do their banking remotely using their mobile devices like a smartphone or tablet anytime" (Tinashe & Kelvin, 2016). "It is about getting banking services to those who may not have bank access or bank accounts and those who are at the lower level of the economic pyramid. This is different from the related internet banking which uses a software known as an app that is offered by the financial institution for transactional purposes despite other financial institutions having restrictions on which accounts can be accessed through mobile banking" (Riquelme & Rios, 2010).

In recent years, technology has advanced and has changed the way businesses operate. It has brought about the evolution of mobile banking transforming how the banking sector carries out business. Singh and Srivastava (2018) suggest that "mobile banking requires the provision and the assistance of banking and financial services with the help of mobile telecommunication devices. The services cut across the carrying out of balance checks, account transactions, payments, credit applications, and other banking transactions through a mobile device like a smartphone which is the most used device in developed nations, or the personal digital assistant" (Mbama & Ezepeue, 2018).

"These innovations stemmed from the telecommunication revolution in the late twentieth century, mobile banking simplifies the transfer of monetary transactions from a bank account 11 to other bank accounts to even the presentation and printing of bank statements by a client point of convenience" (Mullan, Bradley, & Loane, 2017). "It is whereby the banking service provider puts up a platform in which their customers easily transact from remote locations of their convenience such as their homes or workplaces. Customers no longer need to visit a banking hall to do their transactions as the core banking services such as payment of bills, production of statements, transfer of cash from one account to another account, and payment of goods and services at a shopping store. The banking institution usually provides any form of support to a client on a twenty-four-hour basis through a hotline number provided or on an instant chat service" (Mbama & Ezepeue, 2018).

"Payment system providers and mobile operators have begun using branchless banking models which reduce cost by taking small value transactions out of the banking hall into local retail shops like airtime vendors, gas stations, and shopkeepers, registering new accounts accepting client deposits, processing transfer fees, and issue withdrawal using the clients mobile phone then communicating information back to the telecommunication provider or bank. This enables clients to send and receive electronic money wherever and whenever there is cell coverage" (Gowanit & Chaiyawat, 2016). "To ensure the security of transactions, mobile banking on the smartphone application has put more than one layer of authentication. A case in point is the banking application fusing with artificial intelligence, whereby mobile banking requires to use of fingerprint detection aside from the traditional username and password to grant access to the mobile banking platform" (Adewoye, 2013). These features of authentication are almost common to all banking applications as security is of more importance when transacting on a mobile device.

The fast inclusion of the mobile banking application amongst the masses, where statistics indicate that two out of each five customers in the developed world tend to rely on mobile banking whenever it comes to conducting transactions due to apparent reasons such as facilitation of convenience in the banking process, Curwen & Whalley, 2011. The third tier examines the different impacts that the usage of mobile banking has had on the performance of commercial banks in Uganda, showing an outward interest in every commercial bank adopting the technology. Technology is important and a priority to every player in the Ugandan financial sector. It has been observed every year that commercial banks set out huge expenditure budgets for the expansion, adoption, and maintenance of their mobile 12 banking platforms and systems. Innovation should be employed to guarantee the convenience of customers so that the banking institution can survive in the market. The power to link into a bank account through the use of a mobile gadget is considered to be power and empowerment to the customer in that they have complete control over their finances at any hour during the night or day, Riquelme & Rios, 2010.

Anderson (2010) postulates that technological changes have not only affected lifestyle but also impacted how customers carry out their banking transactions. In the olden days, for instance, commercial banks employed mobile vehicles to transfer their operations to customers especially those in the countryside. This was then followed by adopting email and internet services in the provision of services to customers. The expansion of mobile phones in developing countries,

according to Tobin, 2012, has been drastically high for the last ten years. However, what is critical to note is that despite mobile phones coming with several convenient features related to mobile banking, half of the world's population has still failed to adopt mobile banking and financial services. (Priya, Gandhi, & Shaikh, 2018).

## **2.7 Conclusion**

According to the information from different authors in this chapter, technological innovation has made a profound impact on the performance of commercial banks. This development has been leading to the creation of new business models involving banks and non-bank entities like telecommunication companies and other technology firms. Therefore, these innovations magnify the importance of security controls and customer privacy standards for effective bank financial performance. Despite its positive contribution to financial performance, these innovations have their pitfalls like ATM theft, lack of skills by customers, poor network and full coverage, and security issues among others. However, despite its pitfalls that question its positive contribution, technological innovation has the banks' financial performance.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

To thoroughly investigate this relationship, a structured and systematic research methodology is essential. This essay outlines a detailed approach, covering the research design, study population, sampling size, sampling techniques, data collection methods, analytical tools, and ethical considerations.

#### **3.2 Research design**

Research design represents the arrangement of conditions for the collection and analysis of data in a manner that seeks to combine relevance to the research purpose with economy in the procedure. It is a conceptual structure with which the research is conducted; it constitutes the blueprint for the collection, measurement, and analysis.

This study will employ a descriptive cross-sectional survey. This will be undertaken to establish the relationship between technological innovations and the financial performance of banks. During the study, qualitative and quantitative methods will be used. Under the qualitative method, the researcher will use responses from the respondents. The qualitative method is descriptive and this will enable the researcher to meet the objectives of the study. Under the quantitative method, the design will be in the form of mathematical numbers and statistics assigned to variables that may not be easily measured.

#### **3.3 Study population**

The study will enroll 60 participants of Stanbic Bank, which is made up of employees of the bank. This will be chosen because these are the people who offer, receive, and manage the services.

#### **3.4 Sampling size**

A sample size is the number of people or objects in the sample (Grinnell, 1990). Kasomo, (2007) recommended that the researcher use the largest sample possible because statistics calculated from a large sample are more accurate, other things being equal, than those from small samples. Using judgmental analysis, a sample of 50 respondents will be used for the sake of obtaining accurate data. These are selected because they are the ones who handle the activities under the study and have a thorough knowledge of the bank's transactions. To determine the sample size, Slovin's

formula (1960) was used. This formula gives a population and the corresponding sample size, as the population increases the sample size increases at a diminishing rate and remains constant at slightly more than 380 cases.

$$n = \frac{N}{1 + N(e)^2}$$
$$n = \frac{50}{1 + 50(0.05)^2}$$
$$n = 44 \text{ respondents}$$

Where; n is the required sample, N is population, e is margin percentage error (5%)

### **3.5 Sampling technique**

Sampling is the process of selecting a representative sample from the population under study. In this study, a probabilistic sample was used and therefore the technique used was simple random sampling.

#### **3.5.1 Random Sampling**

This random sampling method will select respondents from the study population on a chance basis. In this manner, every respondent will stand an equal chance of being included in the sample. This method will be used to avoid bias in obtaining samples. The sample of employee respondents will be selected from Stanbic Bank using this method. This will be done by getting the list of employees from the bank manager and then establishing a sampling interval through a random method in selecting the respondents consistently.

### **3.6 Data sources**

This study will be guided by two major sources of data such as primary and secondary sources of data

#### **3.6.1 Primary Data**

Primary data will be gathered through surveys and questionnaires distributed to bank executives, IT managers, and financial officers. These tools will capture detailed information on the types of technological innovations implemented and the perceived impact on financial performance.

### **3.6.2 Secondary Data**

Secondary data collection will involve analyzing financial reports, including annual reports, balance sheets, and income statements. Industry reports, academic journals newspapers, and books related to the subject of the study will be reviewed to contextualize the findings and compare them with existing literature on the topic.

### **3.7 Data collection instruments**

The study incorporates the use of various methods in the process of data collection in a bid to come up with sound, concrete, and credible research findings. During the study observation and questionnaire methods will be employed for gathering information the fifty-two respondents will be questioned.

#### **3.7.1 Questionnaires**

Questionnaires will be distributed to bank executives, IT managers, and financial officers to gather data on technological innovation practices and perceived impacts on financial performance. Both open and closed-ended questions will be used because they offer a full range of possible responses to the question and responses from them are much easier to analyze. This method also provides a high level of confidentiality as the study respondents were answering the questions at their convenience time.

#### **3.7.2 Observations**

The researcher will use this method to analyze all the technologies banks use in the e-banking system and how it is related to the financial performance of the bank. The researcher observes some challenges that both customers and banks face and how they are overcome, especially in advancing electronic banking and the impact on financial performance.

### **3.8 Data analysis**

Data from the field will be compiled, sorted, edited, and coded to have the required quality, accuracy, and completeness, which will be entered into the computer for analysis according to the research questions. Descriptive Statistics is used to summarize the data on technological innovation and financial performance.

### **3.9 Ethical considerations**

The research will prioritize ethical considerations. All participants involved in questionnaires and interviews will be required to give informed consent, ensuring that they fully understand the study's purpose and their rights. Strict confidentiality will be upheld to safeguard the financial data and personal information of the respondents. Additionally, the integrity of the research will be safeguarded by ensuring that data collection, analysis, and reporting are conducted accurately and without bias.

### **3.10 Conclusion**

To sum up, this research methodology presents a thorough strategy for examining the impact of technological advancement on the financial results of commercial banks. Through the use of both quantitative and qualitative research techniques, the study seeks to gain an understanding of how technology affects financial outcomes within the banking industry. The results are anticipated to provide valuable insights for both scholars and professionals, emphasizing the significance of technological innovation in improving the financial performance of commercial banks.

## CHAPTER FOUR

### PRESENTATION, INTERPRETATION AND ANALYSIS OF THE FINDINGS

#### 4.0 Introduction

In this chapter, the results of the data analysis are presented in a narrative and tabulated manner to examine the impact of technological innovation on the financial performance of commercial banks. The specific focus is on Stanbic Bank, presented as a case study. The researcher has thoroughly presented, analyzed, and discussed the findings of the study. Out of the 44 potential respondents, 40 participated, resulting in a response rate of 90.9%.

#### 4.1.1 Gender of Respondents

The study determined the gender of respondents to indicate whether they were male or female, and the findings obtained below relate to respondents' gender.

**Table 1: Gender of Respondents**

Variable	Frequency	Percentage
Male	16	40
Female	24	60
Total	40	100

Source: Primary data. (2024)

The results of the study show that 60% of the respondents were female, while 40% were male. This suggests that a higher proportion of the participants were female, indicating that they were more accessible and willing to share their perspectives during the research. Additionally, the findings suggest that there is a greater demand for women in banking due to their exceptional customer care services. These results emphasize the valuable contributions of women in the banking industry and the significance of their input in providing excellent customer service.

#### 4.1.2 Age of respondents

The study determined the age of the respondents to indicate the age brackets of the respondents and the findings obtained below related to the respondents' age.

**Table 2: Age of respondents**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage (%)</b>
18-25	10	25
26-35	15	37.5
36-45	7	17.5
46-55	6	15
56 and above	2	5
Total	40	100

Source: Primary data. (2024)

From the results, 37.5% of the respondents were between 26 – 35 years, 25% were between 18 – 25 years, 17.5% were between 36-45 years, 15% were between 46-55 years and 5% were 56 years and above. These results imply that the majority of the respondents were in a productive youthful age. It was also revealed that the institution follows labor laws when recruiting employees of age. This therefore guaranteed reliability and validity of the data.

#### **4.1.3 Education Level of Respondents**

This researcher noted the academic qualifications of respondents.

**Table 3: Level of Academic Qualification**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Diploma	9	22.5
Degree	20	50
Masters	9	22.5
PhD	2	5
Total	40	100

Source: primary data (2024)

The field results revealed that 50% of the respondents had a bachelor's degree, 22.5% had a master's degree, and another 22.5% held a diploma. Additionally, 5% held a PhD. this implied that

the majority of the employees had education and knowledge and therefore could read and understand the questions that were asked. This also meant that they had the knowledge they had about technological innovation and financial performance.

#### **4.1.4 Duration in the Bank**

The study established the duration respondents have spent working for the organization

**Table 4: Duration in the Organization**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
0-5 years	21	52.5
6-10 years	11	27.5
11-15 years	5	12.5
16+ years	3	7.5
Total	40	100

Source: primary data. (2024)

The findings indicated that 52.5% of the participants have been employed by the company for 0-5 years, 27.5% have been with the company for 6-10 years, 12.5% have been working for 11-15 years, and 7.5% have been employed for 16 years or more. This suggests that nearly all participants had tenure with the company and therefore possessed knowledge of technological innovation and financial performance.

#### **4.2 Descriptive Statistics Basing on Study Objectives**

The data-generating questionnaire was created with a Likert scale that featured varying levels of agreement for each statement: 1—Strongly disagree, 2—Disagree, 3—Uncertain, 4—Agree, and 5—Strongly agree.

#### 4.2.1 Effect of Internet banking on financial performance.

**Table 5: Descriptive statistics on the effects of Internet banking on financial performance.**

No.	Statement	SD		D		NT		A		SA		Total	
		f	%	f	%	f	%	f	%	f	%	f	%
1	The bank offers internet banking services	0	0%	0	0%	3	7.5%	25	62.5%	12	30%	40	100
2	Internet banking has reduced transaction and operational costs of the bank	0	0%	0	0%	1	2.5%	26	65%	13	32.5%	40	100
3	Internet banking has increased the revenue of the bank	0	0%	0	0%	0	0%	25	62.5%	15	37.5%	40	100
4	The efficiency of the bank has increased due to internet banking	0	0%	5	12.5%	2	5%	19	47.5%	14	35%	40	100

5	Internet banking has improved the Net Interest Margin (NIM) of the bank	0	0%	2	5%	4	10%	23	57.5%	11	27.5%	40	100
6	Internet banking has impacted the ROA and ROE, the key indicators of financial performance positively	0	0%	0	0%	0	0%	30	75%	10	25%	40	100

Source: primary data. (2024)

Results in Table 5 indicate that 62.5% of the respondents agreed that the bank offers Internet banking services, while 30% strongly agreed that the bank offers Internet banking services. This showed that the majority of the respondents used these services. However, 7.5% were not sure whether the bank offered these services.

The results also showed that 65% of the respondents agreed that Internet banking had reduced transactional and operational costs of the bank, 32.5% strongly agreed that it had reduced the transactional costs but 2.5% were not sure if Internet banking reduced the transactional and operational costs of the bank. This indicated that some still didn't know how helpful internet banking was. However, none disagreed with the statement.

From the results above, 47.5% agreed that the efficiency of the bank had increased due to internet banking. 35% strongly agreed with this statement but 12.5% disagreed about Internet banking increasing the bank's efficiency. This implied that there could be other things that could increase

the bank's efficiency other than Internet banking. Additionally, 5% were not sure about the statement.

According to the results above, 62.5% of the respondents agreed that Internet banking had increased the revenue of the bank. Additionally, 37.5% strongly agreed that it had increased the bank's revenue and none disagreed with the statement. This implied that Internet banking played a role in the bank's revenue.

The results above showed that 57.5% agreed that Internet banking had improved the Net Interest Margin, and 27.5% strongly agreed with the statement. However, 10% were not sure of the statement and 5% disagreed about internet banking improving the Net Interest Margin of the bank.

From the data collected, it was realized that 75% agreed that Internet banking had impacted ROA and ROE, the key indicators of financial performance, and 25% strongly agreed with the statement. This showed that Internet banking was important in the bank's financial performance.

#### 4.2.2 The effect of agency banking on financial performance

**Table 6: Descriptive statistics on the effects of agency banking on financial performance.**

No.	Statement	SD		D		NT		A		SA		Toatal	
		f	%	f	%	f	%	f	%	f	%	f	%
1	The bank offers agency banking services with agents in various parts of the country	2	5%	5	12.5%	1	2.5%	20	50%	12	30%	40	100
2	Our operational costs have been reduced due to the	0	0%	0	0%	0	0%	30	75%	10	25%	40	100

	bank using established banking agents												
3	Agent banking has increased the bank's revenue through transaction-based fees	0	0%	0	0%	0	0%	15	37.5%	25	62.5%	40	100
4	Agent banking has improved the financial performance metrics i.e higher Return of Assets (ROA)	0	0%	0	0%	5	12.5%	17	42.5%	18	45%	40	100
5	Agent banking has improved liquidity and deposit mobilization, with a stable source of low-cost funding	0	0%	0	0%	0	0%	20	50%	20	50%	40	100

6	Agency banking has increased bank deposits	0	0%	0	0%	0	0%	35	87.5%	5	12.5%	40	100

Source: primary data. (2024)

Results in Table 6 indicate that 50% of the respondents agreed that the bank offers agency banking services with agents in various parts of the country, and 30% strongly agreed with the statement. However, 12.5% disagreed with the statement, and 5% strongly disagreed with the statement. Additionally, 2.5% were not sure. This showed that agents had not reached all the parts of the country.

The table also shows that 75% agreed that operational costs had been reduced due to banking agents. 25% strongly agreed with the statement and none disagreed. This implied that agency banking played a vital role in cost reduction.

The results above also show that 62.5% of the respondents strongly agreed that agency banking had increased the bank’s revenue through transaction-based fees. 37.5% agreed with the statement and none disagreed with the statement.

The results also revealed that 45% strongly agreed that agency banking improved the financial performance metrics, and 42.5% agreed with the statement. However, 12.5% were not sure about agency banking improving the financial performance metrics.

From the research study, 50% agreed that agency banking had improved liquidity and deposit mobilization, with a stable source of low-cost funding. Additionally, another 50% strongly agreed with the statement. This showed that the bank’s liquidity relied on agency banking.

The table also shows that 87.5% of the respondents agreed that agency banking had increased bank deposits. 12.5% strongly agreed with the statement and none disagreed, hence showing the importance of agency banking.

### 4.2.3 The effect of ATM banking on financial performance

**Table 7: Descriptive statistics on the effects of ATM banking on financial performance.**

No.	Statement	SD		D		NT		A		SA		Total	
		f	%	f	%	f	%	f	%	f	%	f	%
1	The bank offers ATM services with ATMs in all parts of the country	3	7.5%	6	15%	3	7.5%	14	35%	14	35%	40	100
2	The ATMS are user friendly and bank clients find them easy to use	0	0%	0	0%	0	0%	20	50%	20	50%	40	100
3	ATMs have increased the revenue of the bank through transaction fees	0	0%	0	0%	0	0%	26	65%	14	35%	40	100
4	ATMs have reduced transactional and operational costs of the bank	0	0%	0	0%	4	10%	10	25%	26	65%	40	100

5	The ATMS have helped ease congestion in banking halls	0	0%	0	0%	0	0%	29	72.5%	11	27.5%	40	100
6	ATMs have 24/7 service availability which translates into cost savings	0	0%	2	5%	7	17.5%	15	37.5%	16	40%	40	100
7	ATMs facilitate efficient cash management	0	0%	0	0%	0	0%	15	37.5%	25	62.5%	40	100

Source: primary data. (2024)

Results in Table 7 indicate that 35% of the respondents strongly agreed that the bank offers ATM services with ATMs in all parts of the country. Another 35% also agreed with the statement, however, 15% disagreed with the statement and 7.5% strongly disagreed. Additionally, another 7.5% were not sure which implied that ATMs had not yet reached all parts of the country.

The results also show that 50% strongly agreed that the ATMS were user-friendly and bank clients found them easy to use. Additionally, another 50% agreed with the statement, and none of them disagreed with the statement. This meant that ATMs were easy to use.

In the research study, it was found that 65% of the respondents agreed that ATMs have contributed to an increase in the bank's revenue. Additionally, 35% of the respondents strongly agreed with this statement. Interestingly, none of the participants disagreed with the notion that ATMs have had a positive impact on the bank's revenue.

According to the findings, 65% of the respondents strongly agreed that ATMs have effectively decreased the transactional and operational costs of the bank, while 25% simply agreed with this

statement. Interestingly, 10% expressed uncertainty about the claim, and notably, none of the respondents disagreed with it.

The results also show that 72.5% agreed that the ATMs had helped ease the congestion in banking halls. 27.5% strongly agreed with the statement and none disagreed with the statement. This implied that ATMs were necessary.

#### 4.2.4 The effect of mobile banking on financial performance

**Table 8: Descriptive statistics on the effects of mobile banking on financial performance.**

No.	Statement	SD		D		NT		A		SA	
		f	%	f	%	f	%	f	%	f	%
1	The level of mobile banking adoption among the bank's customers is high	0	0%	0	0%	5	12.5%	25	62.5%	10	25%
2	Mobile banking has contributed to the bank's overall revenue growth	0	0%	0	0%	0	0%	25	62.5%	15	37.5%
3	More than 50% of the bank's customers actively use mobile banking services	0	0%	4	10%	7	17.5%	15	37.5%	14	35%
4	Mobile banking has reduced the bank's operational and transactional costs	0	0%	0	0%	0	0%	20	50%	20	50%

5	Efficiency has increased due to mobile banking	0	0%	0	0%	7	17.5%	22	55%	11	27.5%
---	------------------------------------------------	---	----	---	----	---	-------	----	-----	----	-------

Source: primary data. (2024)

The respondents were asked to indicate the effect of mobile banking on the bank's performance. Results in Table 8 indicate that 87.5% of the respondents agreed that the level of mobile banking adoption among the bank's customers is high, and 72.5% agreed that more than 50% of the bank's customers actively use mobile banking. 100% of the respondents agreed that mobile banking contributed to the overall revenue, increased efficiency, and reduced transactional costs. The mean score of the responses for this section was 4.22 which indicates that the majority of the respondents agreed with the statements regarding the effect of mobile banking on bank performance. These results imply that the respondents were happy with the introduction of mobile banking because it increased the overall revenue growth.

### 4.3 Conclusion

Analysis of primary data indicated that the independent variable of technological innovation all had a positive effect on the financial performance of Stanbic Bank as revealed in the analyzed, interpreted, and presented findings of the study in this chapter. Although there was a positive strong relationship between technological innovation and the financial performance of the banks, some deviations still existed though were minor. Further explanations are in the final chapter.

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

#### 5.1 Introduction

This chapter finalizes the study by providing a summary of key findings, conclusions, and recommendations. The major objective of the study was to find the effect of technological innovation and the financial performance of banks.

#### 5.2 Summary of major findings.

##### 5.2.1 Internet banking and financial performance

The findings revealed that Internet banking had improved the banking experience and reduced the costs of operations and transactions. The findings concur with Ram, Kagan, and Lingam (2008) who noted that “the increased usage of the Internet in banking as an additional channel of the bank marketing its services and products has significantly improved the community banks performance financially. Further product innovation improves how commercial banks perform financially.”

The study findings also agreed with the finding of Malhotra and Singh (2009) who did a study on “the effects of Internet banking on how commercial banks performed and risk and established that on average online banks are bigger, more operationally efficient, and profitable.”

##### 5.2.2 Agency banking and financial performance

The results indicated improved bank earnings. Aburime, 2009 observed that income/profit is the essential prerequisite of a viable banking organization. It is not only a result but also a condition for effective banking in periods of growing competition in financial markets; hence, the main goal of every bank is to maximize profits. The banks should explore services other than money transfer to increase their performance through agent banking, which includes: a safe operating system that can perform a real time transaction, create an audit trail, data confidentiality, and integrity.

##### 5.2.3 ATM banking and financial performance

The findings show that ATMs were tool a tool for diversified services. In fact, Adewoye (2013), among others, observes that “ATM is an innovative customer delivery service tool that offers diversified services such as cash withdrawals, fund transfer, payment of bills, etc. the ATM usage has enabled bank customers to enjoy the facility of banking business wherever the ATM facility

is available. Using a coded ATM card, any time of the day, accessing account facility has become reality."

The findings also revealed that ATMs reduced congestion. According to Adeniran (2014), "among the developments in the banking services delivery is the introduction of Automated Teller Machine (ATM) that intends to decongest the banking halls as customers now can go to any nearest ATM outfit to consummate their banking transactions such as cash withdrawal, cash deposit, bill payments, and transfer of fund between accounts."

#### **5.2.4 Mobile banking and financial banking**

The findings show a relationship between mobile banking and financial performance. These findings agree with Koivu (2012), who stated, "M-banking influences the financial performance, character, and decisions of the whole economy. The trend for continued use of m-banking to perform transactions is gaining pace at a steady rate within the financial sector." These findings were consistent with Mbiti and Weil 2011, who reported that, "mobile banking has therefore improved access to financial services in most developed and developing countries and hence improved the performance of the bank."

#### **5.3 Conclusion**

The outcome of the study was that the bank's financial performance was related to the use of Internet banking. The study went ahead to show that Internet banking and the bank's financial performance were related. Based on the findings, the study concluded that Internet banking has a effect on the financial performance of Stanbic Bank.

These findings, therefore, lead this study to conclude that agency banking has an effect on the bank's financial performance since it was able to establish that agency banking has an effect on the financial performance of the bank. It also established that an increased level of agency banking of one unit was likely to translate to increased financial performance of Stanbic bank.

The study established that an increases unit of ATM banking, it was established, would result in an increased financial performance that the financial performance in the bank. Furthermore, it has been established that the financial performance in the bank and ATM banking were related. From the findings, therefore, the study concludes that ATM banking strongly affects the financial performance of Stanbic bank.

The study proved that m-banking has an association on the bank's financial performance. Additionally, the study proved that mobile banking had a strong effect on financial performance. based on the findings of the study, it is concluded that m-banking strongly influences the financial performance of Stanbic bank.

#### **5.4 Recommendation**

The study recommends commercial banks expand their electronic services in a planned and well-articulated strategy for the long run, which will increase clients' satisfaction and also increase the institution's profits. It is also requested that the banks carry out awareness and promotional campaigns to ensure that their customers are aware of the benefits accrued by using -banking.

The findings show that the usage of e-banking results in improving the bank's performance. It is recommended that banks should be focused on needs and use the right technology of internet banking because other banks have it; this will help the bank to steer its vision in the right direction which is growing the trends of ICT.

It is recommended that the management of banks, which is not very fast in terms of innovation adoption, has to step up and adopt the various innovations that exist in their banking operations in order to enhance profitability. The most profitable banks in Uganda are those that have a high ability in terms of adoption and implementation of new technologies; therefore, this recommendation is worth consideration

The study recommends that policymakers should go through a review of policies, particularly on the promotion of the adoption of innovation and transfer of technology. The government also has to encourage the adoption of innovations, which will increase the profit for the organizations and, on the other side, increase revenue for the government as well.

#### **5.5 Areas for Further Study**

The study aimed to investigate the effect of technological innovation on the financial performance of commercial banks, a case of Stanbic Bank. It is recommended that the replication of the study be on other commercial banks. The study also recommends a study to be done on challenges faced by commercial banks in Uganda in adopting the different technological innovations.

## REFERENCES

- Aduda, J., & Kingoo, N. (2012). The relationship between electronic banking and financial performance among commercial banks in Kenya. *Journal of Finance and Investment Analysis*, 1(3), 99-118.
- Adesina, A., & Zinnah, M. (1993). Technology characteristics, farmers' perceptions and adoption decisions: A Tobit model application in Sierra Leone. *Agricultural Economics*, 9, 297-311.
- Agboola, A. A. (2001). Impact of Electronic Banking on Customer Services in Lagos, Nigeria in Ife. *Journal of Economics and Finance*. Department of Economics, 5 (1), 8-12
- Ajzen, I., & Fishbein, M. (1972). Attitudes and normative beliefs as factors influencing intentions. *Journal of Personality and Social Psychology*, 21, 1-9.
- Akhavain, J., Frame, W.S. & White, L.J. (2005). The diffusion of financial innovation: an examination of the adoption of small business credit scoring by large banking organizations, *Journal of Business*, 78(2), 577-596.
- DeYoung, R. (2001). The financial performance of pure play Internet banks. *Economic Perspectives-Federal Reserve Bank of Chicago*, 25(1), 60-73.
- DeYoung, R. (2005). The performance of internet-based business models: evidence from the banking industry, *Journal of Business*, 78(3), 893-947.
- Furst, K., Lang, W., & Nolle, D. (2002). Internet banking, *Journal of Financial Services Research*, 22(1/2), 95-117.
- Hall, G. E., Loucks, S. F., Rutherford, W. L., & Newlove, B. W. (1975). Levels of use of innovation: A framework for analyzing innovation adoption. *Journal of Teacher Education*, 26(1), 52-56.
- Kothari, C. R. (2004). *Research methodology: methods and techniques* (2 ed.). New Delhi: New Age International.
- Mugenda, O. M., & Mugenda, A.G. (2003). *Research Methods: Quantitative and Qualitative Approaches* (2nd ed.). Nairobi: Acts.

Gerdes, G. R. & Walton, J. K., (2002). The use of checks and other noncash payments, instruments in the United States.

Hasan, I., Maccario, A., & Zazzara, C. (2002). Do Internet Activities Add Value? The Italian Bank

Experience, Working Paper, Berkley Research Center, New York University.

Hernando, I., & Nieto, M. J. (2007). Is the Internet Delivery Channel Changing Bank's Performance?

The Case of Spanish Banks.

Ibrahim, E., Joseph, M., & Ibeh, K. (2006). Customers' perception of electronic service delivery in the

UK retail banking sector.

Jayawardhena, C., & Foley, P. (2000). Changes in the banking sector -The case of Internet banking

in the UK.

Jayawardhera C. & Foley P. (2000). Changes in the banking sector- the case of Internet banking in the UK.

## **APPENDICES**

### **APPENDIX 1: QUESTIONNAIRE**

#### **Introduction**

Dear respondent, my name is Anyango Grace Omondi. I am a third-year student at Uganda Christian University, and I am carrying out this study to write a dissertation as a requirement for the award of a bachelor's degree in Business Administration at Uganda Christian University. The topic of study is **"The Effect of Technological Innovation on the Financial Performance of Commercial Banks: " a case study of Stanbic Bank.**

You have been selected to participate in this study due to the importance of your knowledge of this study. The information you provide will only be used for this study and will be treated with utmost confidentiality. Your identity will be kept anonymous. Please feel free to answer all the questions truthfully.

#### **SECTION A: DEMOGRAPHIC INFORMATION**

Instruction: Please tick the box that best describes the respondent.

##### **1. Gender**

a. Male

b. Female

##### **2. In what age bracket do you fall?**

a. 18-25

b. 26-35

c. 36-45

d. 46-55

e. 56 and above

##### **3. Marital status**

a. Single

b. Married

c. Divorced

d. Widowed

**4. Academic qualification**

a. Diploma

b. Degree

c. Masters

d. PhD

**5. How long have you served in this bank?**

a. 0-5 years

b. 6-10 years

c. 11-15 years

d. 16+ years

**SECTION B: THE EFFECT OF INTERNET BANKING ON THE FINANCIAL PERFORMANCE OF THE BANK.**

**Instruction:** Indicate the degree of agreement with the following statements relating to how Internet banking affects the financial performance of Stanbic Bank by using a scale of 1-5, where

**1- Strongly disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly agree.**

No.	Statement	1 SD	2 D	3 NT	4 A	5 SA
1	The bank offers internet banking services					
2	Internet banking has reduced transaction and operational costs of the bank					
3	Internet banking has increased the revenue of the bank					

4	The efficiency of the bank has increased due to internet banking					
5	Internet banking has improved the Net Interest Margin (NIM) of the bank					
6	Internet banking has impacted the ROA and ROE, the key indicators of financial performance positively					

### **SECTION C: THE EFFECT OF AGENCY BANKING ON THE FINANCIAL PERFORMANCE OF THE BANK**

**Instruction:** Indicate the degree of agreement with the following statements relating to how agency banking affects the financial performance of Stanbic Bank by using a scale of 1-5, where **1- Strongly disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly agree.**

<b>No.</b>	<b>Statement</b>	<b>1 SD</b>	<b>2 D</b>	<b>3 NT</b>	<b>4 A</b>	<b>5 SA</b>
1	The bank offers agency banking services with agents in various parts of the country					
2	Our operational costs have been reduced due to the bank using established banking agents					
3	Agent banking has increased the bank's revenue through transaction-based fees					
4	Agent banking has improved the financial performance metrics i.e higher Return Of Assets (ROA)					
5	Agent banking has improved liquidity and deposit mobilization, with a stable source of low-cost funding					
6	Agency banking has increased bank deposits					

**SECTION D: THE EFFECT OF ATM BANKING ON THE FINANCIAL PERFORMANCE OF THE BANK**

**Instruction:** Indicate the degree of agreement with the following statements relating to how ATM banking affects the financial performance of Stanbic Bank by using a scale of 1-5, where **1- Strongly disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly agree.**

No.	Statement	1 SD	2 D	3 NT	4 A	5 SA
1	The bank offers ATM services with ATMs in all parts of the country					
2	The ATMS are user friendly and bank clients find them easy to use					
3	ATMs have increased the revenue of the bank through transaction fees					
4	ATMs have reduced transactional and operational costs of the bank					
5	The ATMS have helped ease congestion in banking halls					
6	ATMs have 24/7 service availability which translates into cost savings					
7	ATMs facilitate efficient cash management					

**SECTION E: EFFECT OF MOBILE BANKING ON FINANCIAL PERFORMANCE OF THE BANK**

**Instruction:** Indicate the degree of agreement with the following statements relating to how ATM banking affects the financial performance of Stanbic Bank by using a scale of 1-5, where **1- Strongly disagree, 2- Disagree, 3- Neutral, 4- Agree, 5- Strongly agree.**

<b>No.</b>	<b>Statement</b>	<b>1 SD</b>	<b>2 D</b>	<b>3 NT</b>	<b>4 A</b>	<b>5 SA</b>
1	The level of mobile banking adoption among the bank's customers is high					
2	Mobile banking has contributed to the bank's overall revenue growth					
3	More than 50% of the bank's customers actively use mobile banking services					
4	Mobile banking has reduced the bank's operational and transactional costs					
5	Efficiency has increased due to mobile banking					

Thank you for your participation.

## Appendix 2: Data Collection Letter



**UGANDA CHRISTIAN  
UNIVERSITY**  
A Centre of Excellence in the Heart of Africa

SCHOOL OF BUSINESS

02<sup>th</sup> Sep, 2024

TO WHOM IT MAY CONCERN

Name: ANYANGO GRACE OMONDI Reg. J22B05/029

A bachelor's student who is seeking permission from your office to collect data for her dissertation titled

The Effect of Technological Innovation on Financial Performance on Commercial Banks. A case study of Stanbic Bank ,Mukono branch

We shall be grateful if you could render assistance to her in collecting the necessary data for her dissertation

The Uganda Christian University School of Business thanks you in advance

Mukisa Simon Peter  
Research coordinator



A Centre of Excellence in the Heart of Africa