

**ONLINE BANKING AND FINANCIAL PERFORMANCE OF COMMERCIAL  
BANKS: A CASE STUDY OF BANK OF AFRICA MUKONO**

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILLMENT  
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**UGANDA CHRISTIAN  
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## DECLARATION

I Asasira Jeninah hereby declare that this research report has been produced out of my own effort with the guidance of my supervisor and has never been submitted to any other institution for any award.

Signature.....

Date.....04...../.....05...../.....2026.....

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## APPROVAL

This research report has been done under my supervision and is hereby submitted with my approval.

Signature: .....

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## **DEDICATION**

With special regard, I wish to dedicate this piece of work to my family who have always been there to support me in my education. May the Almighty God richly bless you.

## **ACKNOWLEDGEMENT**

I would like to thank the Almighty God for the gift of life and guiding me throughout my education; it has not being easy but it was possible. My heartfelt gratitude goes to my supervisor, Mr. Agume Anthony Kabisyaki for the tireless efforts and expertise he rendered to me during his supervision.

Additionally, I acknowledge the selected employees of Bank of Africa for providing me with the necessary information to complete my research.

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## ABSTRACT

The study examined online banking and financial performance of commercial banks using a case study of bank of Africa Mukono. It specifically focused on; showed the relationship between ATM banking and financial performance in Bank of Africa, analyzed the relationship between internet banking and financial performance of Bank of Africa, and analyzed the relationship between mobile banking and the financial performance of Bank of Africa.

The study was carried out using a cross sectional research design where quantitative research approach was also used. The data was collected using questionnaires and interviews and during data collection, simple random sampling method was used. A sample size of 40 respondents who are employees of Bank of Africa was also used in the study.

The study findings established that ATM banking, internet banking, and mobile banking significantly enhance financial performance at Bank of Africa–Mukono branch. ATM banking showed a positive relationship with financial performance ( $r = .645^{**}$ ,  $p < .01$ ) and a positive regression influence ( $\beta = 0.225$ ,  $t = 3.693$ ,  $p = 0.000$ ). Internet banking demonstrated the strongest relationship ( $r = .782^{**}$ ,  $p < .01$ ) and a positive regression effect ( $\beta = 0.243$ ,  $t = 3.668$ ,  $p = 0.000$ ). There was a strong relationship between mobile banking and dependent variables ( $r = .639$ ,  $p < .01$ ) as well as a considerable regression effect ( $\beta = 0.396$ ,  $t = 5.426$ ,  $p = 0.000$ ), which suggests that proper use and implementation of the services offered by online banking lead to improvement in terms of accessibility, efficiency, customer satisfaction, and profitability of the bank.

Finally, the paper suggested to Bank of Africa-Mukono that it should further develop its ATM, internet, and mobile banking services in addition to raising digital literacy among employees and customers by integrating new digital technologies.

# CHAPTER ONE

## INTRODUCTION

### 1.0 Introduction

The current chapter explores the background of the study, the problem statement, the purpose of the study, objectives, research questions, geographical scope, content variables, and temporal scope, as well as the significance.

### 1.1 Background of the Study

The global banking industry has witnessed revolutionary changes due to technological advancements in information and communication technology, which have led to the rise of online banking, consisting of internet banking, mobile banking, and automated teller machine (ATM) transactions, as a key driver for improving the financial performance of banking firms through lowering costs, expanding market coverage, and boosting efficiency. Research shows that banks around the world have been adopting the approaches of digital frontrunners in their operations, highlighting the importance of targeted digital investments in maintaining profitability during economic turbulence (DeYoung, 2020; Berger, 2020; Hernando & Nieto, 2020).

The uptake of digital banking in Africa has been on an upward trend due to high mobile phone usage and technological innovation, significantly affecting financial performance through increased inclusion, reduced operational costs, and revenue generation. The success stories of mobile money solutions like M-Pesa in Kenya have been used to set a standard with banks making more profits through reduced operational costs and larger customer bases (Jack & Suri, 2014). Despite various risks including cybersecurity concerns, regulatory barriers, and lack of digital literacy skills, which may limit the achievement of financial benefits (Munyoki & Mutua, 2019; AFDB, 2020), trends such as AI personalization and embedded finance may further enhance these effects, allowing African banks to surpass conventional systems in ensuring financial performance (Kiyai, 2020).

In Uganda, online banking has been instrumental in the transformation of the financial industry due to regulatory changes by the Bank of Uganda and increased investments in ICT

infrastructure, affecting the financial performance of commercial banks by increasing efficiency and reducing operating costs, savings, and revenue diversification. Increased mobile penetration and collaborations with the telecommunications industry have enabled faster integration of mobile banking, internet facilities, and ATM operations, thus ensuring increased financial inclusion and effective risk management (Nanyondo, Tauringana & Badru, 2020; Bank of Uganda, 2019).

The literature suggests the benefits that come with increased profitability as a result of electronic banking practices that have helped cut costs while improving ROA and ROE, although there is significant variation owing to the challenges posed by infrastructure inadequacy and cybersecurity threats (Mutahi & Nkote, 2020). For example, in Bank of Africa Uganda, specifically in branches such as Mukono, adoption of online banking services has improved the bank's financial performance.

Although these developments are commendable, the process still faces numerous implementation challenges and calls for further research focusing on the relationship between ATM, internet, and mobile banking and financial performance.

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## **1.2 Statement of the Problem**

However, despite the adoption and use of ATM banking, internet banking, and mobile banking in Ugandan commercial banks, there are major constraints associated with the adoption process that have continued to affect the bank's financial performance due to inadequate ICT infrastructure, cyber security concerns, low digital literacy among staff and customers, and unequal access to banking services, especially among those in rural areas. As noted earlier, some of the problems being experienced by the sector include limited deployment of ISO20022 standard in the transactions process and lack of AI for fraud detection, resulting in poor operational efficiencies and lost revenue from digital fees charged on transactions conducted through digital banking platforms. Despite showing resilience in the face of global economic changes in 2025, where the assets of Ugandan commercial banks increased by 13.7% to reach UGX 61.3 trillion, deposits grew by 14.2% to reach UGX 41.6 trillion, loans by 9.2%, net profit

after tax increased 36% to reach UGX 1.9 trillion, NPL ratio fell to 3.7% from 4.9%, and ROA stood at 3.3%.

Statistics showing adoption of digitalization further show the gap between the two concepts. With 14.2 million users on the internet and 38.6 million mobile connections in January 2025 amounting to 76% mobile penetration and digital payments expected to rise to US\$10.42 billion in transactional value, the mobile money market in Uganda is valued at USD 133.03 billion in 2024 despite partial integration with banking institutions due to mistrust and few users with smartphones, making it difficult for the financial sector to incorporate innovations such as mobile wallet and instant money transfers thus delaying services and ATM and application software performance. In particular, taking into consideration Bank of Africa Uganda and focusing on its Mukono branch, the above challenge is experienced by this bank in terms of profits made during the first six months in June 2025 at UGX 15.132 billion when total assets are worth UGX 1.375 trillion, customer advances are UGX 529.487 billion, operating incomes of UGX 84.764 billion and expenses totaling to UGX 63.823 billion and impairment losses of UGX 5.809 billion giving a return on asset (ROA) of 20.78% and return on equity (ROE) of 21.32%.

It is therefore important to study the association between Automated Teller Machine (ATM) banking, internet banking, and mobile banking and the financial performance of commercial banks using Bank of Africa Mukono as a case study, and thus help identify measures to overcome the above challenges and increase profitability and asset creation.

### **1.3 Purpose of the study/General Objective**

The objective of this research is to fill the gap in knowledge, generate new insights, and validate previous research studies on online banking and the financial performance of commercial banks using Bank of Africa Mukono as the case study.

#### **1.3.1 Main Objective of the Study**

Online banking and performance of commercial banks

#### **1.3.2 Specific objectives of the Study**

- i. To demonstrate the association between ATM banking and financial performance at Bank of Africa.

- ii. To examine the connection between internet banking and financial performance at Bank of Africa.
- iii. To examine the connection between mobile banking and financial performance at Bank of Africa.

#### **1.4 Research Questions**

- i. What is the connection between ATM banking and financial performance at Bank of Africa Mukono?
- ii. What is the connection between internet banking and financial performance at Bank of Africa Mukono?
- iii. What is the connection between mobile banking and financial performance at Bank of Africa Mukono?

## **1.5 Justification of the study**

The issue 'online banking and financial performance of commercial banks – a case study of Bank of Africa Mukono' is topical since there is a process of digital revolution taking place in the Ugandan banking sector. Opportunities for increasing efficiency, cutting down costs, and improving financial performance can be provided by online banking services such as ATM, internet, and mobile banking; however, most commercial banks fail to capitalize on these advantages owing to inadequate infrastructure, insecurity in cyberspace, and low level of digitization literacy. The choice of Bank of Africa Mukono as a research object is reasonable since this branch operates in both an urban and rural environment, which is characteristic of most commercial banks in Uganda. Even though there is literature related to e-banking systems as a whole, very few studies examine how particular online banking channels influence the financial performance of commercial banks.

## **1.6 Scope of the Study**

In order to create a complete outline of the research work, the scope has been divided into three specific types that include geographical, temporal, and topical scopes so that the focus of the research on the connection between the utilization of online banking and the financial performance of commercial banks could be achieved.

### **1.6.1 Geographical Scope**

The focus of this study is Mukono District in Uganda where there is the presence of a branch of the Bank of Africa called Bank of Africa Mukono. It is situated along Kampala road in the town of Mukono at number 13. Mukono District is a very vibrant location combining both the features of an urban environment and suburban or rural ones. Thus, the area is marked by a very diversified economy where small businesses and agriculture are present along with new enterprises. An important contribution to the development of this area in terms of economic prosperity and finance is made by the Bank of Africa Mukono branch that provides its clients with important online banking opportunities such as ATMs, internet banking websites and mobile banking apps facilitating their financial operations. Furthermore, the coverage of Bank of Africa Mukono branch is not limited to Mukono district as it includes adjacent areas of Buikwe and Kayunga districts as well as certain areas of Kampala. As a result, rural population gains

easy-to-use financial tools whereas urban population receives more convenient digital facilities. The geographical scope helped understand the practical significance of online banking in an environment that was partially urban and rural and eventually led to the identification of Bank of Africa Mukono's contribution towards creating an inclusive financial environment in Uganda.

### **1.6.2 Time Scope**

The time frame for the study ranged from 2020 to 2025, which covered five years. This time range was chosen due to its ability to provide both pre- and post-pandemic perspectives regarding the adoption of online banking services. As such, this allowed for a deeper exploration of the effects brought about by evolving online banking in response to the changes that took place across the globe regarding digitization. The main performance parameters that will be discussed in the context of their influence on online banking include profitability, ROA, and ROE. This time scope allows for the investigation of seasonal and technological changes alongside customer preferences and behavior, which will help identify trends related to transaction volumes, reliability, and efficiency.

### **1.6.3 Content Scope**

The scope of content in this study is limited to the analysis of the components of online banking, which includes ATMs, internet, and mobile banking and their association with the financial performance of Bank of Africa Mukono. Financial performance has been evaluated based on key financial performance metrics such as profitability (net profit margin), efficiency ratios (cost-to-income ratio), asset turnover (Return on Assets) and return on equity. The study attempts to understand how these online banking tools can help generate income, cut costs, satisfy customers, and manage risks, but does not include other factors associated with physical banking services, non-digital services offered, or even macroeconomic issues external to the online banking ecosystem of the bank.

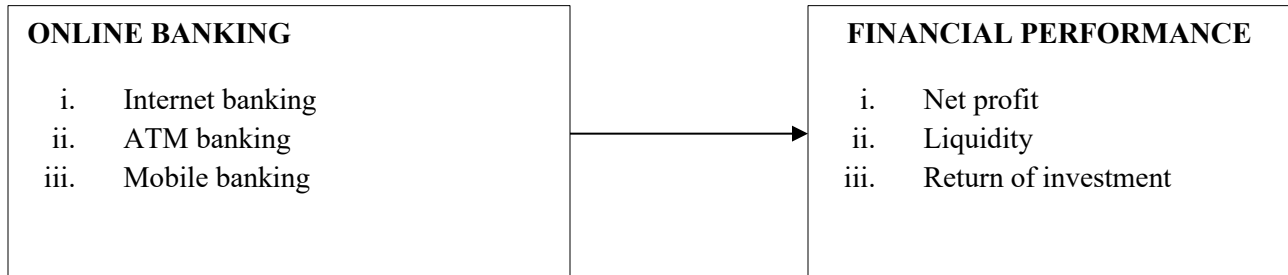
## **1.7 Conceptual framework**

This study will be using the Diffusion of Innovation Theory as its conceptual framework. According to the theory, the adoption and assimilation of technology innovations in organizations create greater efficiencies, thus giving the organizations competitive advantages.

As a result, the organization's experience increased profitability due to better diffusion through relative advantage, compatibility, and observability among other factors.

**INDEPENDENT VARIABLE**

**DEPEDENT VARIABLE**



**Source:** *Adapted from Sirengo & Muturi (2022) and modified by the researcher (2026)*

The theoretical framework portrays online banking as the independent variable that entails internet banking, ATM banking, and mobile banking that ultimately affect the dependent variable known as financial performance that is measured in terms of net profit, liquidity, and return on investment. The following framework presents the effect of using these modes of financial transaction in commercial banks such as Bank of Africa Mukono, where it facilitates efficiency and effectiveness in operations, cuts down cost of transactions, enhances market share, and minimizes risk factors for improving profitability in terms of increasing revenue generation and efficient use of resources; improving liquidity due to instant transfer of funds and settlement of accounts; and ensuring high return on investment through effective utilization of resources in digital technology among others.

**1.8 Significance of the Study**

The fast development of information technologies has made online banking an integral part of modern financial operations, allowing commercial banks to boost efficiency and cost-effectiveness and to broaden access to services. This paper is of great value for different stakeholders in terms of understanding the connection between online banking means (ATMs, Internet banking, mobile banking) and several critical performance parameters of commercial banks (profitability, liquidity, return on investment).

For Bank Management and Executives, the findings of this research provide important data on how efficient use of online banking services may be used to implement a successful strategy of digital development under resource-constrained conditions (like those of Bank of Africa Mukono in Uganda). Moreover, it describes ways to avoid some of the problems of implementation, including issues of cyber security and infrastructure development.

#### **To Policymakers and Regulatory Bodies,**

Through the revelation of the relationship between online banking services and financial inclusion and growth, the insights gained can be used to provide recommendations for policymakers at the Bank of Uganda and elsewhere who need data-driven advice while crafting policies that would help adopt and regulate fin tech effectively. Such recommendations would go towards ensuring the formulation of appropriate frameworks for regulating fintech adoption, infrastructure development, and customer protections among others.

#### **To Academic Researchers and Scholars,**

The research helps contribute to the existing knowledge in literature in regard to how digital finance works in developing countries through its application of the Diffusion of Innovation theory in a Ugandan context. Specifically, by conducting a case study on Bank of Africa Mukono, the research helps address information gaps pertaining to how adoption enablers and barriers influence financial implications within infrastructural and literacy limitations.

To the Bank's Employees and Operational Teams, It becomes clear from the research that there are several chances for employees to develop skills in dealing with online transactions which will result in greater efficiency in handling transactions and evaluating investments. As the study highlights the advantages of digitalization such as eliminating problems with manual processes that cause inefficiency, it motivates employees to become more productive and satisfied at work.

To the Bank's Customers and to the Community, the results reveal ways of becoming better at providing online banking services and thus improving customers' satisfaction and financial inclusiveness, especially in mixed urban and rural communities such as Mukono. In turn, this helps to empower people by ensuring easy access to various financial services.

## **1.9 Definition of Key Terms**

Online Banking, Online banking means the availability of banking services through electronic media, making it possible for people to carry out financial transactions without being present physically at a branch. In the case of this research, online banking entails the application of ATM banking, internet banking, and mobile banking.

ATM Banking, ATM banking is the practice of utilizing Automated Teller Machines to carry out routine banking functions such as withdrawal of money, deposits, checking balances, transferring funds, and paying bills. It constitutes one of the earliest forms of self-service banking facilitated through digital technology.

Internet Banking, Internet banking, also referred to as web banking or electronic banking, is the process whereby banks provide banking services to their clients via the internet. It allows customers to access their accounts, make money transfers, pay bills, apply for loans, and check account statements electronically through the use of computers or laptops.

Mobile Banking, Mobile banking involves the utilization of banking services using mobile technology devices such as phones and tabs, which use mobile banking applications (apps), USSD services, and SMS. The user can transfer funds, buy airtime, and monitor his or her accounts among others, hence increasing access in regions where mobile phones are highly accessible.

Financial Performance, Financial performance is the performance of the bank in terms of how it makes efficient use of its available resources to generate profits. This paper analyzes financial performance using indicators such as net profit, liquidity, and return on investment (ROI) measures.

Bank of Africa Mukono, Bank of Africa Mukono is the Bank of Africa Uganda Limited, located in the district of Mukono. It is the case study organization used in the research analysis for a particular reason as explained in detail in the paper.

Definition Of a Commercial Bank

Commercial banks are financial institutions that undertake the process of accepting deposits from the general public, lending money, and undertaking other banking operations with an aim of making profits. The commercial banks in the Ugandan environment are regulated by the Bank of Uganda.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

The present chapter highlights literature that has already been conducted on the relationship between online banking and financial performance among commercial banks. The theoretical basis of the research will start by providing a conceptual model. The other aspects that will be covered in the review include a discussion on the relationship between ATM banking and financial performance, internet banking and financial performance, and mobile banking and financial performance. A number of scholarly books and articles have been referenced throughout the chapter in order to create a strong background of the research.

#### **2.1 Theoretical Framework**

The theoretical background for the study is mainly based on the Diffusion of Innovations (DOI) Theory by Everett M. Rogers in his book, *Diffusion of Innovations* (2003). According to Rogers, Innovation diffusion refers to the process by which ideas, practices, and new technological tools are disseminated through communication channels within a social system with features such as relative advantage, compatibility, complexity, trialability, and observability influencing the rate of diffusion (Rogers, 2003). Within the realm of commercial banks, online banking channels form innovations with relative advantages including reduction in costs as well as accessibility resulting in financial benefits such as efficiency and broad reach of customers. The DOI Theory is therefore relevant to the study in relation to its independent variables namely ATM, internet, and mobile banking innovations and impacts on the dependent variable of financial performance.

As a supplement to DOI, there is the Technology Acceptance Model (TAM), which was initially introduced by Fred D. Davis in "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology" (2009). The model was later refined in other publications. According to Davis, perceived usefulness and perceived ease of use are key factors that determine technology adoption, where external factors shape perception, resulting in behavioral intention and use (Davis, 1989). The application of TAM in the context of banking

shows how the perception of users about technologies affects their adoption, thus improving bank performance and profitability in developed and developing economies. Internationally, authors such as Venkatesh & Davis in "User Acceptance of Information Technology: Toward a Unified View" (2003) extended TAM to TAM2 by including social and cognitive instrumental processes, which can be applied in the context of employees and clients in commercial banks.

Moreover, these theories find additional support from literature on financial innovations, which include works such as Schumpeter's Theory of Economic Development (1934), where creative destruction through innovations in technology interferes with existing procedures and results in improved efficiency within industries such as banking. In contemporary situations, Chris Skinner's Digital Bank: Strategies to Launch or Become a Digital Bank (2014) applies innovation diffusion theory to the concept of digitization and highlights how innovations in banking create a competitive advantage in terms of profit through the use of online systems. Likewise, Brett King's work Bank 4.0: Banking Everywhere, Never at a Branch (2018) suggests that innovations in digital technology change the very way in which bank performance is measured, switching from physical interaction to virtual interaction. Sankar Krishnan's work titled The Power of Mobile Banking: How to Profit from the Revolution in Retail Financial Services (2015) combines both TAM and DOI theory.

The online banking system is categorized as the independent variable, including three main elements: internet banking, ATM banking, and mobile banking, and all these elements have considerable impact on the dependent variable, financial performance, measured in terms of net profit, liquidity, and return on investment. The proposed model helps to show that through the use of online banking, a commercial bank like Bank of Africa Mukono would be able to boost its operational efficiency, reduce transaction costs, and reach new customers. It would also increase its profits thanks to diversification of income sources. The use of online banking would facilitate better liquidity through the effective management of funds and faster transaction process; at the same time, capital allocation would become more efficient, thus increasing the company's return on investment. However, overcoming such obstacles as cyber-attacks and users' reluctance is essential for obtaining sustainable financial gains. Therefore, the interrelation between the various factors is significant when determining effective strategies that will ensure success in the industry.

In case of African and other developing countries, such models emphasize challenges such as infrastructure and illiteracy, as explained in *Banking in Africa: Financing Transformation amidst Economic Uncertainty* published by the African Development Bank (2020). Together, DOI and TAM offer an excellent perspective in analyzing the impact of online banking on financial indicators within commercial banks, as seen in Uganda (Rogers, 2003; Davis, 1989; Skinner, 2014; King, 2018).

## **2.2 Relationship between ATM banking and financial performance**

Automated teller machines (ATMs) are among the earliest examples of online banking services and self-service capabilities, reducing the need for branches. Internationally, ATMs have played an important role in improving banking efficiencies through cost savings and increased transaction volume. According to the book *"The Power of Mobile Banking"* (2015), author Sankar Krishnan examines how ATM systems help with bank profits through low labor costs and better customer convenience in retail banking. In addition, in the book *"Bank Management & Financial Services,"* written by Peter S. Rose and Sylvia C. Hudgins in 2013, ATMs were seen as effective ways to control costs; evidence indicates that reduced operating expenses result in a higher return on assets for US commercial banks.

In the European context, Bernardo Batiz-Lazo's *Cash and Dash: How ATMs Transformed Consumer Banking* (2018) provides an account of the diffusion of ATMs and asserts that innovation led to relative advantages in terms of liquidity management and fee generation, which increased the profitability of banks immensely in the 1980s and 1990s. In support, the author uses several examples from the United Kingdom and Spain. Moving further to emerging economies, Rupa Rege Nitsure's *Modern Banking* (2003) from the Indian perspective focuses on the significance of ATMs in narrowing the gap between urban and rural areas and improving the efficiency of operations.

The African viewpoints can be seen in *Banking in Sub-Saharan Africa: Challenges and Opportunities* from the European Investment Bank (2018), where ATM adoption contributes to better liquidity ratios through easier cash availability in underbanked regions, hence lowering the number of non-performing loans due to higher client retention. As for Asia, *Financial Institutions Management: A Risk Management Approach* by Anthony Saunders and Marcia Millon Cornett

(2017) highlights the importance of ATMs with statistical evidence that proves how ATM implementation leads to better returns on equity by improving transaction processing and reducing fraud cases.

In addition to the previous references, SCN Education B.V.'s *Electronic Banking: The Ultimate Guide to Online Banking* (2001) also adds more global evidence, emphasizing ATMs as key components in digital ecosystem, which help banks realize economies of scale and financial superiority through the adoption of ATMs.

### **2.3 Relationship between internet banking and financial performance**

Internet banking, which can also be termed online or web banking, has revolutionized the delivery of banking services because it allows customers to perform their transactions from remote locations using secured web sites, thus eliminating the need for branch visits, thereby ensuring that commercial banks become more efficient. Based on the Technology Acceptance Model (TAM), which was developed by Fred D. Davis in his groundbreaking study (Davis, 1989), internet banking adoption depends on two main factors: the usefulness and ease of use of the technology, which directly contribute to customer intentions and use, resulting in better profitability for banks due to reduced costs related to branches and higher customer retention rates. It can be seen that the above-mentioned theory explains how the internet helps commercial banks save money and earn more income, which translates into better financial measures like ROE and ROA.

The phenomenon of digital disruption has been explored in Chris Skinner's book titled "Digital Bank: Strategies for Succeeding in the New World of Finance" published in 2014. The author views internet banking as an essential disruptive innovation that allows banks to employ big data analytics to offer customized products and cross-sell opportunities to customers. These actions result in a rise in non-interest revenues and profit margins for banks. According to Skinner, banks that have adopted solid internet solutions can increase their return on equity by optimizing the lifetime value of each client. This assertion is corroborated by empirical observations of best practice digital banks operating in Europe and North America.

Further insights about the importance of internet banking in the global perspective have been offered by Efraim Turban et al. in the book *Electronic Commerce: A Managerial and Social*

Networks Perspective published in 2015. Case studies presented by the authors in the book illustrate how banks in Europe and the United States are using internet banking technology to transfer money promptly and reconcile accounts automatically. The application of this innovation leads to enhanced liquidity ratios, improved balance sheets, and reduced costs of funds by limiting cash balances.

Under the angle of regulations both in developing countries and advanced economies, there is Apostolos Ath. Gkoutzinis's *Internet Banking and the Law in Europe: Regulation of Electronic Services* (2006). According to him, the harmonization of legal regulation systems in the framework of initiatives like the European Union's E-Money Directive helps facilitate internet banking implementation securely, linking internet banking systems' compliance with increased profit levels achieved due to lower fraud rates and better market coverage.

With regard to the case of developing economies that suffer from inadequate infrastructure problems, there is the edited work produced by the London Business School *Banking on Change: The Development and Future of Financial Services* (2017). According to it, the introduction of internet banking contributes to cost efficiency thanks to bypassing physical channel problems and serving poorly covered areas through digital channels at low marginal costs.

## **2.4 Relationship between mobile banking and the financial performance**

This technology leap-frogging through mobile banking is an embodiment of this phenomenon in developing countries because banks can use mobile phones to provide their services in the absence of infrastructure development. Sankar Krishnan, in his book *The Power of Mobile Banking: How to Profit from the Revolution in Retail Financial Services* (2015), elaborates on how mobile services help in profitability through low-cost transactions as compared to branch-based transactions, besides new revenue sources like micro-fees and telecom partnerships. Through his global examples, it becomes clear that mobile usage helps in increasing deposit levels and generating fee income.

In conjunction with this is Everett M. Rogers' *Diffusion of Innovations* (2003), which offers an explanation of why mobile banking has been widely adopted so quickly since it exhibits high compatibility with the existence of mobile phones, has observable advantages, and relative advantage over traditional banking in rural areas. According to Rogers' Diffusion Theory, such

characteristics contribute to faster adoption rates, thereby creating economies of scale that benefit banks through efficiencies and improved profitability, especially in emerging economies where mobile access exceeds fixed-line internet access.

In his book "Bank 4.0" (2018), Brett King explains how mobile banking plays a pivotal role in the future of bank performance through the capability to settle payments instantly through embedded finance. According to King, a mobile-first approach generates better ROE through increased loyalty and reduced churn in the competitive digital world.

Regarding Africa, even though this issue is addressed in policy papers, the situation is mirrored in academic literature, including the book *Financial Sector Development in Africa: Opportunities and Challenges* authored by Beck et al., (2011). This book identifies the emergence of mobile payments, first demonstrated in sub-Saharan Africa, as a means of increasing profits from agent networks and interoperability, which raises transaction numbers and fee income for commercial banks that incorporate mobile technology into their operations.

The book *Financial Institutions Management: A Risk Management Approach* by Anthony Saunders and Marcia Millon Cornett (2017) elaborates on the matter of risk-adjusted performance, where mobile banking reduces risks due to digital footprints and fraud detection software. Also, liquidity ratios increase with the swift mobilization of funds in the volatile emerging market.

## **2.5 Research Gap**

Many studies have been done on the advantages of online banking globally and how it positively affects business performance by improving efficiency and revenues. Examples include Skinner (2014), King (2018), and Krishnan (2015). However, the literature does not provide enough evidence on the individual contribution of each online banking channel to bank performance in developing economies. This is because most authors have aggregated the contribution of various online banking channels into one or conducted their analyses in developed countries where advanced information technology exists. These researchers ignore several constraints faced by developing economies in Africa. Such obstacles include unreliable telecommunication networks, low digital literacy, cyber security threats, and continued preference for cash transactions. The case is worse in sub-Saharan Africa, where little has been documented on the role of online

banking in banks' branch performance. For instance, in Uganda, studies have only focused on sectors and mobile money interoperability, yet there are no studies on the challenges encountered in adopting online banking in different branches.

In this study, we attempt to bridge this research gap by analyzing the contribution of specific channels to a Ugandan commercial bank branch's performance.

## **2.6 Conclusion**

The literature review, using basic principles such as the diffusion of innovations by Rogers (2003) and technology acceptance model by Davis (1989), in addition to the current insights by Skinner (2014), King (2018) and Krishnan (2015), proves that digital banking can improve the financial performance of banks in terms of reduced costs, better liquidity, higher non-interest income and return on assets and equity. Such results can create a good basis for understanding the role of digital banking across the globe. Nonetheless, they also prove the necessity of carrying out country specific studies. This study seeks to fill this gap for Uganda through analyzing channel-wise impacts on Bank of Africa Mukono.

Besides making an academic contribution, the paper offers useful information for optimizing digital services. Finally, it helps to achieve better performance in emerging African countries.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Introduction**

This chapter describes the research approach that was utilized. It outlined how this research was carried out. The sample size, study population, and study design are all included. Additionally, it covers the description of variables, the sampling process, research tools, data administration and analysis, ethical issues, and study constraints.

#### **3.1 Research Design**

This study adopted a cross-sectional survey research design, which allows for examining the relationship between online banking and financial performance of Bank of Africa, without altering any of the variables. Through statistical analysis such as correlation and regression analysis, the study established both the degree and direction of the relationship between the aspects of online banking and measures of financial performance of Bank of Africa. Cross-sectional design is suitable because it captures the current online banking aspects in their natural settings, providing real-life evidence of how banks utilize online banking to optimize their financial performance. Besides, it is cost-effective, saves time, and enables the formation of empirical data that can direct online banking and interventions to enhance the financial performance of Bank of Africa (Patrik & Ugo, 2019).

Furthermore, a quantitative research approach also used in this study, which is concerned with collecting and analyzing numerical data to make numerical values to account for relationships between online banking and financial performance of commercial banks. Data was collected systematically using structured questionnaires filled in by the employees of Bank of Africa, Mukono branch. Statistical techniques, including correlation and regression analysis, were applied to explore the degree to which financial management practices influence financial outcomes. The quantitative approach was appropriate since it facilitates precise measurement, testing of hypotheses, and objective evaluation of the association between variables (Leedy & Ormurd, 2013).

## **3.2 Area of Study**

The study was carried out at the Bank of Africa Mukono branch, which lies along the Kampala road in Mukono town council, Mukono district, Uganda. Bank of Africa Mukono was purposively selected due to its status as a representative mid-sized branch of a major commercial bank operating in Uganda; it offers services to a variety of urban and rural clients, has invested in digitization efforts since 2020, and has encountered the normal issues of infrastructural inadequacies and digital literacy among clients in the nation.

## **3.3 Data sources**

### **3.3.1 Primary data**

Primary data was gathered via structured and self-administered questionnaires that were administered to employees and clients of the branch, together with semi-structured interviews to be conducted with the management and other essential staff members. The questionnaire was selected as the primary quantitative method for data collection due to its capacity to measure perception and usage in a large sample size efficiently and effectively in a relatively short period of time.

### **3.3.2 Secondary Data**

Secondary data was obtained from Bank of Africa Uganda annual reports (2020–2025), Mukono branch internal performance records, Bank of Uganda supervisory reports on digital banking (2020–2025), published academic articles, and previous studies on online banking in African commercial banks to provide contextual background and support instrument adaptation.

## **3.4 Population and Sampling Techniques**

### **3.4.1 Target Population**

A study population encompasses the entire group of individuals or entities pertinent to a research question, from which a sample is selected (Schoch, 2020). According to the Human Resource Office Records of Bank of Africa, Mukono (2025), the company has 45 employees working in different departments in the bank which included; credit department, loans department,

operations department, and administration department and these were included in the study as the target population.

### 3.4.2 Sample Size Determination

Sample size, as defined by Katamba & Nsubuga (2014), is the part or subset of the entire population. The following formula developed by Taro Yamane in 1970 will be used to calculate the sample size:

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

“n” is sample size, “N” is population, “e” is error (0.05) or level of confidence 95%

“N” (population) = 45 employees of Bank of Africa, Mukono branch in the selected departments

$$n = \frac{45}{1 + 45(0.05)^2}$$

$$n = \frac{45}{1 + 45(0.0025)}$$

$$n = \frac{45}{1 + (0.1125)}$$

$$n = \frac{45}{1.1125}$$

**n = 40** selected employees from the different departments in Bank of Africa, Mukono branch.

The population and sample size are further divided in the table below.

**Table 1: Population, sample size and sampling methods**

Category of employees	Population	Sample size	Sampling method
Administrators (Branch manager, risk, finance & audit managers)	8	7	Stratified sampling
Credit Officers	12	11	Stratified sampling
Loans Officers	16	14	Stratified sampling

Operations manager and his assistants	9	8	Stratified sampling
<b>TOTAL</b>	<b>45</b>	<b>40</b>	

Source: *Bank of Africa, Mukono (2026)*

### 3.4.3 Sampling Procedure

This study used stratified sampling method. Stratified sampling was used to select the 40 lower-level employees of Bank of Africa, Mukono branch. This method also facilitates easier data collection and analysis by organizing these employees into distinct, meaningful subgroups based on their institution, thereby reducing sampling bias and enhancing the reliability of the findings. Stratified sampling was particularly suitable for this study as it allows the researcher to capture potential differences in online banking and financial performance of commercial banks and in particular, Bank of Africa.

### 3.5 Variables, Definitions and Measurement Instruments

**Table 2: Summary of Variables, Operational Definitions and Measurement Instruments**

Variable Type	Operational Definition (Context-specific to Bank of Africa Mukono)	Measurement Instrument	No. of Items	Scale
Independent	ATM Banking: Frequency, reliability, and transaction contribution	6 items adapted from e-banking adoption scales	6	5-point Likert (1 = Strongly Disagree – 5 = Strongly Agree)
Independent	Internet Banking: Usage of web portals for inquiries and transfers	6 items adapted from digital banking efficacy scales	6	5-point Likert
Independent	Mobile Banking: Adoption of apps/ USSD for payments and balances	6 items from mobile banking impact studies	6	5-point Likert
Dependent	Financial Performance: Branch profitability, liquidity, ROI	6 items (perception-based + secondary indicators)	6	5-point Likert/ Ratio-based

Total number of items in the final questionnaire: 42 (All constructs balanced for brevity and reliability).

### **3.6 Data Collection Instruments**

#### **3.6.1 Questionnaire**

Closed-ended questions and a list of possible answers were included in the questionnaires. Respondents were requested to select the response that best expresses their thoughts on the circumstance and the subject under inquiry (Mugenda & Mugenda, 2005). Responses were limited to the items on the questionnaire, which will be uniform and inflexible. This assists to enlist validity and control of the extraneous factors (Sarantakos, 2005). To gather data on the topic, a structured questionnaire with sections based on study factors were produced. The respondents were given it. With response options like (5) strongly agree, (4) agree, (3) not sure, (2) disagree, and (1) strongly disagree, it used a five-point Likert scale. Since it gives responders with a number of options and facilitates tabulation of the collected data for comparison, the Likert format was chosen. With their permission, the questionnaire was utilized to gather information from the 40 employees from the different departments in Bank of Africa, Mukono.

### **3.7 Quality Control (Reliability and Validity)**

The study implemented rigorous procedures to ensure that the instruments produce trustworthy, accurate, and reproducible results.

#### **3.7.1 Content Validity**

The content validity was confirmed by following a two-step process. In the first step, the pilot questionnaire was subjected to review by three senior academics in the fields of banking and research methodology. Each item was independently reviewed and scored against criteria of relevance, clarity, representativeness, and consistency with operational definition. Items were ranked on a scale from one to four, where “one” stands for “not relevant” and “four” denotes “very relevant.” The Content Validity Index was computed for each item (I-CVI) and each scale (S-CVI). Items with an I-CVI less than 0.78 were excluded from the study, and the S-CVI had to be more than 0.90.

### 3.7.2 Construct Validity

Construct validity was tested via Confirmatory Factor Analysis (CFA) using pilot and full data sets in AMOS 28. Items had to be loaded above 0.70 on the intended factor(s), cross-loadings under 0.40, and fit indices CFI/TLI greater than 0.95, RMSEA less than 0.08, SRMR less than 0.08.

### 3.7.3 Reliability

Internal consistency was measured with Cronbach's alpha in pilot and final rounds. Subscales under 0.70 prompted revision. Desired alpha is  $\geq 0.80$  for hypothesis testing.

**Table 3: Summary of Planned Validity and Reliability Checks**

Quality Aspect	Method/Procedure	Acceptance Criterion
Content Validity	Expert judgment + pilot feedback	I-CVI $\geq 0.78$ ; S-CVI $\geq 0.90$
Construct Validity	Confirmatory Factor Analysis (CFA)	Loadings $\geq 0.70$ ; good fit indices
Reliability	Cronbach's alpha	$\alpha \geq 0.70$ (target $\geq 0.80$ )

### 3.8 Data Collection Procedure

The data collection process adhered to a hierarchical approach to ensure systematic implementation, ethical considerations, and maximum cooperation. i. The researcher initially secured an introductory letter from the University Dean accompanied by the research proposal and ethical clearance letter. ii. Then, the researcher presented these letters to the Bank of Africa Uganda management and its Mukono branch manager to get written consent. iii. Next, once permission is granted, the bank branch provided an updated list of staff and clients grouped into strata. iv. Subsequently, proportionate stratified random sampling was used to select the respondents based on allocation tables. v. Then, the survey administration began over four weeks in 2025 using mixed modes; printed questionnaires handed out in-person and online link through Google forms sent to the participants' emails/mobile numbers. vi. Each survey had a unique serial number for tracing purposes, but no personal identification was included. vii. Lastly, reminders and contact visits were planned at week one and two of the survey distribution period.

### **3.9 Data Collection Procedure**

The process of collecting the data was done in a systematic and ethical manner, and the steps taken were the following: Step one: Get the introductory letter and clearance In the first stage, the researcher was supposed to acquire an official letter from the university along with the proposal and ethical certificate and take it to the Bank of Africa officials. Secure informed consent from participants every participant received a detailed consent form stating objectives, voluntary nature, anonymity, and contacts; consent via signature or checkbox. Distribute questionnaires via on-site and digital link with a four-week window Mixed-mode over four weeks in 2025; on-site distribution at branch, digital links for remote customers. Conduct follow-up reminders and collect forms weekly reminders via SMS/email, personal follow-ups; target minimum 85% usable responses.

### **3.10 Data Processing and Analysis**

This study fully complied with university research ethics policy and relevant guidelines. i. Voluntary participation and informed consent were guaranteed; no coercion. ii. Anonymity and confidentiality protected through coded instruments; secure storage. iii. Full ethical clearance obtained before fieldwork; bank endorsement secured. iv. Honest and transparent reporting of all findings upheld.

### **3.11 Ethical Considerations**

This study fully complied with university research ethics policy and relevant guidelines. i. Voluntary participation and informed consent was guaranteed; no coercion. ii. Anonymity and confidentiality protected through coded instruments; secure storage. iii. Full ethical clearance obtained before fieldwork; bank endorsement secured. iv. Honest and transparent reporting of all findings upheld.

### **3.12 Methodological Constraints**

The study acknowledged the following limitations and mitigation measures: Self-reported bias may occur due to social desirability; mitigated through anonymity and honest-response instructions. The cross-sectional study only highlights the relationship between variables without inferring causality. Regression analysis with control variables increases the inferential validity of

the research but is best conducted using longitudinal studies in terms of determining cause-and-effect relationships. The results apply specifically to Bank of Africa Mukono but can be generalized to other similar branches.

## CHAPTER FOUR

### DATA PRESENTATION AND INTERPRETATION OF FINDINGS

#### 4.0 Introduction

This chapter presents and discusses the results of analysis that has been done to look at the specific objectives of the study and in relation to the reviewed literature. The study was carried out using questionnaires with the employees of Bank of Africa, Mukono branch. The findings are presented with the help of tables for purposes of clarity and interpretation.

#### 4.1 Findings on demographic characteristics of respondents

This section presents the general background information about the respondents in relation to their gender, age, education level, category of respondents and period spent working or dealing with Bank of Africa, Mukono branch as shown in the table below;

**Table 4: Background Information about the respondents**

Item	Description	Frequency	Percentage (%)
Gender	Male	23	57.5
	Female	17	42.5
	<b>Total</b>	<b>40</b>	<b>100.0</b>
Age bracket	21-30 years	19	47.5
	31-40 years	15	37.5
	41-50 years	6	15.0
	<b>Total</b>	<b>40</b>	<b>100.0</b>
Level of education	Bachelor's degree	22	55.0
	Master's degree	8	20.0
	Others	10	25.0
	<b>Total</b>	<b>40</b>	<b>100.0</b>
Period spent working with Bank of Africa	1-5 years	16	40.0
	6-10 years	18	45.0
	Above 10 years	6	15.0

	<b>Total</b>	<b>40</b>	<b>100.0</b>
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**Source:** *Primary data*

The results revealed that 57.5% of respondents were male and 42.5% were female. This suggests that, in the survey, men made up a greater percentage of the respondents than women did. The findings point to more male staff and consumers answering the survey than their female colleagues.

The results also revealed that most of the respondents represented by 47.5% are between 21 and 30 years old, followed by those between 31 and 40 years old represented by 37.5%, and then finally those between 41 and 50 years old were represented by 15.0%. This indicates that the majority of survey participants were somewhat young adults ranging in age from 21 to 30 years. The results point to most people who work with the bank being in the young and financially active age group; a smaller number are elderly persons aged 41–50 years.

Furthermore, the findings revealed that 55.0% of respondents held a Bachelor's degree, followed by those who hold other qualifications like postgraduate diplomas represented by 25.0%, and lastly 20.0% hold Master's degrees. This suggests that most of the respondents had degrees. The results imply that most bank staff have strong academic credentials, which can affect their knowledge and use of internet banking tools.

Lastly, the findings established that 45.0% of respondents have spent 6–10 years working at or dealing with the bank, followed by those who have spent 1–5 years represented by 40.0% and finally those who have spent over 10 years were represented by 15.0%. This indicates that most of the respondents had limited knowledge of the bank as they had been working with the bank for six to ten years. Fewer people had more than ten years of long-term experience.

#### 4.2 The relationship between ATM banking and financial performance

Table 5 summarizes respondents' responses on the relationship between ATM banking and financial performance in Bank of Africa by using a Likert scale where SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree) and SD (Strongly Disagree).

**Table 5: The relationship between ATM banking and financial performance**

Statements	Extent of agreement and disagreement				
	SA	A	NS	D	SD
	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)
The availability of ATM banking services has improved the efficiency of service delivery at Bank of Africa Mukono branch.	21 52.5%	12 30.0%	00	5 12.5%	2 5.0%
Frequent use of ATM services has reduced congestion inside the banking hall.	12 30.0%	17 42.5%	3 7.5%	5 12.5%	3 7.5%
ATM banking has contributed to increased transaction volumes at Bank of Africa Mukono branch.	9 22.5%	19 47.5%	4 10.0%	7 17.5%	1 2.5%
The reliability of ATM machines has enhanced customer satisfaction at Bank of Africa.	11 27.5%	17 42.5%	2 5.0%	10 25.0%	00
ATM banking has reduced operational costs associated with over-the-counter transactions.	12 30.0%	17 42.5%	5 12.5%	6 15.0%	00
The introduction of ATM services has positively influenced the profitability of Bank of Africa Mukono branch.	12 30.0%	20 50.0%	00	8 20.0%	00

**Source:** *Primary data*

Table 5 represents the descriptive statistics on the relationship between ATM banking and financial performance in Bank of Africa. According to the study, 82.5% of the respondents agreed that the availability of ATM banking services has improved the efficiency of service

delivery at Bank of Africa Mukono branch, whereas 17.5% disagreed with the statement. From this it can be concluded that availability of ATM services leads to efficiency since they facilitate quick transactions hence minimizing reliance on manual services. Ultimately, such actions will positively affect the bank's financial performance.

Moreover, from the results, it was found that 72.5% of the respondents confirmed that regular use of ATM services has minimized congestion within the banking hall, while 20.0% disagreed and 7.5% were not certain. From this it is evident that ATM services are effective in handling customer flows hence minimizing congestion in the bank. This factor leads to efficiency and cost-effectiveness.

Additionally, the results showed that 70.0% of the respondents confirmed that the use of ATMs in banking operations has been successful in increasing transaction volumes within Bank of Africa-Mukono branch, 20.0% disagreed while 10.0% were not certain. Increased transaction volumes through ATMs lead to greater opportunities for revenue generation hence ensuring the sustainability of the bank financially.

Further, it was found that 70.0% of the respondents confirmed that the reliability of ATM machines has increased customer satisfaction within the bank. This means that dependable ATM services promote trust and customer satisfaction, which may eventually result into customer loyalty and better financial gains for the bank branch.

Moreover, it was found out that 72.5% of the respondents were of the opinion that use of ATM banking has led to saving on costs incurred due to over-the-counter transactions, while 15.0% disagreed and 12.5% of them were uncertain about the matter. This means that moving over the counter transactions to the ATMs results in savings in administrative costs.

Finally, it can be noted that according to the data gathered, 80.0% of the respondents felt that introduction of ATM services has impacted positively on the profitability of Bank of Africa Mukono Branch, while the rest 20.0% did not agree with the above statement.

In general, from the above results, it is clear that there is a strong positive relationship between ATM banking and financial performance in Bank of Africa Mukono branch since almost all the percentages were in the strongly agree category. These results show that the use of ATM services

leads to greater efficiency, less congestion, more transactions, better customer satisfaction, low operating costs, and increased profit.

### 4.3 The Relationship between Internet Banking and Financial Performance

The following table shows the results for the relationship between internet banking and financial performance of Bank of Africa using a five-point Likert scale where SA = Strongly Agree, A = Agree, NS = Not Sure, D = Disagree and SD = Strongly Disagree).

**Table 6: The relationship between internet banking and financial performance**

Statements	Extent of agreement and disagreement				
	SA	A	NS	D	SD
	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)
Internet banking services have increased the number of customers accessing Bank of Africa services remotely.	10 25.0%	26 65.0%	00	4 10.0%	00
The use of internet banking has improved transaction speed and convenience for customers.	7 17.5%	30 75.0%	00	3 7.5%	00
Internet banking has contributed to increased revenue generation at Bank of Africa Mukono branch.	11 27.5%	25 62.5%	1 2.5%	3 7.5%	00
The security features of internet banking enhance customer trust in the bank.	9 22.5%	29 72.5%	00	2 5.0%	00
Internet banking services have reduced operational workload for employees at the branch.	8 20.0%	24 60.0%	00	8 20.0%	00
The adoption of internet banking has strengthened the competitive position of Bank of Africa Mukono branch.	9 22.5%	24 60.0%	00	7 17.5%	00

**Source:** *Primary data*

Table 6 illustrates the descriptive statistics on the association between internet banking and financial performance of Bank of Africa. In terms of the research study, 90.0% of the participants agree that internet banking has enhanced the number of clients utilizing Bank of Africa's services outside the premises. In contrast, 10.0% disagree with the statement. The implication is that internet banking has expanded customer outreach, hence improving service delivery and possibly the revenue generation of the organization.

Moreover, 92.5% of the participants agreed that internet banking had enhanced transaction speed and convenience. However, 7.5% disagreed with the statement. This suggests that better speed and convenience improve customer experience and satisfaction levels, leading to an increase in the utilization of banking services.

Moreover, the results revealed that 90.0% of the respondents strongly agreed that internet banking has helped generate additional revenues for the Bank of Africa Mukono branch, while 7.5% disagreed, and 2.5% were unsure. This suggests that internet banking helps boost revenue generation via higher transaction frequency and service usage, resulting in enhanced financial performance.

Further, it was noted that 95.0% of the respondents agreed that internet banking is characterized by robust security, which helps build customer trust in the bank, while 5.0% disagreed. This suggests that strong security helps boost customer confidence, encouraging further online usage and customer retention as well as improved financial performance.

In addition, it was found that 80.0% of the respondents strongly agreed that services provided by internet banking have decreased workloads for employees at the branch, while 20.0% disagreed. This suggests that automation via internet banking helps improve employee efficiency and boost financial performance of the branch.

Finally, the results indicated that 82.5% of the respondents strongly agreed that the adoption of internet banking has enhanced the competitive advantage of Bank of Africa Mukono, while 17.5% disagreed. This suggests that internet banking helps boost the competitiveness of the bank, enhancing profitability.

Generally, from the findings, there is a very positive correlation between the use of internet banking services and the financial performance of Bank of Africa Mukono branch, as shown by the extremely high level of agreement on all the statements made. This study shows that internet banking makes customers accessible, convenient and fast, generates more income, builds customer confidence, lightens the workload of the business, and makes it more competitive, thus improving its financial performance.

#### 4.4 The relationship between mobile banking and the financial performance

Table 7 summarizes respondents' responses on the relationship between mobile banking and the financial performance of Bank of Africa by using a Likert scale where SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree) and SD (Strongly Disagree).

**Table 7: The relationship between mobile banking and the financial performance**

Statements	Extent of agreement and disagreement				
	SA	A	NS	D	SD
	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)	Freq. (%)
Mobile banking services have increased accessibility to banking services among customers.	12 30.0%	24 60.0%	2 5.0%	1 2.5%	1 2.5%
The use of mobile banking has led to an increase in transaction frequency at Bank of Africa Mukono branch.	9 22.5%	27 67.5%	3 7.5%	00	1 2.5%
Mobile banking has contributed to growth in the bank's customer base.	10 25.0%	27 67.5%	2 5.0%	1 2.5%	00
Mobile banking services have improved customer retention at Bank of Africa.	12 30.0%	25 62.5%	2 5.0%	1 2.5%	00
The convenience of mobile banking has enhanced overall customer satisfaction.	10 25.0%	29 72.5%	1 2.5%	00	00

Mobile banking services have positively contributed to the financial growth of Bank of Africa Mukono branch.	9 22.5%	29 72.5%	2 5.0%	00	00
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**Source:** *Primary data*

Table 7 represents the descriptive statistics on the relationship between mobile banking and the financial performance of Bank of Africa. According to the study, 90.0% of the respondents agreed that mobile banking services have increased accessibility to banking services among customers, whereas 5.0% disagreed and 5.0% were not sure. This indicates that mobile banking promotes financial inclusion and expands service provision since the banking services can be accessed from anywhere and at any time, hence promoting use of banking services and financial performance of the bank.

The study results showed that 90.0% of the participants agreed that mobile banking has led to increased number of transactions for Bank of Africa Mukono branch, while 2.5% disagreed and 7.5% did not give any clear response on the issue. This indicates that higher number of transactions from mobile platforms increases transaction-based income of the banks hence improving the financial sustainability of the bank.

In addition, it was found that 92.5% of the participants agreed that mobile banking has facilitated customer growth for the bank, while 2.5% disagreed and 5.0% did not give a clear response regarding the matter.

Moreover, the study found out that 92.5% of the participants were in agreement that mobile banking service has been helpful in increasing customer loyalty towards Bank of Africa, 2.5% disagreed, and 5.0% were not sure. This means that the easy-to-use and efficient mobile banking services make customers feel secure and comfortable, thus encouraging them to stick to the bank, leading to regular deposits and financial success.

Moreover, the findings indicate that 97.5% of the respondents were in agreement that the convenience of mobile banking services has increased their overall satisfaction level, while 2.5% were not sure. This means that higher customer satisfaction levels increase customer loyalty, which leads to frequent transactions and improves the bank's financial performance.

Finally, the findings show that 95.0% of the participants agreed that mobile banking services have helped improve the financial performance of Bank of Africa Mukono Branch, while 5.0% were not sure. This means that the mobile banking service directly impacts financial growth and profitability.

Overall, the findings indicate that mobile banking has a very strong positive relationship with financial performance at Bank of Africa Mukono branch, as evidenced by the extremely high levels of agreement across all statements. The results demonstrate that mobile banking increases accessibility, transaction frequency, customer base, retention, satisfaction, and financial growth, which collectively contribute to improved financial performance of the bank.

#### 4.5 Correlation analysis on online banking and financial performance

This study was set to investigate the relationship between online banking and financial performance of commercial banks. This was done by running a correlation analysis using Pearson Product Moment Correlation coefficient between the three components of online banking which include; ATM banking, internet banking, and mobile banking in relation to financial performance of Bank of Africa, Mukono branch as indicated in the conceptual framework. For a correlation to be considered significant, the P-value (Sig. (2.tailed) values must be less than 0.05 (for 95% confidence level) or less than 0.01 (for 99% confidence level) and the findings are shown in Table 11 below.

**Table 8: Correlation Matrix**

Variables	Mean	Standard Deviation	1	2	3
1. ATM banking	4.23	.772	1		
2. Internet banking	4.19	.730	.754**	1	
3. Mobile banking	4.05	.830	.679**	.590**	1
4. Financial performance of banks	4.11	.821	.645**	.782**	.639**

*Note:*

a) 1= ATM banking; 2= Internet banking; 3= Mobile banking; and 4= Financial performance of Bank of Africa

b) \* $P < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$  level of Significance

**Source:** Primary data

In relation to ATM banking and financial performance of Bank of Africa – Mukono branch, the results as shown in Table 11 revealed that there is a significant positive relationship between ATM banking and financial performance, affirmed by ( $r = .645^{**}$ ,  $p < .01$ ). This implies that as ATM banking services are effectively implemented and utilized, the financial performance of the bank improves. In other words, increased efficiency, transaction volumes, cost reduction, and customer convenience associated with ATM banking significantly enhance profitability and overall financial outcomes of the branch.

The findings in Table 11 also show that there is a significant positive relationship between internet banking and financial performance, affirmed by ( $r = .782$ ,  $p < .01$ ). This shows that the financial performance of the bank will improve significantly when the usage and management of internet banking services are done effectively. This means that speed, accessibility, security, and more importantly revenue generation due to internet banking services positively contribute to the improved financial performance of the bank.

Last but not least, it is evident from the results shown in Table 11 that mobile banking has a significant relationship with financial performance ( $r = .639^{**}$ ,  $p < .01$ ). This implies that as mobile banking services are expanded and effectively utilized by customers, the financial performance of the bank improves significantly. This indicates that increased accessibility, higher transaction frequency, improved customer retention, and enhanced customer satisfaction through mobile banking strengthen revenue growth and overall financial stability of the branch.

#### 4.6 Regression analysis on online banking and financial performance

The overall model made a significant contribution, accounting for 63.3% of the variability in financial performance of Bank of Africa-Mukono branch (Total  $\Delta R^2 = .633$ ,  $p = .000$ ). The table below importantly shows the R-Square (R2) and R-Square Change ( $\Delta R^2$ ) for each model, showing its contribution to the overall model. These values are interpreted alongside the ANOVA table providing the F values for each model together with the levels of significance.

**Table 9: Linear Regression Analysis Results**

Model Summary				
	R	R Square	Adjusted R	Std. Error of the

Model				Square	Estimate	
1		.801 <sup>a</sup>	.641	.633	.337	
ANOVA <sup>a</sup>						
Model		Sum of squares	df	Mean Square	F	Sig.
1	Regression	26.112	3	8.704	76.834	0.000 <sup>b</sup>
	Residual	14.613	36	0.113		
	Total	40.725	39			
Coefficients <sup>a</sup>						
Model		Un standardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.171	.282		0.607	.545
	ATM banking	.249	.067	.225	3.693	.000
	Internet banking	.274	.075	.243	3.668	.000
	Mobile banking	.345	.060	.396	5.426	.000
a. Dependent Variable: Financial performance of Bank of Africa						
b. Predictors: (constant), ATM banking, Internet banking, Mobile banking						

$P \leq 0.05$

**Source:** *Primary data*

Table 9 shows a coefficient of determination (R-square) of 0.641 at a significance level of 0.000, suggesting that 64.1% of the variability in financial performance of Bank of Africa – Mukono branch is explained by the independent variables: ATM banking, internet banking, and mobile banking, with a standard error of estimate of 0.337. The correlation coefficient ( $R = 0.801$  or 80.1%) indicates a strong positive association between online banking services and financial performance. The adjusted  $R^2$  statistic of 0.633 or 63.3% indicates the degree of variance in the financial performance explained by the independent variables considering the sample size and predictors. The other 36.7% variance in the financial performance is due to other variables outside this model.

Standardized coefficients show that the ATM banking is significantly related to financial performance with ( $\beta = 0.225$ ,  $t = 3.693$ ,  $p = 0.000$ ). It means that when there is a one-unit increase in the effectiveness of ATM banking operations, financial performance increases by 22.5%. The implication is that improved ATM banking operations such as increased access, efficiency, and reliability positively influence transactions, operational costs, and profit generation in the bank.

Also, Internet banking is significantly associated with financial performance with ( $\beta = 0.243$ ,  $t = 3.668$ ,  $p = 0.000$ ). The implication here is that when there is a one-unit increase in the use of internet banking, financial performance increases by 24.3%.

Finally, there was a significant effect on financial performance by mobile banking ( $\beta = 0.396$ ,  $t = 5.426$ ,  $p = 0.000$ ). It means that an increase in one unit in mobile banking service results in 39.6% better financial performance. This shows that increased accessibility, transaction frequency, customer retention, and satisfaction through mobile banking significantly enhance revenue growth and overall financial stability of the branch.

Table 9 also presents the Analysis of Variance (ANOVA). The results indicate a highly significant model overall, with an F-statistic of 76.834 and a p-value of 0.000. Since the p-value is less than the significance threshold of 0.05, it is concluded that the overall regression model is statistically significant. This means that ATM banking, internet banking, and mobile banking collectively have a strong and significant influence on the financial performance of Bank of Africa Mukono branch.

## CHAPTER FIVE

### SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

#### 5.0 Introduction

This chapter includes the discussion of findings in relation to the literature. It also summarizes all findings reported in chapter four according to questions of the study, draws conclusions, suggests recommendations and also proposes some areas for further study.

#### 5.1 Summary of findings

The study findings revealed that ATM banking has a strong positive relationship with financial performance at Bank of Africa-Mukono branch. Descriptive results show high levels of agreement that ATM services improve service efficiency, reduce congestion, increase transaction volumes, enhance customer satisfaction, reduce operational costs, and improve profitability, implying that ATM banking strengthens operational effectiveness and revenue generation. Correlation analysis further confirms a significant positive relationship between ATM banking and financial performance ( $r = .645^{**}$ ,  $p < .01$ ), while regression results reveal that ATM banking significantly influences financial performance ( $\beta = 0.225$ ,  $t = 3.693$ ,  $p = 0.000$ ), meaning that a unit improvement in ATM banking leads to a 22.5% improvement in financial performance. Overall, the results demonstrate that effective implementation and utilization of ATM services significantly enhance efficiency, cost reduction, customer satisfaction, and profitability of the bank.

Moreover, research data has proved that there is a robust and positive correlation between internet banking and financial performance at Bank of Africa-Mukono branch. According to descriptive statistics, internet banking has been perceived by respondents as being highly capable of increasing access for customers, improving transaction speed and convenience, generating revenues, ensuring security and building trust among customers, reducing work burden, and improving competitiveness. This suggests that internet banking greatly contributes to operational efficiency, customer satisfaction, and revenues. As indicated by correlation analysis, there exists a significant positive correlation between internet banking and financial performance ( $r = .782$ ,  $p < .01$ ). Regression results indicate that internet banking significantly affects financial

performance ( $\beta = 0.243$ ,  $t = 0.000$ ), meaning that a unit increase in internet banking adoption contributes to a 24.3% improvement in financial performance. In conclusion, from the above findings, it can be seen that successful use and application of Internet Banking greatly improve the access, efficiency, reliability, competitiveness, and profitability of the bank.

Finally, from the above findings, it has been found that there is a very significant positive correlation between Mobile Banking and the financial performance of Bank of Africa – Mukono branch. The descriptive results suggest an extremely high level of agreement on mobile banking increasing access, transactions, customer base, customer loyalty, satisfaction, and growth, hence financial inclusion and efficiency.

Correlation analysis further confirms a significant positive relationship between mobile banking and financial performance ( $r = .639$ ,  $p < .01$ ), while regression results reveal that mobile banking significantly influences financial performance ( $\beta = 0.396$ ,  $t = 5.426$ ,  $p = 0.000$ ), meaning that a unit improvement in mobile banking leads to a 39.6% improvement in financial performance. Overall, the results demonstrate that effective implementation and utilization of mobile banking services significantly enhance accessibility, transaction volumes, customer loyalty, satisfaction, and profitability of the bank.

## **5.2 Discussion of findings**

### **5.2.1 The relationship between ATM banking and financial performance**

From the results, ATM banking positively and significantly correlates with financial performance in Bank of Africa-Mukono branch. The high agreement on the use of ATM banking to enhance service efficiency, decrease congestion, increase transactions, raise customer satisfaction levels, cut costs, and increase profitability means that ATM banking improves operation and profitability. The results confirm the literature reviews of Berger (2020) and Mutahi & Nkote (2020), where the two argued that digital banking, including ATMs, increases efficiency, cuts costs, and helps in achieving profitability in commercial banks. In the same way, according to African Development Bank (2020), ATM banking extends service provision and increases revenues in African financial institutions. The results only slightly differ from those of Juko & Tolit (1999) and Kalunji et al. (1999), who noted that technological infrastructure

challenges and low IT adoption rates in Ugandan banks can limit the efficiency gains from ATM deployment.

According to the research findings, ATM banking was found to play a crucial role in determining the financial performance of the banks as shown in the regression analysis results ( $\beta = 0.225$ ,  $t = 3.693$ ,  $p = 0.000$ ) such that for each unit increase in ATM banking, there is an increase in the financial performance by 22.5%. The findings of the study were related to those of DeYoung (2020) and Hernando & Nieto (2020) who stated that the implementation of ATM and online banking services increases the volume of transactions and profitability of banks due to increased automation and accessibility to customers. Sirengo & Muturi (2022) also noted the importance of electronic banking on financial performance of commercial banks of Kenya. On the other hand, Munyoki & Mutua (2019) pointed out the challenges such as network disruptions and low digital literacy levels of clients as factors that could hinder the positive effect of ATM banking.

The results indicate that the correlation coefficient of .645\*\* for ATM banking and financial performance shows how the improvements in ATM banking services directly help in achieving greater efficiency, customer satisfaction, and profitability. The results connect with previous works conducted by King (2018) and Skinner (2014). These authors point out that banks with successful implementation of automation tools improve their position on the market. The results of this study are consistent with the theory of Venkatesh & Davis (2003) and Davis (1989), according to which the model of technological acceptance reveals that perceptions of usefulness and convenience of banking technologies affect their adoption. On the contrary, the current findings do not coincide with Gkoutzini (2006), who stated that in certain regulatory settings there were possible barriers preventing the efficient work of the ATM system.

### **5.2.2 The relationship between internet banking and financial performance**

The results of this study showed a positive correlation between internet banking and financial performance at the Bank of Africa-Mukono branch. The extremely high level of agreement on how internet banking makes the customers more accessible, helps to increase transaction speed and convenience, and increases revenues generated indicates that the practice of online banking greatly enhances efficiency and customer satisfaction. These results are consistent with findings from research conducted by DeYoung (2020) and Hernando & Nieto (2020), which state that

internet banking technologies enhance service provision, increase efficiency, and ensure profitability of the operations at commercial banks. Likewise, Mutahi & Nkote (2020) and Berger (2020) found out that the effective use of digital channels leads to higher revenue generation and efficient operations. However, these results contradict the findings of Juko & Tolit (1999) and Kalunji, Olanyo, & Odyek (1999), which pointed out that poor IT infrastructure and lack of technology adoption may limit the benefits of internet banking.

From the research findings, it is evident that the adoption of internet banking plays a key role in influencing financial performance since there was a positive relationship ( $\beta = 0.243$ ,  $t = 3.668$ ,  $p = 0.000$ ). This suggests that for each unit increase in internet banking adoption, there is a 24.3% increase in financial performance. The results are congruent with previous studies conducted by the African Development Bank (2020) and London Business School (2017), where the adoption of digital banking increases financial flows, efficiency, and competitiveness. In a similar vein, the adoption of electronic banking in Kenyan commercial banks by Sirengo & Muturi (2022) had a positive influence on financial performance and market share. On the other hand, Munyoki & Mutua (2019) suggested that issues such as inadequate digital literacy and cybersecurity could undermine internet banking adoption.

The research findings show that there is a strong relationship between Internet banking and financial performance ( $r = .782$ ,  $p < .01$ ) since it shows that improvements in Internet banking have a direct impact on increasing operational effectiveness, trust, and profits of banks. The results correlate with the literature by Venkatesh & Davis (2003) and Davis (1989) as their technology acceptance models state that usefulness and ease of use affect adoption and further performance of a technology. Furthermore, King (2018) and Skinner (2014) point out that digital transformation makes banks more competitive and increases financial performance. In contrast to this, Gkoutzini (2006) notes that rigid regulations in certain areas may prevent financial gains of Internet banking.

### **5.2.3 The relationship between mobile banking and the financial performance**

The results showed that there is an extremely high positive correlation between mobile banking and financial performance at Bank of Africa-Mukono branch. The results showed that mobile

banking positively enhances accessibility, transaction rates, customer base, and customer loyalty, hence implying that mobile banking improves financial inclusion, efficiency, and revenues. The results support the literature on the issue as evidenced by studies by Jack & Suri (2014) and Krishnan (2015), who found that mobile banking and mobile money have significantly increased financial transaction efficiency, access to financial services, and revenues in African countries. Berger (2020) and the African Development Bank (2020) also highlighted that innovations in digital/mobile banking contribute significantly to financial growth and operational efficiency. On the other hand, according to Juko & Tolit (1999) and Kalunji et al. (1999), technological infrastructural limitations and adoption of ICTs in Ugandan banks might constrain the expected impacts of mobile banking, hence limiting the extent of the generalization of results.

It was observed from the research results that there is a significant relationship between mobile banking and financial performance ( $\beta = 0.396$ ,  $t = 5.426$ ,  $p = 0.000$ ). That is, the adoption of mobile banking increases financial performance by 39.6%. The results have supported the studies conducted by Mutahi & Nkote (2020) and Nanyondo et al. (2020) where it was established that the adoption of mobile banking positively impacts the profitability, efficiency, and market share of banks. Moreover, the London Business School (2017) and Organization for Economic Co-operation and Development (2021) pointed out that banks adopting mobile technologies enjoy better revenue growth, competitive advantage, and customer reach. However, Munyoki & Mutua (2019) indicated that there are some barriers such as user illiteracy, cybersecurity issues, and expensive services that hinder the adoption of mobile banking.

The results obtained from the study indicated that the correlation coefficient  $r = .639$ ,  $p < .01$ , between mobile banking and financial performance indicated that mobile banking plays an important role towards contributing to customer satisfaction, loyalty and profitability. The findings were consistent with the literature discussed by Venkatesh & Davis (2003) and Davis (1989), indicating that perceived usefulness and ease of use were among the critical drivers towards adopting technology that affects organizational performance. Moreover, the findings were supported by studies by King (2018) and Skinner (2014), which stated that banks using mobile banking and digital technologies enhanced financial inclusion, engagement, and profitability. On the contrary, Gkoutzinis (2006) noted that regulatory constraints could have a

moderating effect in some areas regarding the relationship between mobile banking and financial performance.

### **5.3 Conclusion**

The study finds that ATM banking plays a crucial role in improving the financial performance of Bank of Africa–Mukono branch. It is evident from the results that the use of ATM banking makes the bank more efficient through reduced congestion, improved service delivery, increased transaction levels, customer satisfaction, and cost saving measures that lead to improved financial performance. Consequently, this shows that ATM banking is one of the ways of ensuring effectiveness and increased revenues from operations.

In addition, the study finds that internet banking is highly correlated with the financial performance of Bank of Africa–Mukono branch. The result shows that internet banking has helped in creating customer convenience through improved transaction processing, improved customer trust, reduced workload for customers and staff, and overall improved competitiveness that has led to increased revenues.

Finally, the study shows that mobile banking is a crucial factor in contributing to the improvement of financial performance at Bank of Africa–Mukono branch. The application of mobile banking contributes to accessibility of service, transaction rate, client acquisition, loyalty, satisfaction, and financial performance. According to the study results, mobile banking has greatly contributed to financial inclusion, operational effectiveness, financial performance, and revenues. In summary, ATM, Internet Banking, and mobile banking have contributed towards the success of financial performance through their efficient use.

### **5.4 Recommendations**

In view of the results of the study, it is deemed that the following recommendations can be made in regards to online banking and performance of the commercial banks using a case study of Bank of Africa Mukono.

It is recommended that Bank of Africa–Mukono branch should continue to invest in and develop ATM banking systems within its operations. The development of ATM will ensure service

efficiency and reduce crowding at the banking hall, increase transactions and enhance profitability, hence improving operational performance.

Internet banking system of the bank should be enhanced through improvements in terms of making the service easy to access by customers, ensuring its security and convenience. Promotion of internet banking services will help in enhancing efficiency of operation of the bank by reducing workload on the part of the bank staff and increasing its revenues.

Mobile banking system should be developed further and campaigns conducted to inform the customers of its benefits. Increased accessibility of the service will result in increased number of customers using the system, hence growing revenues of the bank.

In conclusion, the study recommends that there is a need for continuous training and technical support for both staff and clients regarding online banking services. The continuous improvement in digital skills will facilitate the effective use of online banking tools such as internet, ATM, and mobile banking.

In addition, the study recommends that there is a need for integration of innovative digital products such as mobile app and secure payment gateways in online banking strategies. Adoption of innovations will make the process more convenient, competitive and efficient in turn improving financial performance.

### **5.5 Areas for further research**

There is potential for future research into the influence of online banking on customer loyalty and retention in commercial banks beyond Bank of Africa-Mukono to determine whether similar results exist in other commercial banks.

Another area of interest for future research is identification and analysis of challenges faced by clients with regard to their use of online banking services such as cybersecurity issues, technological literacy among others and impacts on financial performance.

Finally, further research may be done on long-term benefits of integrating innovations such as mobile apps in commercial banks.

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**APPENDICES**

**Appendix 1: Questionnaire**

**For employees of Bank of Africa, Mukono branch**

**Introduction and Purpose of Study**

Dear Respondent,

I am Asasira Jeninah, a student pursuing a Degree of Bachelor of Science in Accounting and Finance at Uganda Christian University. I am working on a study titled *“Online banking and financial performance of commercial banks a case study of Bank of Africa Mukono.”* Your contribution is essential to the type of data needed for this study, which is why you were chosen to take part. Your submitted information will be kept completely secret and used only for academic purposes. Kindly spare some few minutes to respond to the following questions.

**Section A: Background Data**

*Please TICK the numbers representing the most appropriate responses for you in respect of the following items:*

1. Gender

a) Male       b) Female

2. Age

a) 21-30 years       b) 31-40 years

c) 41-50 years       d) Above 50 years

3. Education level

a) Certificate       b) Diploma

c) Degree       d) Masters

e) Others specify:.....

4. Period spent working with Bank of Africa, Mukono branch?

a) Less than 1 year  b) 1-5 years

c) 6-10 years  d) Above 10 years

**Guide for Completing the Questionnaire:**

**Note:** In the following sections, rate your degree of agreement on each statement under each objective using a scale of 5(Strongly Agree), 4(Agree), 3(Not sure), 2(Disagree) and 1(Strongly Disagree). Please answer questions by making a tick (√) on your preferred answer of choice.

**Section B: Online Banking**

s. no	Statements	Responses				
		5	4	3	2	1
	<b>ATM banking</b>					
1	The availability of ATM banking services has improved the efficiency of service delivery at Bank of Africa Mukono branch.					
2	Frequent use of ATM services has reduced congestion inside the banking hall.					
3	ATM banking has contributed to increased transaction volumes at Bank of Africa Mukono branch.					
4	The reliability of ATM machines has enhanced customer satisfaction at Bank of Africa.					
5	ATM banking has reduced operational costs associated with over-the-counter transactions.					
6	The introduction of ATM services has positively influenced the profitability of Bank of Africa Mukono branch.					
	<b>Internet banking</b>					
1	Internet banking services have increased the number of customers accessing Bank of Africa services remotely.					
2	The use of internet banking has improved transaction speed and					

	convenience for customers.					
3	Internet banking has contributed to increased revenue generation at Bank of Africa Mukono branch.					
4	The security features of internet banking enhance customer trust in the bank.					
5	Internet banking services have reduced operational workload for employees at the branch.					
6	The adoption of internet banking has strengthened the competitive position of Bank of Africa Mukono branch.					
<b>s. no</b>	<b>Mobile banking</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1	Mobile banking services have increased accessibility to banking services among customers.					
2	The use of mobile banking has led to an increase in transaction frequency at Bank of Africa Mukono branch.					
3	Mobile banking has contributed to growth in the bank's customer base.					
4	Mobile banking services have improved customer retention at Bank of Africa.					
5	The convenience of mobile banking has enhanced overall customer satisfaction.					
6	Mobile banking services have positively contributed to the financial growth of Bank of Africa Mukono branch.					

### Section C: Financial performance of Commercial Banks

	Statements	Responses				
<b>s. no</b>	<b>Financial performance of Bank of Africa</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
1	Bank of Africa Mukono branch has experienced growth in profitability over the past few years.					
2	The branch has recorded an increase in total revenues.					
3	The bank has achieved improved cost efficiency in its operations.					

4	Customer deposits at Bank of Africa Mukono branch have increased consistently.					
5	The branch has experienced growth in its market share within Mukono Municipality.					
6	Overall financial performance of Bank of Africa Mukono branch has improved due to digital banking services.					

**Thank you very much for your cooperation**