THE EFFECT OF DIGITAL BANKING ON THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN UGANDA

BY

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DECLARATION

This research project is my original work and has not been presented for a degree at any other university for examination.

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This research project has been submitted for presentation with my approval as University supervisor.

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DEDICATION

First and foremost, in honor of my parents, I would like to dedicate my study effort to them. For their encouragement and moral support to ensure that I accomplished my academic career which has been a rewarding one.

I would like to dedicate my study endeavor to my dear family, for fully understanding and encouragement during those years.

My parents always told me education is key in my life I was young and I curved it in my heart. Thanks to that.

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LIST OF ABBREVIATIONS

ATM   Automated Teller machines

CBU   Central Bank of Uganda

DFS   Digital Financial Services

DOI   Diffusion of Innovations

GDP   Gross Domestic Product

IDB   Inter-American Development Bank

PEOU Perceived Ease of Us

PU   Perceived Usefulness

SACCOs Savings and Credit Cooperative Societies

TAM   -Technology Acceptance Model

 SPSS   Statistical Package for Social Sciences

ABSTRACT

Digital banking solutions, also known as multi-channel solutions, are elective techniques that a client can use to acquire specific help from his/her association.Financial innovation occurs in the emergence of lending platforms that mediate information flows from traditional banking systems to unbanked borrowers and also assist in credit risk-sharing analyses. The study will employ a descriptive research design. According to Lavrakas (2008), a dissimilar report configuration is a non-exploratory examination plan that crosses numerous disciplines to collect a large amount of research data from an agent test and inspect it from the investigation population. The research will rely on secondary data, digital banking data in Uganda, including three different types of digital banking services: agency banking, internet banking, and mobile banking. Data will be collected from 2016 to 2020 on digital banking services and financial performance in the Annual Management & Account Supervisor Reports of the Bank of Uganda.The outcome comprised of 26 banks in Uganda. The main data gathering was the use of a closed-end questionnaire as a data collecting method. To clarify monetary execution and computerized banking reception, the dispersion of development hypothesis, the financial innovations theory, and the innovation acknowledgement model will all be applied. The research used both descriptive and inferential statistics including correlation and multiple linear regression analyses. The results of the research showed the effectof digital banking on the financial performance of commercial banks in Uganda highly shown. Further studies showed that none of the characteristics of financial innovation were substantially linked with financial perfomance. Policy suggestions are made to government officials and policy-makers, in particular regulators, the Central Bank of Uganda (CBU) and the Sacco Corporations Regulatory Authority of uganda (SASRA) and to the Treasury, not to concentrate largely on financial innovation while seeking to enhance access to loans, to. The values to be used in the research are agency banking, internet banking, and mobile banking which have a huge influence on financial performance which is as a result of technology. The three variables are a result of technological innovations in banking and financial inclusions.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Digital banking solutions, also known as multi-channel solutions, are elective techniques that a client can use to acquire specific help from his/her association. For example, this year, we've seen air terminals focus on web-based check-in, as opposed to previous years when passengers could check in once they arrived at the airport with the help of their staff at the counter. Also, Budgetary and monetary consolidation is an imperative supplier to financial turn of events and poverty-reducing just as for the suitability of cash related game plan program and monetary fragment unfaltering quality (European Investment Bank, 2014) denied from official records are unbanked individuals who recourse to easygoing segments, for instance, save supports get-togethers, moneylenders or social reinforce frameworks rather than keeping cash and risk organization things as it might, all through a few years, a couple of segments of Africa have experienced essential advances in financial thought using automated cash related organizations and versatile budgetary organizations (Dayadhar, 2015). Electronic development expects a fundamental part in the step-by-step lives of various, particularly destitute people, in making nations. Computerized banking administrations give the resources to defeat such impediments and can add to public monetary development (Asian Development Bank, 2016) and monetary incorporation. The fundamental considerations driving the new advancements are deformities in the cash-related business area, particularly strayed information, office costs, and trade costs (Bach, 2011).

Monetary advancements can be extremely new goals or essentially standard ways through which the most recent segment has been made available, upgrading a company's liquidity

as well as extending the number of new applicants, based on their aptitudes in light of the scenario (Ionescu 2012). Monetary advancement is a basic propelling power of the monetary framework, which prompts better financial capability and upgraded financial benefit got from the new and incessant changes (Sekhar, 2013). Monetary advancements characterize monetary improvements by thinking of better approaches for creation, mechanical arrangements, improving profit rates, thereby improving a nation's overall economy. The relationship between monetary outcomes, financial joining and information correspondence advancement is the widespread use of cell phone bolsters which have an impact of cash-related thought on financial outcomes, particularly in countries where compact budgetary organizations have begun.

The values to be used in the research are agency banking, internet banking, and mobile banking which have a huge influence on financial performance which is as a result of technology. The three variables are a result of technological innovations in banking and financial inclusions. These forms of banking have become very common among banks across the world. Generally, technology has led to online or internet banking, mobile banking and agent banking which has had a weak significant and positive influence on the overall financial performance of banks at a local and global level. They have contributed to cutting costs, reduced the number of staff, increase commission in income and banks have become a convenient source of making withdrawals and carrying out other financial operations to most customers.

Advanced banking has been globally viewed as an acceptable method for giving freedoms to advance monetary incorporation through the decrease of expenses of offering these types of assistance (Asian Development Bank, 2016). Progressed ledger organizations are

unyieldingly transforming into a fundamental piece of the nexus among progress and cash-related thought. The usage of mechanized cash-affiliated organizations has become actually among various people who essentially have no past inclusion with formal financial organizations (Villasenor, Darrell and Lewis, 2015). Achieving computerized monetary impact necessitates resolving any complications that may arise between cash and advanced instalments (Dayadhar, 2015). Through sophisticated monetary administrations, impoverished families frequently want large sums of money to capitalize on their small ventures and to keep cautious money to guard against unanticipated shocks. Additionally, when clients are linked to a computerized payment framework, they can wire money swiftly and effectively to family, friends, and business associates.

The development of advanced instalment stages has given a chance to interface destitute individuals with suppliers of reserve funds, credit, and protection items (Radcliffe and Voorhies, 2012). Moreover, progressed account organizations advancements and commercial area upgrades have created entryways for lower-compensation people with insufficient cash-related organization decisions (McKee, Kaffenberger and Zimmerman, 2015).

As a result of financial innovation through digital technology, monetary developments upgrade monetary business sectors liquidity; guarantee the distribution of assets to deficient regions just as working on the openness to arising possibilities (Błach, 2011), thus extending monetary consideration. The hypothesis of monetary advancements places that a few limitations, including outer impairments, helps partnerships in their quest for their target, which is an expansion of incomes (Li and Zeng, 2010). Consequently, business banks think of imaginative approaches to contact more individuals to work on their benefits.

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The developing inventive monetary consideration models via portable and other advanced monetary administrations, particularly in numerous African nations, are helping in addressing the monetary instrument gap that exists in these states.

Compared to the rise of mechanized cash-related organizations in Uganda, advanced financial administrations in Uganda have been a runaway success in overcoming difficulty. The proportion of Ugandans who have joined a formal budgetary organization rose from 19 % in 2006 to 67 % in 2013, a significant improvement. In Uganda, a significant portion of the nation's population is continuously exposed to a combination of financial institutions, including banks, asset and credit co-specialists, microfinance foundations, automated money-linked organizations providers, and relaxed social events (European Investment Bank, 2014). Uganda has made basic strides in advancing financial consolidation actually in the degrees of record invasion at a formal budgetary establishment or convenient money provider before. Wild progression in Uganda's financial fuse scene has been credited to the country's enthusiastic adaptable money natural framework, which incorporates uncommonly a lot of taking up (Villasenor, Darrell, and Lewis, 2015).

1.1.1 Digital Banking

Computerized banking alludes to advanced banking that eliminates all desk work such as checks, pay-in slips, Demand Drafts, and so on. It denotes the availability of all financial transactions via the internet. It is a course of action of some mix of cash-related and portion helps that are passed on by using compact or Web propels and an arrangement of subject matter experts (Peake, 2012). According to the World Bank (2015), automated cash-related organizations insinuate the use of cutting-edge developments (Web, flexible correspondence advancement) to get to financial organizations and execute budgetary

trades with computerized banking channels.

Electronic Financial Services are primarily concerned with saving money, gaining access to credit and assurance, and conducting transactions via cutting-edge devices such as PCs, cell phones, tablets, cards, and whatnot (Martin et al., 2016). Computerized banking instalment items permit clients to get to assets from distant individuals, family members, and companions during snapshots of emergency, diminishing the probability that they will fall into neediness, regardless (Klapper, El-Zoghbi and Hess, 2016). Progressive monetary organizations, for instance, adaptable money, provide individuals with increased convenience, insurance, and, in general, enhanced security in comparison to managing cash at home or travelling while carrying cash (Villasenor, Darrell, and Lewis, 2015). The mechanized back also plays a critical role for small businesses, as it enables them to access nearby safe budgetary items, electronic payment systems, and the capacity to accumulate a cash-related history (Mujeri, 2015).

Computerized instalments additionally work on the conveyance of government hostile to neediness programs by lessening openings for debasement and guaranteeing reserves arrive at their expected beneficiaries (Klapper, El-Zoghbi and Hess, 2016), on this, Recently the Government of Uganda dispensed Coronavirus help cash of Ushs 100,000 for each weak residents). Advanced financial administrations envelop electronic portions, including retail portions through card or cell phone (Dayadhar, 2015). Experts serve as the foundation for any financial administrations, assisting consumers in gaining access to their records from any administrators or small town shops, where they can exchange and cash out without attempting to reach the usual actual cash base (European Investment Bank, 2014). Portable Financial Services/versatile cash likewise structure the centrepiece of computerized

banking administrations and as telephone-based instalments (Dayadhar, 2015).

1.1.2   Financial performance

Financial performance can be defined as a measure that is subjective showing how well an organization or business can utilize assets from its primary or basic mode of operation and business to generate income and revenues. Most investors and analytics use the concept of financial performance to compare the same firms in the same industry or to compare sectors or industries in aggregate. This shows the utilization and application of the arrangement of satisfactory monetary administrations by individuals, families, and business enterprises, respectively. It is critical for progress because it has the potential to assist hapless nuclear families in upgrading their lifestyles while also stimulating monetary development (IDB, 2015).

Monitoring a firm's financial performance is important because it creates confidence and certainty while making decisions that are both long-term and short-term. When these decisions are made, they lead to a healthier business with a rate of growth that is high. Additionally, evaluating and monitoring the financial performance of a company especially banks enhances outperformance and outmanoeuvring rivals or competitors in the industry. Positive financial performance leads to economic growth, stability and development of banks. It reduces the risks that lead to recession. Generally, the financial performance includes a complete evaluation of important concepts such as profitability, revenue, expenses, equity, liabilities and assets.

The best metric for evaluating the level of profitability and financial performance is bet margin which involves the ratio of total net profits to the total amount of revenue for a

company or bank. Considering the ratio of net margin is important because a dollar figure of profit that is simple is not enough to assess the financial health of a company. The measures of financial performance of a company are mostly outlined in the financial statements. Some of the measures include statements of cash flow, statement of financial performance, statement of changes in equity and income statement. They can be used through ratio, vertical and horizontal analysis to identify the best ways in which firms can adapt to grow, set better goals and remain profitable. All these variables are calculated through the use of different formulas and models that are business-related and that allow users to identify the specific details about the effectiveness of a company. Specifically for banks, they measure and analyze their financial performance through important variables such as ratio on the return on assets, the ratio of the loan-to-assets, the margin of net interest, the banking industry that deals with retailers and financial ratios of banks.

On the other hand, monetary extending refers to the modification or expansion of the pool of money-related organizations that are tailored to the requirements of people at all ranks of the total population (Bharat, 2014). The advantageous effect of increasing computerized monetary operations extends well beyond monetary execution and encompasses a broad range of improvement objectives in general (IDB, 2015). Money-related thought is utilized in depicting the low notoriety of the monetary foundations and as people have a chance to profit from such establishments, particularly in getting to budgetary assets from holds and monetary exhortation too (Hannig and Jansen, 2010). Budgetary joining accepts a basic part in propelling all around managed financial stretching out in low-income states updates forte and capacity to adjust to shocks, improve macroeconomic ampleness, and reinforce solid and extreme extensive turn of events (Bharat, 2014).

Computerized banking is often regarded as a critical tool for reducing despondency and accelerating a country's overall financial progress (Buckley and Malady, 2015). As more altered and open budgetary organizations promote the advancement and reduce dejection and inequity, cash-related thinking fosters comprehensive improvement. With everything taken into account, budgetary thought supports the view that progress in the cash-related sector leads to economic improvement (Bharat, 2014). The influence of computerized banking is frequently calculated by counting the number of people that own and use recognized monetary things (Klapper, El-Zoghbi, and Hess, 2016).

1.1.3 Digital banking on the Financial performance

In research on monetary consideration in Nigeria, its difficulties, and the encounters of various purviews conducted by Kama and Adigun (2013), it was discovered that cash-related foundations' inadequate and inefficient development-based workplaces had hampered Nigeria's accomplishment of fundamental growth in budgetary joining level. Bayero (2015) investigated the link between money and a credit-only economy. Using a cash-related fuse is another way to connect three patches of fog. In other words, the physical cash cloud is the legacy budget of the most frantic, automated cloud where money is kept in a cybernetic record and a mental cloud (such as the brain) where people relax and arrange their cash-related lives (Radcliffe and Voorhies, 2012).

Andrianaivo and Kpodar (2011) investigated the connection between information correspondence advancement, financial joining, and monetary outcomes, finding that the widespread use of cell phones bolsters the impact of cash-related thought on financial outcomes, particularly in countries where compact budgetary organizations have taken root.

1.1.3 Banking Industry in Uganda

Advanced financial administrations are positioned as critical cash-flow solutions for enhancing financial ideas (Buckley and Malady, 2015). Through more money dispersal, business development, and job openings, advanced financial administrations have continually been presented as a result of starting areas and natural economies (European Investment Bank, 2014). Achieving computerized monetary impact necessitates resolving any complications that may arise between cash and advanced instalments (Dayadhar, 2015). Through sophisticated monetary administrations, impoverished families frequently want large sums of money to capitalize on their small ventures and to keep cautious money to guard against unanticipated shocks. Additionally, when clients are linked to a computerized payment framework, they can wire money swiftly and effectively to family, friends, and their business associates (Radcliffe and Voorhies, 2012).

In Uganda, there are 26 corporate banks and one home advance cash organization that oversee the record industry (UPMG, 2014). The Associations Act, the Central Bank of Uganda Act, the Keeping Cash Act, and the More Limited Size Store Act 2006 are all in charge of dealing with a record division in Uganda (Muchenga et al., 2015). Prudential principles that were well-known in 2012 have aided banks in sharpening their risk management (UPMG, 2014). One of the most important aspects of dealing with the record business in Uganda, as stated by the Central Bank of Uganda Act, is to energize liquidity, dissolvability, and a workable, stable budgetary system. The setting aside cash industry in Uganda has a significant impact due to computerized monetary considerations, which affects the majority of the population through the cash-related sector and is expected to play a significant role in intermediation measures among savers and monetary trained

professionals (Kamau, 2011).

Uganda's cash reserve structure has experienced significant financial advances in recent years, and the country also dares to push forward with its budgetary agenda (Muchenga et al., 2015). In Uganda, the dealing with a record sector is well-developed and active, while credit access has been bolstered in recent years by the occurrence of convenient and association cash set aside (UPMG, 2014). Kamau (2011) examined the adequacy and efficiency of intermediation in the retaining cash section in Uganda during the post-headway era and concluded that banks might improve.

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Uganda's cash reserve structure has witnessed significant financial advances in recent years, and it also dares to improve financial fuse (Muchenga et al.,2015). In Uganda, the dealing with a record sector is well-made and alive, while credit access has been bolstered over the

recent years' occurrence of flexible and association saving money (UPMG, 2014). Kamau (2011) examined the feasibility and benefit of intermediation in the cash-keeping segment in the post-headway time frame in Uganda, concluding that banks can boost execution by improving their advancement, mentalities, and job size to be fully usable. Muchenga et al. (2015) used discretionary data to break down the effect of budgetary improvements on the financial execution of Ugandan business banks and discovered that there was an important link between cash-related progressions and money-related execution.

1.2   Research Problem

Computerized banking administrations outfit individuals with more important solace, insurance, and further developed security diverged from home-based saving or conveying the cash (Villasenor, Darrell, and Lewis, 2015). Nonetheless, arrangements concerning computerized banking include the cooperation of various actors like banks/monetary establishments, versatile organization administrators, monetary innovation suppliers, controllers, specialists, customers, and retailer chains. The communication of these entertainers and the states of the administrative climate and market original posture intricacies to all members (Arenaza, 2014) in this way affecting decidedly or contrarily their job in advanced banking/monetary consideration. The advanced financial instrument additionally requires an establishment of reliable and useful bases to make the administrations easy to understand, secure, and practical way (World Bank,2015).

Uganda, in Africa, has pioneered a novel approach to money-related thinking by embracing cell phone portion courses of action (Hannig and Jansen, 2010). According to M'Amanja (2015), Uganda has gotten a handle on cash-related headway to further develop a scope, reduce trade costs, electronic money trades, administrator dealing with a record, and credit

reference specialists. In any case, in Uganda only a tad degree of trade is made through cutting edge implies because of client trust, stage joining, and interoperability concerns of supplanting paper with computer-generated money (Parada and Greta, 2014). Thusly, even though its commitments of advanced financial administrations in monetary incorporation have been archived, the idea of computerized banking is as yet in its early stages in Uganda. Subsequently, the need to study the effect of modernized cash on financial execution in thought to the keeping cash region in Uganda.

In addition, several researchers have looked into the concepts of digital banking and financial performance, amongst other things. Furthermore, a small number of researchers have looked into the concepts of advanced banking and monetary execution in greater depth. According to Buckley and Malady (2015) findings, organizations in developing markets experience compelled take-up and use in this manner; however, they may have little influence on monetary incorporation. According to Nwanne (2015)'s investigation into the relationship between money related thought and monetary improvement in Nigerian country tenants, it was discovered that the sensibility of cash related joining to natural occupants in Nigeria was the norm for a financial turn of events and that the economy cannot grow rapidly without proper budgetary execution thought to common areas in Nigeria. The research of Karpowicz (2014) discovered that reducing the number of objectives for protection results in a higher turn of events, whereas cash-related evasion can be addressed via certain procedures that reduce the financial interest rates. Nyamongo and Ndirangu (2013) pioneered research on the impacts of financial innovativeness in the financial area in Kenya. They discovered that developments had further developed the money-related approach climate, and the extent of the unbanked populace had declined. An

investigation by Kenyoru (2013) analyzed the connection between monetary advancements and monetary stretching out in Uganda and derived that cash-related improvement had an unimportant constructive outcome on budgetary creating. In view of the inspected examines, it is apparent that most investigations centre more around monetary developments and their effect on the financial areas; henceforth, there is no decisive examination on advanced banking and extending monetary consideration. Hereafter the request: what is the impact of advanced relying upon the monetary exhibition in the financial business in Uganda?

1.3 Research Objective

To investigate the effect of digital banking on the financial performance of Uganda's banking industry.

1.4 Value of the Study

The research findings will be useful to the organization of financial associations because they will establish whether the exceptional asset is a method for cash-related thought in dealing with a record industry in Uganda.

The discoveries in the investigation will likewise be good for financial backers as it will set up the current advantages and disadvantages of computerized banking as a method for extending monetary on its presentation.

The research findings will also be helpful to other legal planners and producers, such as the Ugandan government and the Central Bank, who take part in the arrangement strategies to control the financial business in Uganda.

In conclusion, the examination discoveries will give extra writing to researchers who plan

to evaluate the impact of computerized services dependence on monetary banking in the country's burgeoning banking industry

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The section includes a literature review of the impact of digital finance on the financial performance of Ugandan commercial banks. The review will be conceptualized in light of the objectives of the study and will primarily focus on technological infrastructure, telephone billing systems, and online banking, as well as their relationships with financial performance.

2.2 Theoretical Literature Review

To clarify monetary execution and computerized banking reception, the dispersion of development hypothesis, the financial innovations theory, and the innovation acknowledgement model will all be applied.

2.2.1 The Financial Innovations Theory

Silber (1983) proposed the hypothesis of monetary developments, which is based on the possibility that the benefits extension of financial institutions is the critical explanation of monetary consideration (Li and Zeng, 2010). The hypothesis establishes that the fundamental considerations driving the new advancements are deformities in the cash-related business area, particularly strayed information, office costs, and trade costs (Bach, 2011). According to the hypothesis, monetary advancements can be extremely new goals or essentially standard ways through which the most recent segment has been made available, upgrading a company's liquidity as well as extending the number of new applicants, based on their aptitudes in light of the scenario (Ionescu 2012)

As per the hypothesis, monetary advancement is a basic propelling power of the monetary

framework, which prompts better financial capability and upgraded financial benefit got from the new and incessant changes (Sekhar, 2013). Monetary advancements characterize monetary improvements by thinking of better approaches for creation, mechanical arrangements, improving profit rates, thereby improving a nation's overall economy. The hypothesis sets that creativity works on the organizations' upper hand of a corporate and produces more income for the financial backers (Błach, 2011). Advancement is an apparatus used to settle, oversee and move the whole additional weight. The utilization of developments advances the development of monetary substances through further developed designation, productivity, and a decrease of monetary and organization costs (Sekhar, 2013).

Monetary developments upgrade monetary business sectors liquidity; guarantee the distribution of assets to deficient regions just as working on the openness to arising possibilities (Błach, 2011), thus extending monetary consideration. The hypothesis of monetary advancements places that a few limitations, including outer impairments, helps partnerships in their quest for their target, which is an expansion of incomes (Li and Zeng, 2010). Consequently, business banks think of imaginative approaches to contact more individuals to work on their benefits. The developing inventive monetary consideration models via portable and other advanced monetary administrations, particularly in numerous African nations, are helping in addressing the monetary instrument gap that exists in these states.

2.2.2 Technology Acceptance Model

Originally, the technique was proposed by Davis (1986) to expound on the approaches underlying the desire to use computerized know-how (Monyoncho, 2015). TAM addresses discernments

instead of frames of genuine use and maintains the influence of new mechanical advances on customers, which both have the effect of perceiving easy use (PEOU) and perceived utility (PU) their decision (Lule, Omwansa and Waema, 2012). PEOU refers to the amount of trust that individuals place in a particular system, and if customers believe that another technology will be beneficial in the short and long term, they will use the system. Furthermore, the PU is basically the extent to which an individual puts their confidence in a framework to assist in execution in the short and long term (Mojtahed, Nunes and Peng, 2011).

TAM insists that the frameworks genuine use is set up by every client's conduct expectation for utilization and is roused by a person's insight into the framework. The hypothesis additionally clarifies that the discernment towards new innovation has an immediate connection to its usefulness just as the effortlessness of the framework (Lim and Ting, 2012). Cap thinks that acknowledgement of innovation and usefulness is impacted my shopper's goals that build up the client's insight towards framework (Mojtahed, Nunes and Peng, 2011). Additionally, the hypothesis holds that acknowledgements or uncertainties concerning the progression are important in the development of perspectives that will lead to framework use in the long run (Lim and Ting, 2012).

TAM also looks into individuals' attitudes towards certain frameworks (Lule, Omwansa and Waema, 2012). The TAM explains and depicts customers' motives to recognize or excuse a progression or information system, among other things. Cap is important as a foresight procedure, considering the objective of determining whether individuals and relationships are achieving a specific development (Mojtahed, Nunes, and Peng, 2011). Hat can be used to describe advanced monetary administrations and the presence of differences in customer practices, particularly when it comes to using interconnected advanced monetary administrations (Lim and Ting, 2012).

2.2.3 Diffusion of Innovation Theory

Rogers (1995) proposed the Diffusion of Innovations (DOI) hypothesis to explain the

methodology by which advancement can be ignored for some time in numerous ways among various clients (Sarker and Sahay, 2004). The DOI hypothesis looks into how inventive ideas are passed down through the generations. According to the DOI hypothesis, a development is passed down through various channels among people of similar social convictions over time (Echchab and Hassanuddeen, 2013). The scattering of Innovation theory investigates the degree to which new developments are disseminated, how the fresh developments spread, and why it spreads, with the specific goal of determining the factors impelling the choice of new information growth progression (Monyoncho, 2015).

The dissemination of innovations hypothesis states that innovators use a standard conveyance bend that can be categorized into five segments to classify clients according to their inventiveness. The dissemination hypothesis clarifies that the most important considerations in developing development execution are: total benefit, usefulness, ease of use, preliminary capacity, and recognition simplicity (Monyoncho, 2015). Clients are also classified as innovators, early innovators, opportune mass, late mass, and strays by DOI (Echchab and Hassanuddeen, 2013). The DOI hypothesis envisions advancements being passed on in a variety of ways and for a specific period, as well as through a specific framework (Sarker and Sahay, 2004). The DOI hypothesis aims to elucidate as well as demonstrate the methodologies by which computerized monetary administrations are implemented and become effective.

2.3 Determinants and Elements of Financial performance

This section will examine the main determinants of financial performance, such as financial innovation, financial service accessibility, intermediation efficiency and Financial Literacy.

2.3.1 Financial Innovations

Financial innovations are defined as any new advancements in money-related tools (including entirely new equipment, changes to traditional equipment, joining of customary equipment, and new applications of existing equipment) (Bach, 2011). Financial movements in the money-related portion recommend the development of novel things such as game-plan of new associations such as web-based saving money, phone record-keeping, a new-age measure such as electronic record-keeping, or new different evened out structures monetary movements in the money-related portion (Njenga, Kiragu and Opiyo, 2015). Computerized banking instalment items permit clients to get to assets from distant individuals, family members, and companions during snapshots of emergency, diminishing the probability that they will fall into neediness, regardless (Klapper, El-Zoghbi and Hess, 2016). Progressive monetary organizations, for instance, adaptable money, provide individuals with increased convenience, insurance, and, in general, enhanced security in comparison to managing cash at home or travelling while carrying cash (Villasenor, Darrell, and Lewis, 2015). Progress in the monetary associations' sector is described as the introduction and development of new monetary tools, advancements, markets, and companies that are required to access data, exchange, and build segmentation plans for their particular markets (Korir et al., 2015). Money-related enhancements are regarded as a critical source of commercial improvement as well as a catalyst for improvements in cooperative government assistance. Cash-related enhancements have been hailed as having a tremendous capability for increasing public and climate adaptability in buildings (Terfa, 2015).

2.3.2 Financial Services accessibility

The presence of something resembling characterizes it. It is a necessary condition for interrelated cash fuse to function properly (Tuesta et al., 2015). Affirmations of inability to gain access to conventionally reflect savings related to the absence of physical dealing with a record base, major requirements for bank paperwork on file creation, maintenance and closure, and furthermore various sorts of vast proportioning, comprising custom and the requirement for relaxed financiers as a relationship with access reserve (Karpowicz, 2014). When it comes to formal budgetary organizations, a good connection is established between more unmistakable cash-related thought and healthier admission, as evidenced by lower dealing with record costs, more noticeable proximity to the bank workplaces, and minimal literature(Tuesta et al., 2015).

2.3.3 Intermediation Efficiency

Intermediation efficiency is typically associated with the state of conflict and the amount of information stimulating cash-related operations, and it is reflected in quality spreads, and the overhead outlays incurred by financial institutions (Karpowicz, 2014). The measure of monetary intermediation combines the distinction between assets gained from investors (overabundance outlay units) and assets credited to debtors (deficit spending units) (inadequacy spending units). Aside from that, budgetary intermediation anticipates playing an essential role in the transportation of liquidity in today's economies. As a result, the intermediation method compliments stocks, investment, and labour as sources of data used for passing on the other managing a record outcome, for instance, credits and undertakings, to the other side of the intermediation method (Kamau, 2011).

2.3.4 Financial Literacy

Financial Literacy alludes to the combination of knowledge, abilities, mentalities, and habits required to make sound cash-related decisions and, over the long haul, achieve

individual financial flourishing, according to the World Bank (Lewis and Lindley, 2015). Money-related instruction is a critical element of making prudent financial choices, and it has a significant impact on the obvious costs of budgetary institutions. When it comes to cash-related things, budgetary adaptation has a similar impact on the perception of costs and tradeoffs in different cash-related things that support sound financial decisions (Karpowicz, 2014). Cash-related Literacy is the first step toward achieving financial thought that is often overlooked. He considers it to be the high-end side of financial joining and believes that it is an essential tool for moving budgetary ideas, cash flow improvement, and ultimately cash flow trustworthiness forward. Individuals with financial capability are also provided with significant gadgets to assist them with obtaining the request to extra and, as a result, warrant a respectable life after they have retired (Ramakrishnan, 2012)

2.4 Empirical Literature Review

Dabla-Norris, Yan and Filiz (2015) found that three financial performance assessments and breakers are clear access, importance and intermediation efficiency. The research analyzed the World Bank Enterprise Survey's corporate data for six countries with different financial levels of development, among them three low-income countries (Mozambique, Kenya, and Uganda) and three developing business regions (Uganda, Kenya and Mozambique) (Malaysia, the Philippines, and Egypt). Cutting off planned currency-based contacts has a dynamically diverse effect across countries. Country-specific credits play an important part in identifying the connections and bargaining between thinking, GDP, disequilibrium, and the dissipation of increases and distress.

Akhisar, Tunay, and Tunay (2015) used dynamic board information systems to evaluate the consequences of the ease of electronic banking management for a record association in the

23 electronic cash-keeping associations of industrialized and agricultural nations from 1995 to 2005. They found that the ease of digital banking management had an undesirable effect on the record association in the industrialized and agricultural nations. The outcomes of the study revealed that the link between branches and ATMs impacted bank competence in both developed and developing nations and that it was primarily basic and electronic to handle a massive record relationship in both developed and developing countries. The study's findings revealed that a few components have a negative relationship with one another as a result of variations in the amount of progress achieved by different countries, differences in the socio-social framework, and variances in the use of electronic account management.

Ranjani and Bapat (2015) examined whether individuals with ledgers make good use of their financial balances in addition to accessing various sources of credit and whether maintaining financial balance encourages individuals to have a propensity for account management. This investigation project was conducted across 550 respondents, most of whom were borrowers from microfinance companies, to assess if they had financial balances and their view of banks. According to the findings of this study, having a bank account did not merely result in debtors using savings money administrations and choosing to manage companies that had more compliant positions than the bank. Furthermore, the studies showed that liquid liabilities, private sector credit, commercial, public bank funds, and trade bank provisions all had positive and truly substantial GDP impacts.

Ngungi (2013) examined the impact of web contingent upon business banks' cash-related execution in Kenya. The investigation involved 43 business banks in Uganda while providing fundamental data through discussions and surveys. The data that had been collected showed that web-based cash management had a huge impact on cash management

for business banks in Kenya. It identified that banks encourage more customers to use web banking because web banking administrations has major benefits especially in addressing cost reduction for both the bank and the client and security and accessibility for the client. According to Nwanne (2015), there is a relationship between money related thought and monetary improvement in Nigerian country tenants. The research discovered that the sensibility of cash related joining to natural occupants in Nigeria was the norm for a financial turn of events and that the economy cannot grow rapidly without proper budgetary execution thought to common areas in Nigeria. Additionally, Karpowicz (2014) noted that reducing the number of objectives for protection results in a higher turn of events, whereas cash-related evasion can be addressed via certain procedures that reduce the financial interest rates. Nyamongo and Ndirangu (2013) engaged in extensively researching the impacts of financial innovativeness in the financial area in Kenya. They found out that developments had further developed the money-related approach climate, and the extent of the unbanked populace had declined.

2.5 Summary of Literature Review

The studies that have been evaluated by past researchers agree that admittance to money-related organizations has an essential impact being created by empowering monetary turn of events and decreasing compensation uniqueness. They have led to practices such as mobile banking, internet banking and agent banking. The inspected examines show that different types of advanced monetary administrations, security, straightforwardness, speed, and cost proficiency are expected in the financial area. Studies byNyambariga (2013), Terfa (2015), Muiruri and Ngari (2014) and Njenga, Kiragu, and Opiyo (2015) zeroed in on monetary developments and execution of banks. Akhisar, Tunay, and Tunay (2015),

Monyoncho (2015), and Ngungi (2013) zeroed in on technological backing and execution of banks. Dabla-Norris, Yan, and Filiz (2015) investigated measurements of monetary consideration, and Mbutor and Uba (2013) zeroed in on monetary incorporation and money-related strategy. Nonetheless, it is clear that the majority of the surveyed observational investigations are focused on financial innovations and the inclusion of business banks, indicating a need for additional empirical research in this area.

2.6 Conceptual Framework

A conceptual framework is a visual illustration that elucidates the connection between independent and dependant variables.

Independent Variables   **Dependent variables**

```
┌─────────────────────────────┐
│      Agency banking         │
│                             │
│ • Number of agency banking  │
└─────────────────────────────┘

┌─────────────────────────────┐          ┌─────────────────────────────┐
│           Mobile            │          │  Financial                  │
│                             │  ──────► │                             │
│ • Total mobile banking      │          │ • Credit                    │
└─────────────────────────────┘          └─────────────────────────────┘

┌─────────────────────────────┐
│      Internet banking       │
│                             │
│ • Total internet banking    │
└─────────────────────────────┘
```
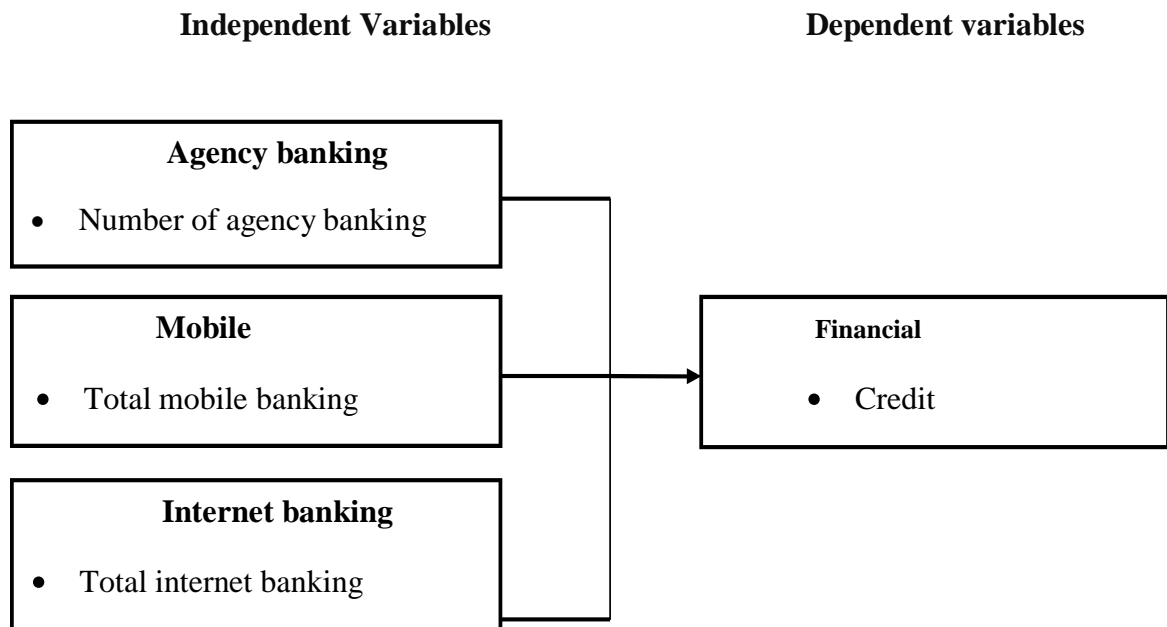
Figure 2.1 Conceptual Model
 Source: Researcher

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design, methods of data collection, population, and the analysis procedure.

3.2 Research Design

The study will employ a descriptive research design. According to Lavrakas (2008), a dissimilar report configuration is a non-exploratory examination plan that crosses numerous disciplines to collect a large amount of research data from an agent test and inspect it from the investigation population. Furthermore, a clear examination strategy ensures a complete portrayal of the circumstance, guaranteeing that there is no predisposition in data collection from the research population (Cooper and Schindler, 2008).

3.3 The Research population

The research population will be drawn from Ugandan banks that are accredited and delimited by the Central Bank of Uganda. The total number of banks is 26 which include: ABC Capital Bank Uganda Limited,

Afriland First Bank Uganda Limited, Bank of Africa Uganda Limited, Bank of Baroda Uganda Limited, Bank of India Uganda Limited, Absa Bank Uganda Limited, Cairo International Bank limited, Centenary Rural Development Bank Limited, Citibank Uganda Limited, Commercial Bank of Africa Uganda Limited, DFCU Bank Limited, Diamond Trust Bank Uganda Limited, Ecobank Uganda Limited, Equity Bank Uganda Limited, Exim Bank Uganda Limited, Finance Trust Bank Uganda, Guaranty Trust Bank Uganda Limited, Housing Finance Bank, KCB Uganda Limited, NC Bank Uganda Limited, Opportunity Bank Uganda Limited, Orient Bank Limited, Stanbic Bank Uganda Limited, Standard Chartered Bank Uganda Limited, Tropical Bank Limited and United Bank for Africa Uganda Limited.

3.4 Sample Design

Since the total number of Ugandan banks that are accredited and delimited by the Central Bank of Uganda are a total of 26 banks, sampling techniques will be used to choose a smaller number that will be convenient for the research. Sampling design is important to ensure that the data collected reflects and properly represents the target population. The sampling technique that will be used is random sampling. This is because all the 26 banks meet the required criteria of Ugandan banks that are accredited and delimited by the Central Bank of Uganda and the data will be collected through secondary sources. Therefore, random sampling is a convenient technique for selecting samples from the target population. The scientist selects objects for the example using a sample design, which is a system or approach. This survey will sample the Ugandan population of ten to thirteen banking institutions. Through random sampling, the number that will be chosen to represent the 26 banks in Uganda will be 13 Ugandan banking institutions that provide all three of the study's computerized financial services (agency banking, internet banking, and mobile banking). The term "random" refers to an unplanned or random selection of selected universe units to serve as a model for the universe or population.

3.5 Data Collection

The research will rely on secondary data, digital banking data in Uganda, including three different types of digital banking services: agency banking, internet banking, and mobile banking. Data will be collected from 2016 to 2020 on digital banking services and financial performance in the Annual Management & Account Supervisor Reports of the Bank of Uganda. Financial Performance will be determined by using credit penetration as a proportion of total loans and advances to gross domestic product (GDP) of the selected

banks in Uganda. Agency banking will be collected and determined through the total number of agents offering agency-banking services using the natural log. Mobile banking will be monitored and determined through the total mobile banking transactions using the natural log while internet banking will be determined through the total internet transactions using the natural log. All the data will be collected from financial reports and statistics specifically for Uganda. Data will be collected for specific banks and the Central Bank of Uganda.

3.6 Data Analysis

The statistical package for social sciences version 21 will be employed for regressions and correlations data examination. By way of correlation analysis, the type and amount of the association of the study variables will be determined. In contrast, the dependent and independent variables are determined by means of regression analyses.

3.6.1 Analytical Model

The regression equation was written mathematically as:

$$Y = \beta_o + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + s$$

Where; Y = Financial Performance determined by using credit penetration as a proportion of total loans and advances to gross domestic product (GDP)

X_1 = Agency banking determined through the total number of agents offering agency-banking services using the natural log

X_2 = Mobile banking determined through the total mobile bankingtransactions using the natural log

$X_3=$ Internet banking determined through the total internet transactions using the

natural log

$\beta_o=$ Constant

β_1 β_2&β_3 = Regression coefficients

s = Plausible error term

3.6.2 Test of Significance

The statistical importance of the research will be determined using the t and F tests. At a 5%

level of significance, the F-test will be utilized in evaluating the importance of the entire

model, i.e. the goodness of fit, whereas the T-test is used to evaluate the importance of the

regression coefficients.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND FINDINGS

4.1 Introduction

This section is the analysis of data that is based on the research objectives. The performance of Eleven banks listed in the NSE was used to establish the effect of e-banking. Data was collected from 13 commercial banks listed in the NSE over a span of 4 years from 2016 to 2020. These data were then analyzed using STATA, and presented in frequency tables. The findings were discussed using descriptive and inferential statistics.

4.2 Descriptive Statistics

In this section of the study, is the findings of the research from the collected data

Table 4.1: Descriptive Statistics

Table 4.1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Performance	55	7272495	5235016	55298	1.98e+07
ATM	55	81.6	75.08479	8	236
Mobile	55	83623.62	72976.57	19462	328448
Agency	55	97.41818	117.8365	1	412
Online	55	1633.749	1245.726	651.81	9985.6

From the findings, the mean of the performance of commercial banks that were listed in the NSE was found to be UGX 7,272,495 Million. The mean of banking of the commercial banks was 81.6. Also, the mean of mobile banking was 83623.62, while that of the mean for agency banking lied at 97.41818. Finally, the mean for online banking was found to be 1633.749.

4.2 1 Normality test

Table 4.2: Normality Test

Variable	Obs	W	V	z	Prob>z
Performance	55	0.92929	3.586	2.739	0.00308
ATM	55	0.78313	10.998	5.142	0.00000
Mobile	55	0.77992	11.161	5.174	0.00000
Agency	55	0.75928	12.207	5.366	0.00000
Online	55	0.45238	27.771	7.129	0.00000

When using Multiple regression, we presume that variables being tested have normal distributions. Therefore, those that are have no normal distribution affect their tests and significance. The Shapiro Wilk test has been used in the test for data normality. On the other hand, when using Shapiro Wilk, we presume that the population on the study is normally distributed and that it is a null hypothesis. Hence, when the selected alpha level tends to be greater than the p-value, we fail to accept the null hypothesis since it shows that the population lacks a normal distribution. Consequently, if we selected an alpha level that tends to be less than the p-value, then we accept the null hypothesis that the collected data was from a population that had a normal distribution. The findings show that the financial performance, ATM banking, agency banking, online banking and mobile banking were normally distributed since their p-values were as follows: 0.00308, 0.000, 0.000, 0.0000, and 0.000 respectively. This evidence of normal distribution, therefore, meets the assumption of regression analysis that data is normally distributed.

4.2.2 Correlation Analysis

Table 4. 3: correlation
Analysis

	Perfor~e	ATM	Mobile	Agency	Online
Performance	1.0000				
ATM	0.7217	1.0000			
	0.0000				
Mobile	0.6902	0.8781	1.0000		
	0.0000	0.0000			
Agency	0.6696	0.9808	0.9025	1.0000	
	0.0000	0.0000	0.0000		
Online	0.0233	0.0375	0.1004	0.0408	1.0000
	0.8659	0.7858	0.4660	0.7676	

Spearman correlation analysis has been used to show the correlation between the financial performance of the individual commercial banks and other banking activities. It was established that financial performance had a strong and positive correlation to ATM banking with a correlation factor of   0.7217. It also showed to be positively correlated to mobile banking with a correlation factor of 0.6902. Moreover, it is strongly and positively correlated to agency banking with a correlation factor of 0.6696. Finally, it has a weak positive correlation of 0.0233 with online banking.

4.3 Model Specification Test

4.3.1 Autocorrelation Test

Here, both the Durbin-Watson (d test) and the Breusch -Godfrey langrage multiplier were used to check for autocorrelation. As for the Durbin-Watson test, the d value lies

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between 0-4 and determines the state of autocorrelation. For instance, if the *d* value lies at 4 or is close to 4, then there exists a negative autocorrelation. When it lies close to 1 and 0, then there is a positive correlation and when the value is 2, there is no correlation.

Table 4.4: Breusch-Godfrey Langrage Multiplier test

```
Breusch-Godfrey LM test for autocorrelation
```

lags(p)	chi2	df	Prob > chi2
1	1.937	1	0.1640

```
              H0: no serial correlation
```

From this table, we compare the p-value to the significance level of 0.05. here, the p-value is 0.1640. this value is less than 0.05 and therefore, we fail to reject the null hypothesis that the variables lack a correlation.

4.3.2 Heteroscedasticity Test

Both the Breusch-Pagan and the Cook-Weisberg tests were used in the test for heteroscedasticity. Normally, homoscedasticity is always tested, whereby it is the test that tries to explain the instants when all the error terms of variables used in the prediction are similar. However, in this study, heteroscedasticity is tested, which refers to the instant where the error terms of variables used in predictions differ.

Table 4.5: Breusch-Pagan/Cook-Weisberg test for heteroscedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance

Variables: fitted values of FDI

$$\text{chi2}(1) \qquad = \qquad 16.82$$

$$\text{Prob} > \text{chi2} \qquad = \qquad 0.0000$$

The findings show that the p-value is 0.000 and comparing it to the significance level pf

0.05, we find that 0.000< 0.05l. This implies that the study fails to accept the null hypothesis

of homoscedasticity.

4.3.3 Test for Multicollinearity

Table 4.6: Test for Multicollinearity

```
. vif
```

Variable	VIF	1/VIF
X2	2.38	0.420323
X3	2.32	0.431817
X4	1.13	0.884733
X1	1.06	0.939568
Mean VIF	1.72	

Multicollinearity and Collinearity are often used interchangeably whereby Collinearity

refers to the state where two variables are close to attaining a perfect linear combination with

each other. However, in this study, multicollinearity was being tested whereby, it refers to the

state where more than two variables are used to test for their linear combination. When none

of a few of the independent variables is significant and the R squared value is high, we

presume that the model has no multicollinearity. Also, when the VIF value exceeds 10, or the

tolerance is greater than 0.2, then there is multicollinearity. The tolerance is calculated as

$$t = \frac{1}{VIF}.$$

At most times, the t and p have opposite values.

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VIF (variation inflation factor) was used to test for multicollinearity for the data findings used in the research. The VIF quantifies the extent to which variance is inflated. From the finding, the value of VIF was 1.72. This indicates that the variables inflated at a low level. 1.72<10, implying that the data had no multicollinearity problem as shown by (Field, 2009). After doing away with the multicollinearity problem from a regression model, some variables tend to be significant. Increasing the size of samples as well as transforming variables are some of the ways of removing multicollinearity.

4.3.3 Testing for Fixed or Random Effects

Table 4.7: Testing for Fixed or Random Effects

Hausman fixed random

	Coefficients			
	(b	(B)	(b-B)	sqrt(diag(V_b-
	143.1731	37.32041		318.9993

b = consistent under Ho and Ha; obtained from regress B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$chi2(4) = (b-B)'[(V\_b-V\_B)^{(-1)}](b-B)$$

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$$= \quad 103.24$$

$$\text{Prob>chi2} = \quad 0.0000$$

$$(\text{V\_b-V\_B is not positive definite})$$

In this section, the Hausman test was used to test for effects and establish whether they are fixed or random The null hypothesis shows the preferred model to be a random effect. This is when it is a random effect, the Prob>chi2 is value is greater than 0.05. For fixed effects, the Prob>chi2 value could be less than 0.05. A Housman test was carried out to decide between the random or fixed effects. If this Prob>chi2 value is more than 0.05then the null hypothesis from the model as random effects. If Prob>chi2 is less than 0.05, then it is the alternative, that is, it is fixed effects. This test was to basically check if the unique errors (UI) have a correlation with its regressors. Since the Prob>chi2 was 0.000, less than the standard 0.05, then it was decided that it is a fixed effect.

4.4 Panel Regression Analysis

4.4.1 Hypothesis One

H01: From the listed commercial banks, banking does not significantly have an effect on their financial performance.

Table 4. 8: Performance and Mobile Banking

. regress Performance Mobile

Source	SS	df	MS		Number of obs =	55
					F(1, 53) =	48.22
Model	7.0504e+14	1	7.0504e+14		Prob > F =	0.0000
Residual	7.7485e+14	53	1.4620e+13		R-squared =	0.4764
					Adj R-squared =	0.4665
Total	1.4799e+15	54	2.7405e+13		Root MSE =	3.8e+06

Performance	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Mobile	49.5138	7.130028	6.94	0.000	35.21277	63.81482
_cons	3131972	788236.1	3.97	0.000	1550971	4712973

Using the ANOVA statistics we can show how m-banking is significantly associated with the financial performance of the bank, with a significance of 0.000. Furthermore, the financial performance of the bank has a significant effect that is evident from the calculated F value that emerged to be greater than the critical F value i.e. 48.22< 2.434. The p was found to be less than 0.05, therefore, it shows that there exists a significant effect of mobile banking on the financial performance of the banks. The findings also exhibit this squared value as 0.4822, an indication that there is a 95% interval of confidence. 52% variation was also present, due to the way financial banks performed having incorporated mobile banking. With the 0.4822 value, it means that a slight change of m-banking could affect the financial performance by 48.22%. It was then concluded that the null hypothesis drawn was on the less significance of mobile banking on the financial performance of the eleven listed commercial banks.

An equation was established, between mobile banking and financial performance as

$$Y = 33131972 + 49.5138X1$$

The above regression equation shows that by holding an m-banking to a constant, then the financial performance will be 33131972. Therefore an increase in m-banking by even a single unit will increase the financial performance by 49.5138 units.

4.4.2 Hypothesis Two

H02: There is no sign of the effect of agency banking on the listed banks' financial performance.

Table 4. 9: Performance and Agency Banking

```
. regress Performance Agency
```

Source	SS	df	MS			Number of obs =	55
						F(1, 53) =	43.09
Model	6.6362e+14	1	6.6362e+14			Prob > F =	0.0000
Residual	8.1627e+14	53	1.5401e+13			R-squared =	0.4484
						Adj R-squared =	0.4380
Total	1.4799e+15	54	2.7405e+13			Root MSE =	3.9e+06

Performance	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
Agency	29749.79	4532.128	6.56	0.000	20659.49	38840.08
_cons	4374325	689170.6	6.35	0.000	2992024	5756626

From the ANOVA statistics, the regression model indicates a significant effect of agency banking on financial banking by 0.000 value. The critical and calculated F values were found to be 2.434 and 43.09 respectively. Therefore, the critical value is less than the calculated value i.e. (2.434<43.09),

This indicates that there exists agency banking have is associated with financial performance. The p-value is less than 0.05 indicates that agency banking positively influences the financial performance of the listed commercial banks. The R Square value was found to be 0.4484. This indicates a high level of confidence of 95%. This confidence level leads to a 52% variation in the performance of the commercial banks. Only 44.84% of the variation can be accounted for by agency banking. We, therefore, fail to accept the null hypothesis that agency banking has no significance on the bank's performance financially.

An equation was established between the agency banking and financial performance as;

Y=4374325+29749.79X1.

from the above equation, when the agency banking is held to a constant, then the financial performance will be 4374325. An increase in agency 5by even a single would increase the performance of the bank by 29749.79 units.

The main aim of employing agency banking is to improve the accessibility of financial services. This is achieved by permitting SMEs to operate branches for benefit of the bank. The data and analyses have shown that agency banking has played a huge role in financial inclusiveness in several countries.

4.4.3 Hypothesis Three

H03: ATM banking does not affect the financial performance of the listed commercial banks.

Table 4. 10: Performance and ATM banking

`. regress Performance ATM`

Source	SS	df	MS
Model	7.7077e+14	1	7.7077e+14
Residual	7.0912e+04	53	1.3380e+13
Total	1.4799e+15	54	2.7405e+13

Number of obs =	55
F(1, 53) =	57.61
Prob > F =	0.0000
R-squared =	0.5208
Adj R-squared =	0.5118
Root MSE =	3.7e+06

Performance	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
ATM	50316.87	6629.386	7.59	0.000	37020.01	63613.74
_cons	3166638	732053	4.33	0.000	1698326	4634951

From the ANOVA statistics, the regression model indicates a significant effect of ATM banking on financial banking by 0.000 value. The critical and calculated F values were found to be 2.434 and 57.61 respectively. Therefore, the critical value is less than the

calculated value i.e. (2.434<57.61),

This indicates that there exists an ATM banking have is associated with financial performance. The p-value is less than 0.05 indicates that ATM banking positively influences the financial performance of the listed commercial banks. The R Square value was found to be 0.5208. This indicates a high-level pf of confidence of 95%. This confidence level leads to a 52% variation in the performance of the commercial banks. Only 52.08% of the variation can be accounted for by ATM banking. We, therefore, fail to accept the null hypothesis that agency banking has no significance on the bank's performance financially.

Relation between financial performance and ATM banking is

$Y=3166638+50316.87X1$.

From the above equation, when the ATM banking is held to a constant, then the financial performance will be 3166638. An increase in the ATM by even a single would increase the performance of the bank by 50316.87 units.

4.4.4 Hypothesis Four

H04: Financial performance of the lusted commercial banks are not significantly affected by online banking.

Table 4.11: Performance and Online banking

. regress Performance Online

```
       |
   Source |      SS         df       MS                 Number of obs =      55
          |                                             F(  1,   53) =    0.03
    Model | 8.0380e+11        1   8.0380e+11            Prob > F      =  0.8659
 Residual | 1.4791e+15       53   2.7907e+13            R-squared     =  0.0005
          |                                             Adj R-squared = -0.0183
    Total | 1.4799e+15       54   2.7405e+13            Root MSE      = 5.3e+06

Performance |   Coef.    Std. Err.       t     P>|t|      [95% Conf. Interval]

   Online   | 97.9387    577.0849      0.17    0.866      -1059.547    1255.424
    _cons   | 7112488    1181651       6.02    0.000       4742395    9482580
```

According to the ANOVA statistics, the significance value of 0.8659 established that there was no significant association between online banking and financial performance. The critical F value was greater than the calculated F value (0.03 < 2.434). This implies that online banking has no significant association with the financial performance of the listed commercial banks. The *p>0.05* indicates that online banking has no significant influence on the financial performance of the lied commercial banks. The R^2 =0.0005, establishes that at 95% confidence interval, there existed 0.005% charges placed on the financial performance of banks because of the changes in online banking. It, therefore, implies that online banking is responsible for the 0.05% chance that exists in the bank performance. from the findings, the equation between financial performance and agency banking was found to be:

$$Y = 7112488 + 97.9387 \, X_1$$

From this regression equation, the financial performance of the listed banks would be at 7112488 when online banking is held to zero. This, therefore, implies that increasing online banking by a unit will consequently increase the financial performance of the listed commercial banks.

CHAPTER FIVE: FINDINGS SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the data findings from the study, draws conclusions and make recommendations of the same. The recommendations made are meant to address the shortcoming of the study's major objective. The main objective was to examine the effect of digital banking on the financial performance of the listed commercial banks.

5.2 Summary of Findings

5.2.1 Mobile Banking and Financial Performance

From the analysis done on the correlation, it was evident that the m-banking was strongly and positively correlated to the financial performance of banks with 0.6902 as the correlation factor. The ANOVA statistics, on the other hand, shows a critical F value to be less than the calculated value i.e. 2.434<48.22. This indicates that there is a significant relationship between mobile banking and financial performance. This study reveals that the 48.22% change in the banks' financial performance is due to the slight change in mobile banking. The regression analysis also shows that a change in m-banking by a unit could lead to a change in financial performance by 49.5138. According to Koivu (2012), m-banking has a huge impact on the financial performance of banks, as well as the decisions of the economy entirely. Koivu's information backs up the regression analysis of the impact of m-banking on financial performance. The rate of reliance on m-banking

has gone high with the money executions, in the financial sector.

5.2.2 Agency Banking and Financial Performance

There was a firm, affirmative correlation noticed as far as the agency banking and how the banks perform financially were concerned and as shown by the 0.6696 value. Using the ANOVA statistics, the F calculated value was found to be greater than the critical F value i.e. (43.09>2.434). The value obtained as the critical factor indicates the existence of a major correlation between agency banking and the banks' financial performance. the R square value =0.4484, indicates a variation of fifty-two per cent on the banks 'financial performance because of the changes in the mobile banking standing at a confidence level of 95%. This, therefore, implies that only 44.84% of any changes in the financial performance can be accounted for by any changes in the agency banking. The regression analysis shows that an increase in the agency by a single unit could increase the banks' financial performance by 29749.79. According to Aduda and Kingoo (2013), only eight of the forty-three commercial banks had gotten rid of the banking service of the agency and thus this information concurs with the regression analysis made.

5.2.3 Financial Performance of ATM sector

Agency banking has a strong positive correlation with the financial performance of factor 0.6696. The variance analysis showed that there is a significant relationship between financial performance and ATM banking. The critical value F was found to be less than the calculated value i.e. 57.61>2.434. The Square value calculated was 0.5208, this indicates the variation was 52% on the financial performance. This percentage is due to the occurrence of vital alterations in ATM banking. According to the established regression,

it is evident that as the ATM banking unit increases, so does the commercial banks' financial performance increases as well. This information concurs with research done by Mahdi and Merhdad (2010), who found that with the use of ATMs, there will be a reduction in cash flow and circulation. He further argues that the efficiency of banking institutions leads to a decrease in transactional costs, hence the bank costs are reduced.

5.2.4 Online Banking and Financial Performance

The data collected showed that there is a weak positive correlation of 0.0233 between online banking and the financial performance of the listed banks. With the variance analysis, it is evident that there is no significant relationship between the financial performance of the listed banks and online banking. The critical value F was found to be greater than the calculated F value i.e. 2.434<0.03. this indicates that there is no relationship between financial performance and online banking. The Square value was calculated to be 0.0005, which surmounts to 0.005% on financial performance. Additionally, the regression analysis showed that an increase in a unit of one banking could have an appositive effect of about 97.9387 on financial performance. These findings align with what Ram, Kagan and Lingam (2008) had already noted. They noted that more use of the internet in banking could increase the financial performance of banks.

5.3 Conclusion

E-banking has been established to have a positive effect on the financial performance of the listed commercial banks. It further established mobile banking and its relation to financial as strong and positive. This is evident from the correlation coefficient factor, and hence based on this study, there is a major display of the effect of m-banking on the

financial performance related to the different commercial banks.

With the agency banking, the study establishes its relation to the financial performance of the listed banks to be positive, this, therefore, means that agency banking positively affects the financial performance. This, therefore, means that an increase in the unit in agency banking would consequently lead to an increase in the financial performance of the listed commercial banks.

On the other hand Increase in a unit of ATM banking would affect the financial performance of the banks positively. This, therefore, calls for more adoption of this technology as it positively increases the financial performance of banks.

In as much as online banking had a weak correlation with financial performance, it was also positive. This positive correlation means that if online banking is invested in more, and be more embraced, then the correlation could tend towards a strong correlation factor.

5.4 Recommendations

To begin with, is commercial banks should use electronic services in a planned strategy aiming at longevity. This will increase the client's satisfaction, and increase profits. The banks should also carry out awareness, and promotional campaigns to make their consumers aware of the benefits of e-banking.

The study has shown how e-banking has increased the banks' performance. Hence banks need to embrace the right technology to achieve their goals.

The study also recommends the banks that are slow to adopt innovations step up and

embrace the new methods of banking, to increase their profitability.

5.5 Further research areas

The study was specifically on the effect of digital banking on financial performance and specifically focused on banks listed in the NSE. Therefore, the study recommends further studies on the effect of e-banking on unlisted banks. Further studies should also be made on challenges faced by commercial banks in adopting e-banking.

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APPENDICES

Appendix I: List of Licensed Supervised Commercial Banks in Uganda as of 2019 (Tier 1)

1) ABC Capital Bank Uganda Limited

2) Afriland First Bank Uganda Limited

3) Bank of Africa Uganda Limited

4) Bank of Baroda Uganda Limited

5) Bank of India Uganda Limited

6) Absa Bank Uganda Limited)

7) Cairo International Bank limited

8) Centenary Rural Development Bank Limited

9) Citibank Uganda Limited

10) Commercial Bank of Africa Uganda Limited

11) DFCU Bank Limited

12) Diamond Trust Bank Uganda Limited

13) Ecobank Uganda Limited

14) Equity Bank Uganda Limited

15) Exim Bank Uganda Limited

16) Finance Trust Bank Uganda

17) Guaranty Trust Bank Uganda Limited

18) Housing Finance Bank

19) KCB Uganda Limited

20) NC Bank Uganda Limited

21) Opportunity Bank Uganda Limited

22) Orient Bank Limited

23) Stanbic Bank Uganda Limited

24) Standard Chartered Bank Uganda Limited

25) Tropical Bank Limited

26) United Bank for Africa Uganda Limited

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