

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF BUSINESS, POST GRADUATE STUDIES

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EFFECT OF E-BANKING ON THE FINANCIAL PERFORMANCE OF BANKS IN

GHANA “EVIDENCE FROM BANKS WITHIN KUMASI METROPOLITAN

ASSEMBLY

BY

WINNIFRED OPOKU

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DECLARATION

I hereby declare that this thesis is the result of my original work towards the MBA In Strategic Management and Consulting and that to the best of my knowledge, it neither contains material published by another person nor materials which have been accepted for the award of any other degree of the University, except where due acknowledgements have been made in the text.

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DEDICATION

The work is dedicated to my family.

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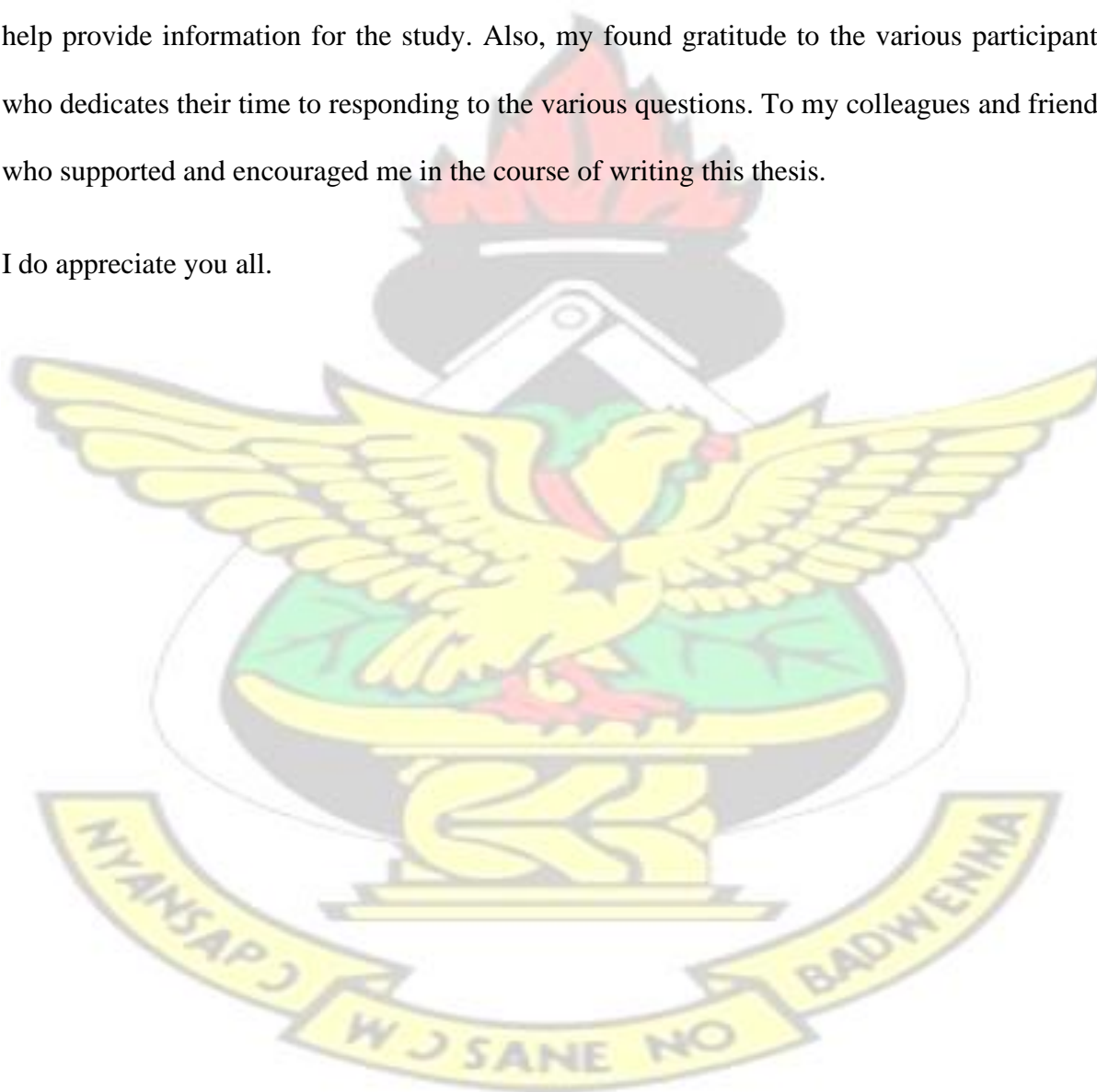


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ABSTRACT

The purpose of this study was to examine the effect of e-banking on the financial performance of banks in Ghana “Evidence from banks within Kumasi Metropolis”. The study used a descriptive research design with quantitative approach. The study population was drawn from total number of staff and some selected customers of selected banks in the Kumasi Metropolis. A simple random sampling technique and probability sampling technique and sample size of 381 were used for the study. The researcher employed statistical software such as Statistical Package for Social Science (SPSS) to analyze the data. The outcome of the analysis revealed e-banking services help promote the financial performance of banks in the Kumasi Metropolis. In other words, e-banking services such as online banking, mobile banking, agency banking, SMS banking, ATM banking, NEFT are statistically significant predictors of financial performance of banks in the Kumasi Metropolitan Assembly. On the other hand, PC banking is statistically insignificant predictors of financial performance of banks in the Kumasi Metropolitan Assembly. The study recommend that Banks should try as much as possible to overcome safety issues related to cybercrime, fraud and theft. The government should support by putting up legislation and provide infrastructure to provide smooth environment for e-banking services to strive among the banking sector. Also, the banks should keep working in cycle with mobile network companies to craft innovation services that are tailored to their target market to promote e-banking services. Furthermore, the should increase awareness on the e-banking services and advocates for more fast, safe and convenience services for customers to access and utilizes it. Lastly, the banks should lower their transaction fees and commission to increase the customer based this will help them get more revenue and profits. Usually customers do not like high transactions fees and it desist them into engaging in e-banking services.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Technology is making an impact in the business environment and banking sector is no exception (Dair, 2017). The increasing level of competition in the banking sector make banks consider the application of advance technological concept, techniques and strategies such electronic banking strategy in order to improve their financial performance. Banks currently embrace and utilize electronic banking to keep them abreast with the trend of e-commerce in the business world. Electronic banking allows the customers to access their account and transfer their payment form account to another (Njoroge & Mugambi, 2018). The electronic banking is very significance, as it reduces cost, promotes the provision of customer services, diminish lead time and increase financial performance. Electronic banking includes online banking, ATM banking, electronic fund transfer and mobile banking which adverse increases the customer base and improved the performance of the various banks.

E-banking services was in full swing in the early 1980s, due to the technological advancement the banking sector has developed it. Financial businesses have been the main focus of the banking sector and therefore different e-banking services have been adopted to make it very competitive in the financial market. Most banks have established e-banking services to help in the proportion of their customers by providing services electronically. As many deposits and withdrawers are done on the mobile phones and internet. Amin (2017) reveled that e-banking services makes the customers to access the banks services 24/7 and utilize the services at their convenient time and place. At the moment, banks that do not offer e-banking services automatically lose their customers to their competitors.

Globally, banking industries have embraced the e-banking services and they tend to promote boost cost effectiveness, efficiencies and extensiveness (Mbugua & Omagwa, 2017). Banks in the developed countries are offering e-banking services with the various level of sophistication. The successful use of e-banking in the UK was in 1994 and it was introduced to all the citizens. The electronic banking was adopted in various commercial activities such as selling and purchasing through the internet system (Sarreal, 2016). In the USA, electronic banking started way back in the 1980s and a large number of banks were into it and they were providing online services to clients. With a substantial change in technology, banks all over the world have been force to introduce new products and services in the e-banking services to keep up with the changing need of the customers.

For Africa banking sector to survive, technology was the main ultimate deterrent and without it they will be uncompetitive (Ekekwe, 2016). Banks now have the urge to make banking easier for its customers, always exploring for new ways to provide better services for their customers. Banks in Africa are trying as much as possible to maintain their competitive edge and personalize the services to retain and increase customer base by adopting e-banking services. For instance, in Kenya, banks are offering various e-banking services in mandate to increase their performance index. The banks in Nigeria presently are engaging in e-banking services and this is providing competitive advantage for the banks in the global banking commence (Nwankwo & Agbo, 2021). Also, it helps in lowering the operational cost and providing best satisfaction to the customers. In as much as the e-banking services are important to the banks and customers, as well it are important to every country which has a massive impact to economic development.

Over the years, the banking sector in Ghana has undergone tremendous changes and many banks are taking the opportunity to upgrade their services and products. This includes both the small and big banks as they are prone to offering electronic banking services to the customers

(Kwarteng et al, 2019). The banks now render their services and sell their product through multiple distribution channels by committing to various electronic services. Banks in Ghana for the most part are into electronic delivery such as ATMs, online banking, mobile banking, electronic fund transfer gadgets and telephone banking to help services the customers better. Customers have become very sophisticated through the exploring of the new products and services. By using the electronic services, customers easily monitor their account, pay their bills and acquire loans, transfer money and perform other transactions. Customers no longer transact businesses in a face to face manner but rather through the internet and this help in promoting the financial performance of the banks as the banks gains a lot through the transactional cost.

1.2 STATEMENT OF PROBLEM

The dynamics of the business environment has brought a lot of changes, as a result of globalization, advance in technology and competition has force many banks to adopt an innovative ways such as e-banking services to help gain competitive advantage (Rono, 2015). The electronic banking make banks transaction easier, avoiding congestion and long queues and waited services. The services are now closer to the customers and it attracts and retains customers and it reduces the services delivery cost and improves financial performance. However, the quantification of the e-banking services is still debatable in the banking industries. There has been some challenges and defies in the adoption of the e-banking's services. Some of the customers still prefer the old traditional way and paperwork system mainly because of the high transactional cost involved (NJoroge & Mugambi, 2018). .

A lot of studies have been conducted on the e-banking services and financial performance of the banks. Hussiain et al (2017) indicates that aid in improving the banking sector and the economy financial performance. Chimeze et al. (2019) study revealed that the e-banking services have a huge impact on the performance of the banks. A study by Boateng & Nagaraju

(2019) indicates a positive relation between e-banking services and financial performance of banks. Nevertheless, very few studies have been investigated in relation to e-banking and financial performance of the various banks in Ghana. Also, other studies concentrated on the positive side of the e-banking services in Ghana, this study will seeks to bend the two and see how it affects the financial performance of the banks.

Since the adoption of the e-banking services there has been some defies in relation to the banks as well as the customers (Offei & Nuamah, 2016). The e-banking services in Ghana are prone to insecurity, and high investment cost. Since the e-banking services rely on the application of electronic devices and innovation, there has been an issue of technical challenges degrading banking services. Kwarteng et al., (2019) argue that there is a concern of consumer mistrust, legal anxiety and complexity in maintaining the site as well as privacy. Sometimes customers are not able to access their account especially if the sites are down. Government laws that direct e-banking activities across international boundaries are not always effective in certain aspects. Fraud is a very real possibility, particularly when using e-banking services. Majority of account holders are unable to access e-banking services. Due to a lack of knowledge, some people still refuse to use electronic banking, some of the customers are resistant to technology and feel that it is difficult to understand. Furthermore, the high cost of internet services and commodities inhibits the great majority of Ghanaians from using electronic banking (Addai et al., 2015). Excessively slow internet connections and frequent service outages make it difficult to use online banking services. Even with this limitation e-banking services continued to have a massive impact on the financial performance of the banks. Given the important of e-banking services and financial performance, this study seeks to elaborate more on it. The study will be limit to Ghana with few studies in the e-banking services and financial performance.

1.3 OBJECTIVE OF THE STUDY

The study seeks to evaluate the effect of e-banking on the financial performance of banks in Ghana “Evidence from banks within Kumasi Metropolis, Adum to be precise”. Specifically, the following objectives will guide the study;

1. To examine the effect of online banking on the financial performance of the selected banks.
2. To assess the effect of mobile banking on the financial performance of the selected banks
3. To examine the effect of agency banking on the financial performance of the selected banks.
4. To measure the effect of SMS banking on the financial performance of the selected banks in Ghana.
5. To find out the effect of ATM banking on the financial performance of the selected banks.
6. To establish the effect of national electronic fund transfer on the performance of the selected banks.
7. To analyze the effect of PC banking of the financial performance of the selected banks.

1.4 RESEARCH QUESTIONS

The following research questions guided the study;

1. What are the effects of online banking on the financial performance of the selected banks?
2. What are the effects of mobile banking on the financial performance of the selected banks?

3. What are the effects of agency banking on the financial performance of the selected banks?
4. What are the effects of SMS banking on the financial performance of the selected banks?
5. What are the effects of ATM banking on the financial performance of the selected banks?
6. What are the effects of national electronic fund transfer on the financial performance of the selected banks?
7. What are the effects of PC banking on the financial performance of the selected banks?

1.5 SIGNIFICANCE OF THE STUDY

The study would provide assistance and guidance to the Banks on how to efficiently employ e-banking services to make the banks gain financial routine. The study findings would help management and directors of the selected banks to determine the approach use toward the deploying of e-banking services. Similarly, the study would provide backing to define appropriate approach and organization activities for e-banking and then make it very advantageous to the related banks. Also, the banking sector and the country as a whole stand to benefits from the study since it would help in improving the financial performance.

In addition, the study would serve as a policy guide to stakeholders in the banking sector to formulate policies and procedures to support and promote more e-banking services in more efficient manner based upon the findings of the study. Those assigned to formulate strategies and plans including the Bank of Ghana, Ministry of Finance and other related organization will give them more insight into the need of promoting the e-banking services.

Researchers who may have interest to undertake further studies in this area would as well be guided from the information made available in the current study relating to e-banking services

and financial performance. The study would add up to knowledge on literature on e-banking services and financial performance. Finally, the study would also help researchers, academia, and students, serving as a reference of future studies.

1.6 SCOPE OF THE STUDY

The study will seek to evaluate the effect of e-banking services on the financial performance of the banks. The study was concentrate on selected banks in the Adum in the Kumasi Metropolitan Assembly. The study was limited to Staffs and customers in the selected banks. The researcher fully acknowledged the nature and significant as she seeks to get more information from the participants to help with the study.

1.7 LIMITATION OF THE STUDY

Firstly, there was challenges of unconcern of some respondents in taking part of the study. As a result, the study only focused on GCB Bank Limited. Secondly, time constraints and adequate financial and material resource was challenge that may limit the depth of coverage of the research work. An extensive time and adequate resources would have aided to unearth more findings especially considering the other institutions in the nation as a whole. Also, preface measures was made with the study area since the situation may turn out different when we want to retrieve the questionnaires. Some of the respondents was unwilling and reluctant to respond to the questionnaires because of time. Due to the busy schedule of the respondent, getting them to answer the questionnaire was not be easy. There may be a challenge in getting the questionnaires completed from the participants.

1.8 BRIEF METHODOLOGY

A descriptive research design with quantitative approach was employed by the researcher. The study will target respondents from GCB Bank Limited being it the staffs and the customers. Primary sources of data was used for the study and instrument that was used for the collection

of the data will be structured questionnaires, which was distributed randomly to the stakeholders. The structured questionnaire was used to assess the views of the participants and it would help the researcher to obtain a quantified data.

The study would also use the purposive sampling technique as well as a simple random sampling technique to identify the participants. They would be given equal chances to be selected within the population of which any bias within the population was equally and correspondingly distributed among the chosen. The data obtained was scrutinized, cleaned, sorted and enter in Statistical Packages for Social Science (SPSS) version 22. And it was analysed into descriptive and inferential statistics such as percentages, frequencies and regression.

1.9 ORGANIZATION OF THE STUDY

This study will be organized into five broad chapters. The chapter one deals with the background of the study, statement of the problem, objectives of the study, research question, significance of the study, justification of the study, brief methodology, scope and limitation of the study, definition of terms and organization of the study and chapter summary.

Chapter two focused on the literature review which includes the conceptual review, theoretical review, empirical review, conceptual framework and chapter summary.

Chapter three comprises of the research method, research design, method of collection, operationalization of variables, instrument of data collection and data analysis, data trustworthiness, ethical consideration and chapter summary.

Chapter four focused of data analysis and discussion of findings whiles chapter five presents with the summary of findings, conclusion, recommendations and research for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter seeks to evaluate the relevant literature on e-banking and financial performance of banks. The literature evaluation of the study comprises of conceptual review, theoretical review, conceptual framework, and empirical review. This section make an attempt to find out knowledge gaps that existed in current literature on the topic and bridged some of the gaps.

2.2 THEORETICAL REVIEW

According to Vitahl, Jasen and Jasen, (2013) theoretical review is a well-developed, comprehensible explanation regarding an event or a phenomenon. Theoretical review contribute in interpreting and understanding events in the study. The study was guided by the theories that follow;

2.2.1 Technology Acceptance Model (TAM)

Davis (1989) developed the Technology Acceptance Model, which draws on a variety of empirical studies to explain how people interact with computers. Users may find the broad features that can be used to support their actions with the aid of TAM. The thesis elaborates on how banks utilize ICT to sway other people's decisions to use their services (Lai, 2017). Perceived utility (PU) and perceived ease of use (PEOU) are the two categories of TAM (PU). These two factors have an effect on people's attitudes on using technology. The PEOU demonstrates how consumers anticipate computer-based systems to be easy to use, while the PU (Perceived Usefulness) demonstrates how much users expect computerized systems—like an e-banking system to spur action and activity (Bugembe, 2010). The user's attitude affects whether or not they want to use a certain technology.

Therefore, this theory aids in understanding, foreseeing, and elucidating why users embrace or reject new platforms for information and communication technology, such as e-banking. This strategy, for instance, may be used to explain why fewer people are using e-banking. It truly gives e-banking software creators a sign of how well-liked and user-friendly their product is. When clients use e-banking technologies, banks have increased financial performance.

2.2.2 Diffusion of Innovation Theory

Everett Rogers created this in 1962, and it illustrates how innovation propagated throughout markets in an innovative way. According to the idea, elements influencing the diffusion of innovation include communication routes, the nature of the invention, early adopters, social systems, and time (Akca & Ozer, 2014). In the banking industry, innovations are highly beneficial since they signify strong client uptake and communication. Information, persuasion, judgment, execution, and validation are the first four phases in the innovation process. E-banking services are dependent on an innovation level, technology, economic situation, legal framework, and social system in order to integrate the dissemination of innovation theory in the banking sector. E-banking services' innovative approach helps banking institutions improve their financial performance.

2.2.3 Transactional Cost Theory

Individuals have a crucial role in the financial system, according to Oliver (2009), who referenced Commons' (1931) Theory of Planned Behavior (TPB). A significant factor in the development of e-banking services is the price that is being paid for the services provided. Since the banks stand to benefit from e-banking, the transactional costs are of utmost importance in encouraging its adoption. The transaction cost theory is essential to the functioning of the banking system because it supports the importance of effectiveness and efficiency in the transaction banking sector.

The hypothesis contends that the e-banking services brought in money for the banking services. Transactions, whether they involve salaries going via banks, fixed-rents, savings, currents, using a Visa Card, or something else entirely, depend on the contract with the consumer. These services benefit banks, who benefit from them all. The argument suggests that a substantial portion of the enormous client base is due to the services being provided extremely quickly. The benefits of transactional business for banks increase with client base size. Ultimately, the transaction cost theory is crucial to this research since the use of technology and services in banking enables the institutions to generate income from the costs associated with their customers' transactions. Additionally, transactional actions aim to provide advantages for customers.

2.3 CONCEPTUAL REVIEW

2.3.1 E-Banking

In order to prepare, manage, and regulate financial transactions, banks and consumers have an electronic link known as "e-banking" (Njogu, 2014). Online bill payment, online transfers, and accepting deposits into accounts are all examples of services offered through electronic banking, which uses the internet as a delivery route. The services might take the form of installing a dynamic website and offering services via it. Utilizing the internet as a strategic and distinctive channel allows businesses to deliver sophisticated goods and high-value financial services at lower transaction costs. The usage of e-banking services includes the acquisition, transfer, receipt, payment, lending, dealing, investment, exchange, and servicing of safe deposit, withdrawal, agency, and trusteeship. Customers may compare different e-banking services, such as ATMs, telephone banking, internet, and mobile banking. Customers of banks may now access e-banking services through devices including PCs, PDAs, ATMs, and telecommunications networks.

According to Addai et al. (2015), electronic banking involves using the internet to provide services remotely. This includes making deposits, transferring cash, and presenting and paying electronic invoices. Customers may instantly access their accounts around-the-clock using e-banking services. E-banking services were initially made public in 1981 in New York with the help of institutions including Citibank, Chase Manhattan, Chemical, and Manufactured Hanover (Isaac, 2014). The first British bank to put out the idea was The Bank of Scotland in 1983. Early electronic banking services provide capabilities like reading bank statements and paying bills online but do not offer a full range of banking services for transactions. E-banking was thereafter perceived as a web-based enterprise that enables bank customers to do online transactions. Customers can acquire financial products and services through transactions as well as other associated services.

2.3.1.1 Online Banking

Online banking is a method that allows bank customers to access their accounts and receive general information about bank products and services through the use of bank websites, without the need for human intervention or the inconvenience of sending letters, faxes, original signatures, or telephone confirmation (Root, 2017). Online banking refers to systems that let bank customers access their accounts, get broad information about the bank's products and services, and submit documents like letters, original signatures, and phone confirmations through the bank's website without requiring their assistance or causing any inconvenience. Technology is used in online banking, bringing banks and their clients closer together. Without interference or trouble, consumers may access their accounts and general information by using the banks' websites. Anyone who needs to access their banks only needs to go to their websites and log in. To see how much money is in an account and complete all transactions, utilize internet banking. Customers' access to financial resources, their accounts, making payments

from their accounts, and getting money available in their accounts through online banking services may all be made easier thanks to online banking (Munyilo et al, 2015).

2.3.1.2 Important of Online Banking

Online banking is easily accessible and its advantage is that it operates 24/7 unlike the traditional form of banking. With online banking, it can be used within any location that allows for the use of the account. Clients can get access to account data whenever he or she wants to, day or night and it is accessible from any place (Okiro & Ndungu, 2013). Online banking is pleasurable and comforting since it allows them greater control over their money in a very handy way. Online banking is much more convenient than going to the bank itself. Even if a non-standard banking hour exists, online banking may be used at any time, day or night, as long as you have access to the internet. Clients have nearly complete control over their banking since it removes the limitations of location and time, allowing banks to give continuous productivity to customers at inconceivable distances. Customers save money by using public transportation to banks, and as a result, banking operations reach a new portion of the population. Online banking is a cost-effective financial engineering that has increased the capacity to examine prospective creditors and assess potential borrowers' creditworthiness. Internet banking boosts productivity and improves a bank's reputation, resulting in better financial results (Tafa, 2016).

On the part of the banks, through the charges they get, online banking assists banks in increasing earnings and financial performance. Online banking contributes to increased income and cost reduction through increasing client size, giving huge platforms for banks to develop and provide a wide range of services, improving bank image, and reducing the number of employees (Shah, 2009).

2.3.1.3 Challenges of Online Banking

With so many reasons online banking tends to have many weaknesses (Kamanthe, 2015). One of it is the strategic risk, capital earnings of the banks, improper implementation of the decisions, lack of strategic goals, the business strategies developed to achieve those goals among many others. Another risk is the foreign exchange risk which affects the loans and investment. Security problems, consumer mistrust, expense and complexity of maintaining the site, legal concerns, and privacy of client information are all factors that affect e-banking services. The security risk may arise because of unauthorized access to banks and client's information's like accounts system. Also, there may be hacking of financial data stored online and it may leads to loss of data, theft or tampering with customer information stored online.

Fraud is a very real possibility, particularly when using online banking (Carney, 2017). Also, majority of account holders may unable to access internet banking. Due to a lack of knowledge, some people still refuse to use online banking, some of the customers are resistant to technology and feel that it is difficult to understand. Furthermore, the high cost of internet services and commodities inhibits the great majority of Ghanaians from using online banking's. Excessively slow internet connections and frequent service outages make it difficult to use online banking services.

2.3.1.4 Measurement of Online Banking

Security/Privacy, Reliability, Efficiency, Responsiveness, and Site Aesthetics are among the five criteria for measuring online banking (Basel, 2012). Empathy, Convenience, Trust, Access, Privacy, Security, and Assurance also influence online banking (Ma, 2012). These also measures banks in gaining profits especially when they are able to solve ensure this dimension. Moreover, help in assessing the profits of banks that participate in online banking. Furthermore,

such measures have a substantial influence on a bank's client perception. When these indicators are included in online banking, customers may conduct their services quickly and simply.

2.3.2 Mobile Banking

Mobile banking is the use of channels in which the customers tend to interact with banks through the use of mobile devices such as mobile phone (Omwansa, 2009). Mobile devices are used to conduct transactions, such as the direct transfer of payments from a payer to a recipient without the use of a middleman. In other words, mobile banking is a remote or virtual banking that comprises providing banking clients with a supplemental financial service using telecommunications equipment, allowing them to conduct retail banking transactions utilizing a mobile communication device. Customers may check their account balances on mobile apps, make purchases using credit cards, and submit feedback on transactions.

Mobile banking is a staging through revolution to access finance and payment, money transfer are done through the phone (Beattie, 2015). Also, it allows customers to call their banks and pay particular invoices or transfer money between accounts. It stimulates fund transfers; pin changes, phone recharges, and bill payment are just some of the services available through mobile. Mobile banking has opened up possibilities for banks and businesses all across the world, and it has made financial transactions much more transparent.

2.3.2.1 Importance of Mobile Banking

The use of mobile banking is very useful, reliable, privacy, innovation, intention, enjoyment and trustful (Zhang et al, 2018). Mobile banking is available 24/7 and customers are able to get access to their account at a limited time and convenience. Moreover, mobile banking helps to keep output of the banks at a high level. Instead for customers to visit the banks, mobile banking can take place everywhere and every time. The mobile banking is easily accessible, these days, almost all the banking customers engage in mobile banking as they tend to get

account information. It reduces time, transaction processing cost and very simple. Nonetheless, banking activities by mobile involves charge for the banks, enabling them to get profits for more investment. The cost of delivering services over the mobile is far lower than the services at a physical branch. The mobile banking sometimes helps in eliminating paper and human error, saves money, time and space in the banking halls.

Mobile banking saves resources in a form of money, personnel and banking space. They increase banks omitted income and promote efficient services (Njoroge & Mugambi, 2018). It is very important in reducing operational expenses and administrative expenditure. Due to the convenience with which transactions may be done, telephone banking has the potential to attract a broad spectrum of consumers, resulting in large profits for banks.

2.3.2.2 Challenges of Mobile Banking

There are numerous challenges that affect mobile banking services and it includes fraud, security concern and deception. Hackers, phishing, and malware are all genuine security issues that can lead to unauthorized access to a customer's account when using mobile banking. Also, there is a poor relationship between the banks customers and the bank officials, since there is no face to face interaction with the customers (Miryala, 2015). Clients' accounts are accessed and log on without their permission. Consumers may not be in physical location as a bank teller or management, identity theft and misreading of customer demands over the phone may be more common. The mobile banking services involve complex transactional process that most customers complain off. The mobile banking is sometimes affected by poor security network, poor or inaccessibility telecommunication infrastructures, poor networks coverage (Agwu et al, 2014). There are issues of high transactional fees, irregular standard of mobile payments, and poor privacy of data protection. Mobile banking services are sometimes sophisticated to assess transactions or procedures to be carried out by a client are very insecure. Therefore, some clients especially the illiterate ones tend to shy away from it. In addition, there is difficulty

in accessing an automated telephone system and frequent interruptions of network. It might sometimes take longer than usual to do transactions because of network problems.

2.3.2.3 Measurement of Mobile Banking

Measurement of mobile banking includes reliability, responsiveness, and convenience, and accuracy, eases of use, speed, and authenticity (Sharma & Malviya, 2011). All these can influence customers' behavioral intentions towards the use of mobile banking. Customers are becoming more aware of this measurement, and as a result, they are becoming more critical of the banks' service quality. It is critical for banks to comprehend how this affects customers' preferences to utilize mobile banking services. The measurement helps to boost profits by giving an indicator of the bank's functioning. When the mobile banking process is measured, when profits is attained, and the banking industry as a whole is improved.

2.3.3 Automated Teller Machine

An automated teller machine (ATM) is a machine that gives customers access to financial transactions in a public setting. The customers put plastic cards with magnetic strips or plastic smart cards with chips in ATMs. These cards have a unique number and security data on them (Mwatsika, 2016). A plastic card with a Personal Identification Number is used with ATMs. Customers utilize it to save deposits and view the bank's records. ATMs consist of a computer interface, a cash vault, and a single device that may be accessed with a plastic card (PIN). ATMs, often known as 24-hour teller machines, allow for customer transactions at any time of the day or night. In Ghana, automated teller machines (ATMs) are often used for financial transactions (Ghana Banking Survey, 2019).

Customers use a plastic card with a PIN or a specific code number to enter it into a computer terminal that is linked to the bank's computerized records, which are accessible around-the-

clock (Okiro and Ndungu, 2013). These days, ATMs serve as the company's public face for many businesses. In many cases, ATMs are the one way that customers may interact with their financial institutions and it is used for transactions. At the same time, many financial institutions consider ATMs to be a distinct advantage in the marketplace. Consequently, it is essential that customers feel protected and secure while using the ATM.

2.3.3.1 Important of Automated Teller Machine

From the bank's perspectives, ATM is source of income for the banks as the charges involved help the banks financially. According to Wachira (2013), ATMs reduce the number of human teller positions, lowering personnel costs, paper costs, and operational costs, resulting in improved bank financial performance. ATMs also improve accuracy, banking space, and time management, resulting in greater efficiency and promoting financial performance of institutions. The banks are able to gain profits through the transaction cost.

The evolution of ATM has made the financial lives easier for customers (Al-Adwani, 2001). The ATM has alleviated the need to visit a bank to make simple bank transactions such as cash deposit and cash withdrawal. It saves time by allowing them to make banking transactions on the go. Another importance of ATM is that they are found almost everywhere. There is access to hard cash everywhere at any time. It helps in withdrawing money at any time of the day and night and this helps a lot of people during emergency situations. ATM helps in transferring money from one bank to another and it also provides mini statement which will help in knowing transactions that has been done. The charges of the ATM are less as compared to other forms of banking.

2.3.3.2 Challenges of Automated Teller Machines

According to Arunkumar (2008), there are many challenges that affect Automated Teller Machines, it includes system breakdown, and operation of the machine. Some of the machines

fail to recognize bank cards or can run out of cash. There is limit of amount to be withdrawn from the ATM which can inconvenience if you required more funds. Customers have also complained about losing their cards and pins to scammers, as well as service costs. According to the findings of the Ashoka-Vinay (2016), illiteracy and the fear of losing money through ATM banking are the two most significant barriers to bank patronage. Illiterate consumers, once again, have difficulty understanding how to use ATMs and prefer to go to a physical bank.

Establishing Automated Teller Machine Banking services poses a significant security problem. Breach of security resulting in illegal access to a client's system, hijacking, and spoofing for access to customer data and accounts are among the security concerns. Customers' security data, such as account numbers and passwords, are also compromised when they are shared or maintained carelessly. Personal services, on the other hand, are lacking because there is no bank assistant to assist with transactions.

2.3.3.3 Measurement of Automated Teller Machines

The physical appearance of services (interior/exterior, decoration, etc.) is an important part of measuring dimensions in ATM banking (Al-Hawari et al., 2006). Responsiveness and assurance are directly linked to the bank and its employees, as the latter respond to customers when they encounter issues such as card blocking or locking and machine breakdowns. All of these variables are used into ATM banking services for better financial performance.

2.3.4 Agency banking

According to World Bank (2018), agency banking is the third parties that are involved in the banking activities and it is usually performed by banks. It is a retail and delivery outlets which is restrained by the financial institutions to process transactions. Okoegwale (2012) argue that agency banking is a potential agent which is registered or non-registered entities with the objective of providing transaction to people. They perform transactions such as deposits, withdrawer, transfer funds, payment of bills, making accounts enquiry and among many other.

Agency banking is very beneficial as it help in reduction transaction cost by bringing service closer to customers. Agency banking is licensed entity that provides similar banking services to consumers comparable to banking institution. According to Alawiye (2013), agency banking has four parts that provide services to consumers on behalf of licensed, prudentially regulated financial institutions like banks. In Kenya and Brazil, where it initially appeared, agency banking was successful. Large banks Caixa Federal, Bradesco, and Banco Popular are the driving forces behind the Brazilian model, which employs more conventional card/POS machines. Brazil now has 39,000 agents working in the mobile industry.

2.4.4.1 Important of Agency Banking

According to Sumanjeet (2010), agency banking plays a major key role in financial inclusion as it reduces operation and human resources cost. Agency banking improve accuracy, required less space, and less time management but it ensures greater efficiency and profitability for institutions Agency banking makes baking transaction to be affordable, and accessible. Agency banking is very popular in countries where banking system is standard and prevalent. Also, agency banking is very prudent with areas with potential less number and volume of transaction making it to be very easy and profligate. Agency banking increase revenue through the investment of the agents and sub agents and it increase the customer based of the customers. Agency banking helps in increasing employment opportunities, and enhances the efficiency of the banking system. The agency banking is sometimes convenient to transfer the funds and make payment since you have direct contact with the clients.

2.3.4.2 Challenges of agency banking

There numerous challenges of agency banking and it include a situation where agents run out of physical cash for sufficient withdrawer of customers (Cracknell, 2010). In situation where there is too much case there may be a problem of risk to the agents and this affects the confidence level of the customers. Moreover, most of the agents lack professional training and

maintaining a high level of the customers becomes a problem. The agent's staffs are usually targeted by fraudsters as they are not able to easily identify fraudulent transactions. Agents who are trained are skeptical about precautionary measures in the place of precaution of life and property. They are usually targeted by robbers and larceny and they are sometimes given fake currencies, sometimes they are not able to differentiate the currencies.

2.3.4.3 Measurement of Agency Banking

Liquidity is a high expenditure in measuring agency banking as it is imperative to attract business. Liquidity management is the primary concern of the agency banking as it consumes most of the expenditure of the banking. Agents have a multiple outlets that transfer funds and money between the outlets (Microsave, 2014). The primary concern is for the agency to manage liquidity and reduce the rebalancing trips to meet the nearest branches and manage the cash and reduce cost.

2.3.5 SMS Banking

SMS banking is a form of banking used by the bank institution in which messages (notifications) are sent to the customers through their phones (Peevers, Douglas & Jack, 2008). It is a service provided by banks that enables them to perform financial transaction with the use of SMS. SMS banking can be in a form of push or pull, push messages is when the banks send out messages to customers without his or her request. The push includes messages on bank accounts information, withdrawer messages, e-statement, and bank personal messages and among many others. While pull is the messages initiated by the customers and it can be in a form of bank balance enquiry, mini statement request, and electronic bill payment, transaction between customers to another person and among many others.

2.3.5.1 Challenges of SMS Banking

There are a lot of challenges that affects SMS banking, as SMS bankers are insecure with the encryptions (Zhang et al, 2018). SMS banking cannot be used for high level of transaction because there is security concern. They lack encryption messages in an area there is concerned. This may be as result of bank technology personnel due to name familiarity of the customers and the past experience. SMS banking is also affected by frequent interruptions of network, fraudsters and it affects the illiterates as there is no bank assistant to assist customers.

2.3.5.2 Important of SMS Banking

According to Njoroge & Mugambi (2018), SMS banking has an imperative outcome as it provide decent quality of services for the banks and the financial institutions. It gives customers delivery guarantee of all messages as well as measurement on the speed of delivery. Also, SMS banking help in enhancing communication with regards to speed, cost effectiveness, reliability and unobtrusive messaging. Open and responses rates with e-mail over traditional mail is very privacy and of less security concern. It is available 24/7 and customers are able to get access to their account at a limited time and convenience

2.3.6 National Electronic Fund Transfer (NEFT)

NEFT is a payment that is processed electronically with the use of debit card or credit card. It can be used to purchase things online and trigger payment. It is used to transfer money from one bank account to another. NEFT is most common these days for money exchange, in Ghana the most common NEFT is the National Switch and Smartcard Payment System known as the E-Zwich and they are used as a payment system (Bank of Ghana, 2019). And it is used for commercial and a range of transactions such as purchasing of goods and services. NEFT makes banks to be very competitive and to be accessed worldwide.

2.3.6.1 Important of NEFT

It is very fast and easy and the money transfer is sometimes traceable and there is always a digital record on the bank statement and it hold by the financial institution. Willian et al (2005) argue that NEFT practice by banks is a matter of competitive necessity rather that competitive advantage. The banks offering this service make them very competitive as they are accessed to be promoting financial performance of the bank. Moreover, it reduces number of human tellers lowering personnel costs, paper costs, and operational costs, resulting in improved bank financial performance (Abor, 2004). It is also convenient, saves time and fast by allowing customers to make their own transactions

2.3.6.2 Challenges of NEFT

There are plethora of risk and issues associated with NEFT which includes security concern. The security concern arises on the account of authorized access to a bank by hackers (Ashoka-Vinay, 2016). Hackers operate through the internet and therefore they can access customer's confidential information. There is also risk management and portfolio management, as there is fear of losing the money through the transactions. There is concern on illiteracy, as the fear of losing their money through the fund transfer which is very insignificant to the banking sector. There is also coding of information as electronics signals minimize the possibility of casual or accidental perusal of information. NEFT is affected by irregular monitoring, asymmetrical surveillance and lack of auditing in order to maintain. There is also a factor of system failure and sometimes customers are not able to access their transaction.

2.3.6.3 Measurement of NEFT

According to Basen (2012), NEFT is measured by the security, reliability, efficiency, openness and empathy. The NEFT is influenced by accessibility, availability, trust, reassurance, and confidentiality. On the side of the banks, it is measured by the profitability through the transaction made by the customers. The profit is gained through payment and withdrawer mode issued by the customers. NEFT is also measured by substantial influence on a bank's client sensitivity. All of these variables are considered in NEFT banking services for better financial performance.

2.3.7 PC Banking

PC banking, as defined by Dauda & Akingbade (2011), is the use of a personal computer to access financial data. The acceptance, storage, and processing of information using an electronic computer device. Due to the fact that transactions are done through computers, it is crucial to both personal and commercial banking needs. PC banking enables the account holder to carry out real-time banking tasks, effectively manage funds, save the inconvenience of daily bank trips, and do away with the need for postal when paying bills. Customers may monitor their account balance, move money across accounts, and make payments. Through an exclusive network and typically with the use of software kept on the personal computer, it enables bank clients to access information about their bank accounts. Access to PC banking is made possible, and clients become more aware of it. Additionally, customers utilize it for retail tasks. PC banking is mostly employed by large retail establishments in Ghana. It puts a branch in clients' homes or workplaces and provides services around-the-clock.

2.3.7.1 Important of PC Banking

PC banking saves times is convenience and accessible, since it's allows customers to make transaction on their own schedule anytime and anywhere (Abor, 2005). It can be accessed in

24/7 and there is no limitation on banks hours. Also, it all customers to access accounts, initiate payment or apply for much need business loans, some of the institution even care for the customer to make deposits. There is an insurance of security, as the customers are protected and other security measures on the part of the customer are checked. On the part of the bank, improves its efficiency and effectiveness, and it leads to financial performance. Bank's value is enhanced by its financial success, which increases the size and speed of future cash flows. PC banking attracts many clients and gain satisfaction of the clients; this in effect boosts the profits of the banks. Also it reduces operational costs, resulting in increased revenues for banks and less time spent in lines for customers to wait.

2.3.7.2 Challenges of PC Banking

There are numerous challenges and it security concerns and risk Dauda & Akingbade (2011). The PC banking is affected by fraudulent activities putting the banking at risk. Fraudsters come about when there is weak password and using of insecure computer and network making customers to be vulnerable. Even though PC banking is of good relevant but only the literate can access it limiting the customer based. Those who are not computer knowledgeable cannot entrance it and it affects the financial performance of the banks. Moreover, there is also a concern of software failure, poor access to the system and services interruption. The ability of the computer system stability and efficiency affects the ability to access the accounts. There is also lack of personal relationship with the bank officials, as engaging bank staffs in finding solution to tailored needs is more faster and achievable in the banking halls.

2.3.7.3 Measurement of PC Banking

The PC banking is measured by the accuracy, easiness, convenience and accessibility (Aspal & Dhawan, 2016). The PC banking is measured with the capability of the customers to access the computer and makes transactions. PC banking is recommended by the capital adequacy,

assets quality, management quality, earnings and liquidity of the banks. Also, PC banking is asses by capital-to-risk ration, and weight-assets-ration as well as government securities. This promotes the ability to withstand losses and fraud practices. Capital requirement which must be kept as minimum capital, are assessed by Assets Quality to ensure that an efficiency and effectiveness of the banks. Asset quality is assessed using the ratios "Net assets to Net Equity,"

2.4 Financial Performance

According to Bhunia et al (2011), financial performance is a statistic that measures how successfully an institution or organization uses its assets to generate money in its core activity. Financial performance is a term used to characterize an institution's overall financial health during a certain time period. Financial performance is a company's capacity to gain and control the precious resources to achieve a competitive edge in numerous distinct ways. Financial performance is the capacity of a firm to utilize its assets as its primary means of producing revenues and profits (Samina and Ayub, 2013). In general, a bank's financial performance is assessed by its policies and activities over a period in monetary terms. The results of this assessment are then compared to peers of the bank and industry in general (Adam, 2014).

Sonnath and Gautam (2011) indicate that financials performance is a measure of a bank's overall financial health over time. Financial performance refers to a variety of metrics that evaluate how banks earn money using the assets they have at their disposal. It describes the financial health of a bank over a certain time period. It's a fundamental criterion for comparing banks in the same business. A bank's capacity to be successful in financial concerns is determined by its ability to handle its financial affairs effectively and efficiently. According to research, there is a clear link between activities such as planning, keeping correct financial records, procurement, and successful financial performance (Ismaila, 2011). It is critical to

assess the firm's financial performance in order to evaluate if it is capable of attaining its financial objectives.

2.4.1 Importance of Financial Performance

When a bank improves its efficiency and effectiveness, this is one of the rewards they get from is the financial performance. The bank's market share has risen as a result of its financial success, and it is better able to react to the requirements of its customers. Multichannel banks also have a better profit margin due to increased commission revenue and trading fees. Profitable banks are better able to withstand a downturn in the economic climate. There are several indications of these outcomes, such as profitability, liquidity, and leverage: By looking at the bottom line, decision-makers may gauge the success of their business plans and initiatives (Padachi, 2006).

A bank's value is enhanced by its financial success, which increases the size and speed of future cash flows. A bank's financial health is critical to its short- and long-term growth projections. Using their primary method of operation, a bank's financial performance is evaluated in terms of how well it manages assets and generates money. Over time, it may be used to compare banks in the same industry (Low et al., 2015). There have been several changes brought by banks to improved financial performance. These developments have led to an expansion of financial services as well as new business models and organizational structures. An indication of the bank's profitability and growth may be seen as attainment and achieving financial performance.

Skandalis (2008) indicates that a bank's financial performance may tell investors a great deal about its long-term health. The effectiveness of a corporation and its executives may be gauged by looking at the financial success of the bank. The financial success of the bank is crucial in establishing how each employee contributes to the financial objectives of the bank.

2.4.2 Challenges of Financial Performance

Leverage, liquidity, solvency, asset turnover, delayed, non-payment of borrowed capital, and labor productivity are just a few of the risk variables that might have an impact on financial performance (Deitiana, & Habibuw, 2015). The most challenging parts of financial performance are liquidity and obligations. Factors such as capital sufficiency; operational cost efficiency; size; risk; GDP; and inflation all have an effect on it. The usage of a greater number of current ICT, which is an expense, is more likely to be linked to increased financial success.

According to Mubgua (2009) an internal and an external component of financial success may be identified. Banks have control over internal factors or element, which might differ from one bank to the next. The bank has no influence over external variables like as GDP, inflation, interest rates, or political instability and this external variables or factors affects banks performance. Liability management is one of the most important factors in determining a company's financial performance. Inadequate risk management, cultural transformation and rivalry from other banks are some of the financial performance problems (Nagarajan, 2011).

2.4.3 Measurement of Financial Performance

According to Julie, Bryan, and Irene (2010), financial success is measured by capital sufficiency, profitability ratios, liquidity ratios, and the quality of an organization's assets. In order to ensure that the bank can satisfy its financial commitments without endangering any of its other duties, liquidity is an important factor. Banks are accessed with liquidity indicators, a bank's assets and liabilities (Nyangosi, 2009). In order to measure a company's profitability, it is important to look at its ROE and ROA (ROA). It is essential to look at profitability indicators when evaluating a bank's potential to make enough money from the assets it has purchased. A bank's profitability are used to examine its financial performance in order to establish if electronic banking increases efficiency and effectiveness in terms of cost reduction and time

savings. Mwangi (2014) argue that Return on assets (ROA) ratios and other profitability metrics were used to illustrate the effectiveness of management.

Other metrics include capital adequacy, which measures a bank's ability to withstand losses due to market, operational, or credit risk. Although the CAMELS grading system has recently been adopted by banking regulators and policymakers for the assessment and analysis of banks' overall financial health “Capital Adequacy, Asset Quality, Management, Earnings, Liquidity, Systems and Controls” (Aspal & Dhawan, 2016). Initially recognized by the Federal Financial Institution Examination Council in the United States, the acronym CAMELS stands for key ratios used to measure bank performance.

2.5 EMPIRICAL REVIEW

Numerous research have conducted on e-banking services and bank financial performance. The success of electronic banking, the success of banks financially, and the satisfaction of customers were all the subjects of a research by Gayeb (2020). Data for the study was collected from 100 customers of Bahrain's top ten banks using standardized questionnaires, and it was analyzed using the Partial Least Square (Smart PLS) and Social Science Statistical Package (SPSS) software programs. Results showed that the effectiveness of e-banking has a statistically significant and positive influence on both customer happiness and the bank's financial success.

The results of a similar research conducted by Khrawish & Al-sadi (2011) on the influence of e-banking services on the financial performance of the banking industry in Jordan show that banks that do not use the e-banking services likely to lose a lot of money. According to the report, banks that have only recently begun offering e-banking services do not have a profit margin in terms of ROA. Banks with a longer track record of e-banking services likely to make

more money. Additionally, according to the survey, internet banking is more accessible and beneficial, which has an impact on the banks' financial health.

Mohammed (2010) looked into e-banking and the financial health of banks. He used questionnaires to gather data from 500 national and international banks in a convenience sample. In the study, it was found that ATM quality is defined by a number of crucial characteristics, including practicality, operational effectiveness, security and privacy, dependability and responsiveness, as well as the fact that ATM quality contributes significantly to customer satisfaction, which in turn affects the banks' financial performance.

Ashoka & Vinay (2016) conducted a study on the use of e-banking services, bank patronage, and financial performance in India. The study used a total sample of 179 participants, 10 of whom were urban customers. Participants in the study were between the ages of 18 and 40 and frequently used e-banking services. According to the study's findings, e-banking services promote increased customer use, which ultimately aids banks in making money. E-banking services have a favorable effect on bank earnings, according to a study conducted in Turkey by Onay et al. (2018). The study took into account every aspect of e-banking in the nation.

Using factors including bank size, capital sufficiency, liquidity, credit risk, and operational efficiency on banks' profitability, Machira (2016) performed a research on the adoption of e-banking services and the financial performance of Kenyan banks. The study's findings suggest that a high level of liquidity is essential for supplying ample cash, which boost bank earnings and operational effectiveness. The profit margins of the banks are also reduced by inadequate expenditure management. According to a comparable research by Munywoki (2016), ROE, ROA, Interest Margin, and Net Profits Margins are successful innovative approaches to banks' profit margins.

A research on e-banking and financial performance was undertaken by Oyewole et al. (2013). E-banking is found to improve the financial performance of banks in the study, which focuses on banks in Nigeria. They used a panel of data from annual audited financial accounts from 2000 to 2010 to sample eight banks. According to them, e-banking boosts a bank's Return on Assets and Net Interest Income. The study made use of a pooled OLS computation, and its results show that the early years of the introduction of computerized banking services were detrimental to financial performance. It was revealed that e-banking services have a negative impact on the financial performance of banks was found in a related research by Khrawish et al. (2011).

Harelimana (2018) conducted research on the effectiveness of banks' finances and electronic banking. As a case study, he used Rwanda's Equity Bank Limited. The study made use of both primary and secondary data. He used data on financial institutions in Rwanda from 2012 to 2016. In addition, out of a total of 253, 155 participants were chosen. The data were examined using descriptive statistics and multiple regression. The results of the study show that the ease with which a loan may be applied for, the minimal amount of collateral needed, the cheap cost of borrowing money, interest rates, and government guarantees all have an impact on how easily users can access electronic banking. Additionally, they suggest that the financial performance of Equity Bank Limited has a favorable, substantial link with Electronic Card Banking, Mobile Banking, and Internet Banking ATMs.

Chimeze et al. (2019) did a study on the impact of e-banking on Nigerian commercial banks' financial performance. The Central Bank of Nigeria (CBN), the Statistical Bulletin, and the Nigeria Insurance Deposit Corporation (NDIC) report were used to compile quarterly data and times series data using an ex-facto methodology. The information being gathered is from the first quarters of 2012 and 2019. Along with Co-integration and the Vector Error Correction Model, they employed the Autoregressive Distributed Lag (ARDL Bound) test. The

independent variable and the dependent variables were correlated throughout both the long and short runs in the research. Using online banking and telephone banking as a point of comparison, it can be determined that automated teller machines have a negative impact in the short term and have a positive substantial impact on commercial banks' net interest margin over time. They demonstrated that every factor, including telephone banking, online banking, and automated teller machines, will have a favorable impact on the interest margin of commercial banks in the future.

Mabwai (2016) conducted a study on the relationship between e-banking (mobile banking) and the financial performance of Kenyan banks. Descriptive statistics and quantitative technique were used to analyze the data. The study finds that market share, capital sufficiency, mobile banking transactions, and the six have a beneficial impact on bank earnings. The report advises all banks to take these aspects of mobile banking into account in order to increase revenues. A comparison study on mobile banking's effects and bank earnings was conducted by Mutua (2014). According to the survey, mobile banking serves millions of customers, enhancing the financial performance of banks.

Nwakoby et al (2020) did a study on electronic banking and bank financial performance in Nigeria. They took a sample of 9 of Nigeria's 15 listed banks with sizable deposits from their client base. Data from the Nigeria Stock Exchange and numerous yearly reports and accounts were also used in the study. Additionally, data from the CBN Statistical Bulletins from 2009 to 2018 were created. The study used both an Ordinary Least Squares Framework and a Panel Regression. The findings show that there is no positive or significant association between banks and ATMs or telephone banking. The return on equity for banks is often affected. They also suggest that there is a solid and favorable association between banks and internet banking.

A research on e-banking and the financial performance of depositors' funds in Ghanaian banks was done by Boateng & Nagaraju (2019). The study uses secondary data from the Bank of Ghana Annual Payment System Reports for the years 2012 and 2013. Mobile money, G-link, the automated clearing house, and Ghana Interbank Settlement are the independent variables utilized, the Return on Assets is the dependent variable used. Partial Least Square (PLS) regression was used to calculate the results of the study after it had been analyzed using Scientific Program Origin 2018. According to the research, e-banking services like mobile money, G-link, and Ghana Interbank Settlement improve the financial performance of Ghanaian banks.

Kwarteng et al. (2019) conducted research on the effectiveness of Ghanaian banks and internet banking. On the website of the Bank of Ghana, they utilized Ghanaian banks. The financial data regarding the activities of the banks was gathered from their financial statements, which were made public at the end of 2016. Principal component analysis, cluster analysis, and data envelopment analysis were used to estimate a total of 49 models. According to the study's findings, merging conventional and internet banking procedures has improved bank performance in Ghana. Because few banking clients utilize the internet, using online banking as a performance improvement strategy does not result in greater returns on its own. However, the banking sector has regularly seen success when combining online banking with potentially ineffective older approaches.

Offei & Nuamah (2016) did a study on e-banking and financial performance. They revealed further detail on how the GCB Bank-Koforidua branch network's customer happiness and bank earnings have been affected by electronic banking. They used questionnaires, quantitative data, and a descriptive methodology for their study. The management of the Koforidua Branch of the GCB Bank as well as its staff and customers provided the information. Despite the bank's online banking services being available, the study's findings showed that survey participants

were not fully aware of their accessibility. This occurred as a result of online banking's high cost, which deterred users from adopting it. The e-banking services are, nonetheless, crucial for banks to improve their financial performance overall.

Addai et al. (2015) conducted a similar study on Ghanaian financial institutions' financial performance and electronic banking services. 150 people who were clients of Trust Bank Ghana Limited, Ecobank Ghana Limited, and Barclays Bank Limited participated in the survey. Non-probability sampling was used to choose 50 people from the Bank and the research, respectively. The study employed a primary source of data collection in the shape of a questionnaire to collect information, and it was analysed using SPSS Version 21. To determine the connection between e-banking and the financial success of Ghanaian banks, a regression analysis was utilized. According to the data, e-banking offers clients satisfaction, availability, dependability, and convenience, all of which naturally improve the financial performance of the chosen banks.

2.6 HYPOTHESIS DEVELOPMENT

2.6.1 Online Banking and financial performance of Banks

Kagendo (2015) considered a study on the relationship between commercial banks in Kenya's internet banking and financial performance. The results demonstrated a statistically significant correlation between banks' bottom lines and their adoption of internet banking. The report concludes that others should implement online banking to increase their consumer base. Asia (2015) conducted a case study of Bank of Kigali to examine the prevalence of internet banking among Rwanda's commercial banks and found that it was significantly correlated with the bank's financial success. The commissions generated from online banking have a substantial association with the banks ROA, according to a study by Cheruiyout (2015) on e-banking banking and financial performance of the banks.

Nonetheless, a study by Oyewole et al (2013) on e-banking and the financial performance of the banks, the study considered banks in Nigeria and concludes that online banking has negative effects of the banks over the years of review. That online banking is subject to security concerns, consumer mistrust, fraud, expense and complexity of maintaining the site, legal concerns, and privacy of client information. A related study was conducted by Khrawish et al (2011) and there was an indication that online services has a negative effect with financial performance of banks.

However, a number of academic studies have shown an overwhelmingly positive relationship between online banking and profitability of banks bank. Given this, I think that online banking will affects profits margins of Ghanaian banks. For this reason, hypothesis will be tested on whether or not the following:

H₁= There is positive relationship between online banking and financial performance of banks.

2.6.2 Mobile Banking and financial performance of Banks

A study by A-Jabi & Sohail (2012) on mobile banking, the study reported that the growth of advance innovation such as the use of mobile networking in the banking industries. The findings of the study indicate that mobile banking contributes the financial performance of the banks. The study also point out that mobile banking has been an affirmative and significant growth of banks over last five years. Zhang et al (2018) conducted a study in United States on the determinant of mobile banking. The study indicates that mobile banking is useful, ease to use, reliable, private, innovative, intention, enjoyment, and trust and this factors are very much key to achieve more customer base and increase the profits of the banks. According to Mbiti & Weil (2011) revealed that banks tend to improve on the adoption of mobile banking in order to more accessibility and profits in the financial markets.

On the other hand, a research by Tchoussi (2012) on mobile banking and financial performance of banks in East Africa, the findings revealed that mobile banking in the East Africa is very costly. That mobile banking has a disadvantageous impact on financial success of the banks. The findings revealed that, fraud and network issues hamper mobile banking, which has a disadvantageous impact on banks' profitability.

However, many researchers conclude that mobile banking has a significant relationship with the profitability of the banks. Based on the precedent, I believe that the implementations of mobile banking in Ghana precisely ADB will have an impact on the profitability of the banks. For this reason, the following hypothesis will be tested whether:

H₂= There is positive relationship between mobile banking and profitability of the banks.

2.6.3 ATM Banking and financial performance of Banks

A study by Mwatsika (2016) on the impact of ATM banking and financial performance of banks in Malawi, the study indicates that ATM banking has become an important service among banks in the country providing services to large masses. The employment of ATM banking attracts many clients and gain satisfaction of the clients; this in effect boosts the profits of the banks. ATM adoption and financial performance have a significant positive relationship. ATMs reduce operational costs, resulting in increased revenues for banks and less time spent in lines waiting to be served by customers.

However, a study by Murigu (2016) on the use of ATM, the study considered Barclays Bank of Kenya. The study showed a disturbing preference of ATM banking as there was an indication that, the usage of it comprises of guard at the ATM location, undependability of the ATM services offer length of queuing. Jegede (2014) conducted a study on ATM and the profitability success of banks in Nigeria. The study indicates that ATM banking's are subjected to fraud,

ATM services is less correlated to security and privacy which in the end affects the banks outputs. The study also, indicates that ATM banking are affected by inadequate capacity of smooth services, inadequate maintenance by management, irritating network, and inconsistent deduction from clients' accounts.

Yet, majority of the academia's view ATM banking to have a positive relationship with profitability of the banks. Based on this precedent, I believe that the execution of ATM banking will have positive impact on banks' profits. Given that, hypothesis will be tested as to whether:

H₃= There is a positive relationship between ATM banking and financial performance of banks.

2.6.4 Agency Banking and financial performance

A study by Salome-Mwongeli (2013) on agency banking and financial performance of commercial banks, the study indicates that customers access banks at the expense of their comfort. It helps in dealings with access of finance and cost of roll-out and cost of the banks dealings with pretty low transactions. This cost of transactions makes the banks to gain more customers making the banks to gain more financial performance. A similar study was done by Aduda & Kingoo (2013) on agency banking on commercial banks in Kenya. The study considered forty three commercial banks in Kenya. The result established that there is annual positive financial performance. They also indicate that agency banking is convenience and efficiency in operation performed financially. Agency banking is accessible as services is everywhere and it has a strong positive financial performance with commercial banks.

On the other hand, a study was done by Alexander & Hall (2013) on agency banking and it indicates that it improves performance of banks but it has a security concern. Agency banking is a target by fraudsters and fake personnel. Agency banking has a limited finance, they are

not transacts a large amount as compared to the banks itself. The sizes and spaces of the agency is very small to accommodate a large personnel.

However, a number of academic studies have shown an overwhelmingly positive relationship between agency banking and financial performance of banks bank. Given this, I think that agency banking will affects financial performance of Ghanaian banks. For this reason, hypothesis will be tested on whether or not the following:

H₄= There is positive relationship between agency banking and financial performance of banks.

2.6.5 SMS Banking and Financial Performance

A study was done by Peevers et al (2008) on the SMS banking, the study indicates that SMS banking is based on technology enabling services from banks to the customers. They revealed that SMS banking is operates with the use of pull and push messages. The study specifies that this activates makes the banking to easy, fast and convenience and it encourages more customer base leading to financial performance of the banks. A similar study was done by Bamoriya & Singh (2012) and it was recognized that SMS messages are more important in the banking industry. The study indicates that most people these days receives alerts from the banking institution and it help promotes the efficiency and competence of the banks.

Nonetheless, a study was done by Vincent et al (2016) on SMS banking and it they discovered that SMS banking is very good for both the customers and the banking institutions. It makes the customers get more information in the banking activities but it is usually affected by frequent interruptions of network, fraudsters and there is no bank assistant to explain uncertainty of the messages to the customers especially the illiterates.

Though, a number of academic studies have shown an overwhelmingly positive relationship between SMS banking and financial performance of banks bank. On this precedent, I think that SMS banking will affects financial performance of Ghanaian banks. For this reason, hypothesis will be tested on whether or not the following:

H₅= There is positive relationship between SMS banking and financial performance of banks.

2.6.6 NEFT and Financial Performance of the banks

A study was done by Hard (2005) on electronic fund transfer makes it very convenient for customers. The study indicates that information of the customer is store on credit card and shipping address of the customers and they are all stored on the database. And the customers use the card to purchase things online and make other transaction. This activity is very fast, easy, convenience and accessible. Bahia (2007) conducted a study on electronic fund transfer and it was indicated that they are used to transfer money from account to another either in a single financial institution on multiple ones. Electronic fund transfer is without paper money and the funds are initiated to electronic terminals such as the credit card, debits cards, payroll payments and points-of-sales (POS) transactions.

Also, Bahia (2007) established that NEFT is affected by fraud, system failure, irritating networks, and erratic deduction. The bill payment is sometimes too high and very complicated. However, number of customers complained of the account being hacked and used for transaction without their knowledge.

Nonetheless, a number of academic studies have shown an overwhelmingly positive relationship between NEFT banking and financial performance of banks bank. On this precedent, I think that NEFT will affect financial performance of Ghanaian banks. For this reason, hypothesis will be tested on whether or not the following:

H₆= There is positive relationship between NEFT banking and financial performance of banks.

2.6.7 PC Banking and Financial Performance

A Study by Ombati et al (2011) on PC banking indicates that computer is used to handle bank transactions. That the customer use personal computer to check their account balance, make transfer from the account and make payment electronically. The study revealed that businesses uses this banking to perform many routine functions and it is used at to do all sort of transactions. All this activities help the banks to gain financial performance through the transactional cost charged by the banks. A study by Ogare & NO (2015) on PC banking and its effects on the financial performance of the banks, the study findings indicates a strong and positive relationship between PC banking and the financial performance of the banks.

A study by Vila et al (2013) looked at the PC banking and financial performance and his findings were interesting. He concentrated on macroeconomic control variables to investigate the influence of PC banking on the financial performance of banks. According to the findings of the research, PC banking has a negative relationship with financial success.

On the other hand, a number of academic studies have shown an overwhelmingly positive relationship between PC banking and financial performance of banks bank. On this precedent, I think that PC will affect financial performance of Ghanaian banks. For this reason, hypothesis will be tested on whether or not the following:

H₇= There is positive relationship between PC banking and financial performance of banks.

2.6.8 Summary of Hypothesis for the Study

In order to statically validate the study results, the researcher designed and developed hypothesis. For the purpose of this study, hypothesis to be tested are as follows:

H₁= There is a positive significant relationship between online banking and financial performance of banks.

H₂= There is a positive significant relationship between mobile banking and financial performance of banks.

H₃= There is a positive significant relationship between Automated Teller Machine and financial performance of banks

H₄= There is a positive significant relationship between agency banking and financial performance of banks

H₅= There is a positive significant relationship between SMS banking and financial performance of banks

H₆= There is a positive significant relationship between NEFT and financial performance of banks

H₇= There is a positive significant relationship between PC banking and financial performance of banks

2.7 CONCEPTUAL FRAMEWORK

According to Grant and Osanloo (2014), conceptual framework is link indicating the main concept of the study. The conceptual framework below shows the relationship between the independent variable (e-banking services such as Online Banking, Mobile Banking, ATMs Banking, Agency Banking, SMS Banking, NEFT, and PC Banking) and the dependent variable (financial performance).

Independent variable

Dependent variable

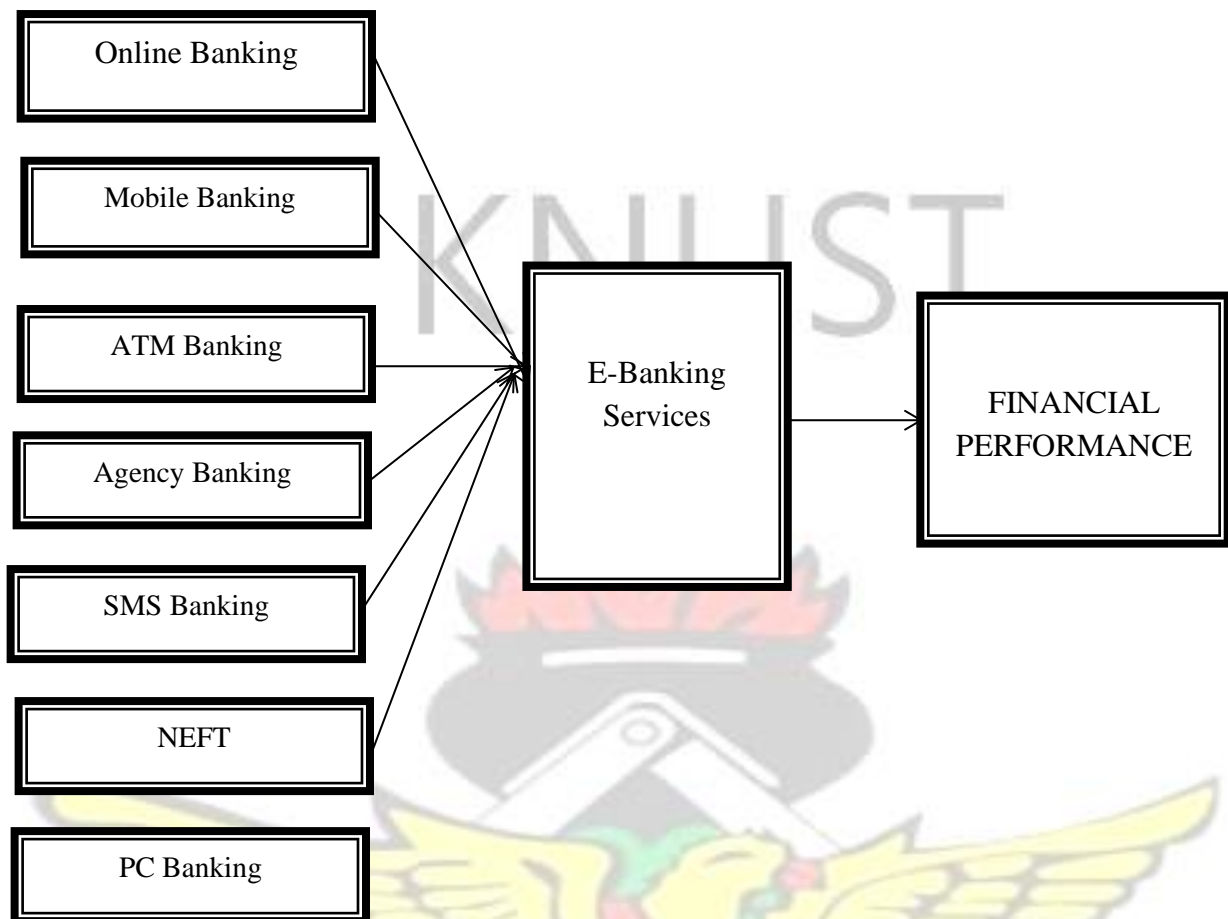


Figure 2.1: Conceptual Framework

Source: Author, (2023)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter focuses on the research methodology used in the study. The methodology includes the research design, study population, sampling procedure and sample size, data collecting method, data collection instrument, data analysis, and ethical considerations.

3.2 RESEARCH DESIGN

Creswell et al (2017) argue that research design specifies how data is gathered, analyzed and integrate in the research to help better understanding of research phenomenon. Research design is the set of method and procedures used to collect and analyze measured of variables specified in the research problem (Creswell, 2014). In order to ensure the achievement and justification of the dynamics of effect of e-banking on the financial performance of banks, the study employed a descriptive research design with quantitative approach. It helps in getting accurate figures and analysis for the data collected. Shuttle (2014) indicated that descriptive research design is a systematic method to describe variables without influencing it in anyway. It encompasses a lot of information, which is very useful in identifying further areas of research in an unchanged manner.

According to Befring (2015), quantitative is when data have been gathered in a numerical form, to make it unbiased as much as possible. The quantitative approach is more structured and it is highly based on measurement of quantity. This approach is mostly used for statistical analysis and makes the interpretation of data very easy. Quantitative approach uses numerical data to obtain information to help maximize objective of the study. The quantitative approach will help to get concrete data from the participants on the large base. The data are able to collect from participants, irrespective of the study outcome variable. Quantitative method dignifies

opinions, which form the basis in strict and severe process in research. The approach is good in getting more insight into the analysis and findings and making concrete interpretation to the findings. Quantitative approach also helps in the obtaining of varied source of data from the participants, in order to help with the findings. Errors in the data entries are able to be corrected and analyzed since it usually in a numerical form.

3.3 POPULATION OF THE STUDY

According to Saunders, Lewis & Thornhill (2012), target population is the total number of people within the target research setting. The study population was drawn from total number of staff and some selected customers of selected banks in the Kumasi Metropolis. The staff and selected customers were true representation of the population and the data derive from them through the questionnaire. The banks selected include ADB, GCB, ABSA Bank Limited, Ecobank, CBG, Stanbic Bank and Fidelity Bank. The Banks facilitates the researcher to make conclusion based on the data obtained.

Table 3.1: Population of the Study

Banks	Staff	Customers
ADB	17	14687
GBC	22	25247
ABSA Bank Limited	15	15267
Ecobank	13	14585
Stanbic Bank	16	13267
Fidelity Bank	21	18675
Total	104	101,728

3.4 SAMPLE TECHNIQUE AND SAMPLE SIZE

Descombe (2014), sample procedure or sample technique is how a probability of sample is selected from the target population. Sample technique is how respondent are chose based on a particular judgment. The study used simple random sampling techniques and probability sampling technique. Creswell (2011), simple random sample technique selects sample or units such as organization or particular individuals who has the equal chance of being selected from the entire population.

Creswell (2014) argue that with the probability sampling technique every unit of analysis and participants has an equal chance of been selected. Maxwell & Chmiel (2014), sample size is the intent of the study to generalized participant of the population of the study in similar context to a reduced magnitude. The study employed the Krejcie and Morgan (1970) formula to calculate for the sample size at a 95 percent confidence level with a probability of 0.5. The total number of staff and customers of selected banks is 101,832. As per the table of Krejcie and Morgan, (1970), population of the study of more than 75000 but less than 1000000 has a sample size of 382. For that reason, considering the sample size of both the staff and customers of the selected banks is 382.

Therefore, $S = 382$

3.5 DATA COLLECTION METHOD

The method of data collection is primary method and it is done through the questionnaire. This help to know how information was gathered and analyzed for conclusion to be made. The data method helped to know more on the research study and it is more reliable (O’Gorman & MacIntosh, 2014). The data was obtained from the staffs and customers from the selected banks for the purpose of the study, a structured questionnaire was given out to the participants.

Also, interrogation technique was used to elicit data from the participants. The study considered both closed ended questions. As the close ended questions provided with alternatives and clear instructions to the respondents, it gives the respondents the latitude of freedom to choose the views in an unrestrained manger. The open-ended questions were designed to offer respondents the ability to express themselves without being confined. Within a two-week period, the surveys were administered.

3.6 DATA COLLECTION INSTRUMENT

The researcher considered, designed and administered structured questionnaires to obtained primary data from respondents. Bell, Bryman & Harley (2018) concluded on the relevance of structured questionnaires to help in analyzing data from different groups. O’Leary (2015) argues that it is most notably to discover and ascertain what the masses are thinking. Sekaran (2014) proposed that structured questionnaire is practical as instrument, which provide the required data to enable the drawing of concreted and reliable conclusion. Structured questionnaire was used because it is suitable and appropriate for collecting consistent statistical data from different subcategories of a relatively enormous population. The design includes close and open questions that require ranking of answer. The closed-ended questions are quicker for respondents to answer, gives answer, which are easier to code, and statistically analyses, less literate respondents are not at a disadvantage and respondents are more likely to answer sensitive question. In addition to relevant and trustworthy research data, the surveys provide demographic and question information. The questionnaires contained questions was based on the aforementioned aims. The researchers employed a five-point Likert scale that included 1-Strongly Disagree, 2-Disagree, 3-Neural, 4-Agree, and 5-Strongly Agree.

3.7 DATA MANAGEMENT AND ANALYSIS

The data gathered was codes and entered in Statistical Package for Social Science (SPSS). Because it a quantitative form, the analysis was presented in a descriptive statistic with

frequencies, percentages, correlation and regression. Analytical technique was used to analyze the responses from the respondents. Discussion, conclusion and recommendation were made out of this summarized data analysis.

Skoog & Crouch (2014) analytical technique was used to analyze problems in a very accurate outcome. The analytical technical are methods used for the qualitative and quantitative determination of variables. The study will employ regression as the analytical techniques to unravel the relationship between the independent variable and dependent variable. The regression help shows how the independent variables affect the dependent variable or the outcome.

The regression model formula;

$$Y = a + BX_1 + BX_2 + BX_3$$

Y is the dependent variable

a is the constant

BX is the independent variable coefficient

3.8 RELIABILITY AND VALIDITY

Singh (2014) argue that reliability and validity intensify transparency, and decreases opportunities to insert and supplement researcher bias in research. Reliability is the constancy of the measure to produce similar or same result over a period upon which is used. For measuring reliability, Cronbach Alpha was used to measure the internal constituency. For the reason of this study, when the coefficient is 1, meaning there is higher consistency but when is less than 0.7, meaning there is lower consistency level.

The formula for the calculation is as follows;

$$\alpha = N\bar{e}$$

$$\bar{a} + (N-1)\bar{e}$$

N indicates the number of items to be tested

\bar{a} show the average variance

\bar{e} indicate the average of all the covariance.

Morse, (2016) argue that validity determines the face and is the judgment largely based on individual on perception. With the validity, the questionnaire was given to the supervisor for approval for scrutiny, subsequently validity is determined by expert judgment.

3.9 ETHICAL CONSIDERATION

Respondent participation was heavily influenced by ethics (Saunders et al., 2019). Several ethical behaviors were observed in during data collection is the research, such as safeguarding the privacy, anonymity, confidentiality, discretion, and secrecy of the survey respondents. Furthermore, ethical considerations were taken into account while building data gathering systems. The concerns raised by the Head of the Banks were taken into consideration. The consent of the participant was obtained, and they were also told of the study's purpose, the source of the questionnaire, the study's goal and, most significantly how the information submitted would be utilized, as well as their rights and privacy. Respondents also had to complete with freedom, reveal or refuse to disclose, and partake, as long as they stayed inside the study's sample frame was considered. This allowed respondents to be completely honest in their responses to the questions. To reduce possible issues, an effort was made to keep the questions in the questionnaire in Basic English, free of technical words (Connely, 2014). To prevent plagiarism, each material utilized for the project was properly cited.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 INTRODUCTION

This chapter presents the result of the study and discussion. The data collected were analyzed in accordance to the research objectives. The results were represented in tables, frequencies and percentages with detailed explanation. The results of analyzed data obtained from the survey which includes the respondent characteristics, validity and reliability of the study construct. Confirmation factor analysis (CFA) was conducted on the construct to obtain a good model fit indices using LISREL 8.50. Hierarchical multiple regression analysis was conducted to evaluate the e-banking and financial services.

4.2 DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Data on the respondents' socio-demographics were gathered in order to have a better picture of the respondent's background in the research. The background information gathered includes the age group of respondents, gender of the respondents, personal account, and years engaged in e-banking service.

Table 4.1: Demographic characteristics of respondents

Variables	Frequency	Percentage
Age group		
Below 20 years	82	21.5
20-30 years	206	53.9
31-40 years	77	20.2
Above 40 years	17	4.5
Gender of respondents		
Male	278	72.8
Female	104	27.2
Banks		
GCB	97	25.4
ADB	177	44.5
Absa Bank	53	13.9
Fidelity Bank	38	9.9
Other Institution	24	6.3
E-banking services practice		
Less than a year	173	45.3
1-10 years	187	49
10-20 years	18	4.7
More than 20 years	4	1

Source: field survey, 2022

Table 4.1 shows demographic characteristics of respondents; from the age groups of the respondents, 82 respondents (21.5%) are between the ages of 20-30 years, 206 respondents (53.6%) are between the ages of 31-40 years, 77 respondents (20.2%) are between the ages of

41-50 years, and 17 respondents (4.5%) are above 50 years. The statistics clearly reveal that the most of the respondents over 50 years old. Age group is a demographic variable which influence the response of the participants. This reflects the fact that the study's adult participants are in the majority. The respondents are matured enough he know more about the e-banking and it implication of financial performance of the banks.

In view of gender of the respondents, 278 of the respondents (72.8%) are males and 104 of the respondent (27.2%) are females. This demonstrates that male participants outnumber female participants. The males account for a bigger percentage of participants than females, since males are more socially involved with Banks. This shows that the findings would provide a biased data that considers masculine perspective of the use of e-banking in the banking industry.

Considering the respective banks of the respondents, 97 of the respondents (25.4%) are staffs and customers of GCB, 170 of the respondents (44.5%) are staff and customers of ADB, 53 of the respondents (13.9%) are staff and customers of Absa Bank, 38 of the respondent (9.9%) are staff and customers of Fidelity Bank and 24 of the respondent (6.3%) belong to other banking institution. It can be shown that most participants belongs to the ADB, they are one of the banking institution with the adoption of e-baking services. Therefore, they tend to give more insight into the e-banking services of the banks and how they affect the financial performances.

With the number of years the banks engage in e-banking services, 173 of the respondents (45.3%) indicated the it been less than a year the banks has engage in e-banking services, 187 of the respondents (49%) indicated that the respective banks have engage in e-banking services for a period of 1-10 years, 18 of the respondents (4.7%) indicated that the respective banks have engage in e-banking services for a period of 10-20 years and 4 of the respondents (1%) indicated that the respective banks have engage in e-banking services for more than 20 years.

The result from more of the respondents indicates that respective banks have engage in e-banking services for a period of 1-10 years, as compared to other years, this is due to the fact that, years gone by adoption of the e-banking service has improved. This also reflect the years of experience and security with the bank, as they are key in providing adequate information.

4.3 INFERENTIAL STATISTICS

Based on sample statistics acquired for a random sample of the population, inferential statistics allow us to draw statements about known parameters. Inferential statistics were calculated using correlation, validity and reliability, model fits and regression, which defined the implications of the strength of connection and the influence of e-banking on financial performance of the banks.

4.3.1 Test for Validity and Reliability

Validity and reliability test were conducted to validate the variables under the constructs of online banking, mobile banking, agency banking, SMS banking, ATM banking, NEFT and PC banking. LISREL 8.50 was used to test the validity and reliability of the study construct. Four analytical instruments of the LISREL were performed including composite reliability, discriminate validity, convergent validity and the confirmatory factor analysis (CFA). The Cronbach alpha (α) was also performed to measure the internal consistency of the study constructs. Validity of the measures were examined using the Cronbach's alpha score, composite reliability (CR) and average variance extracted (AVE). Table 4.2 below shows the validity and reliability of the study constructs.

Table 4.2: Validity and Reliability of Study Constructs

Construct	Factor Loading	t-value	CR	AVE	CA
Financial Performance (FP)			0.908	0.666	0.816
Online Banking and Financial Performance (OB)			0.878	0.591	0.827
OB1 Most of the customers use online banking	0.69	Fixed			
OB2 Online banking makes transactions very fast	0.71	11.20			
OB3 It is more convenient	0.80	9.37			
OB4 Available 24/7	0.80	10.01			
OB5 Access to bank websites anytime and anywhere	0.82	9.21			
Mobile Banking and Financial Performance (MB)			0.860	0.552	0.723
MB1 It reduces time, transactional process cost and very simple	0.72	Fixed			
MB2 Elimination of paper and human error	0.78	8.58			
MB3 Reduces operation expenses and administrative expenditure of the banks	0.68	8.01			
MB4 Easy to use and very authentic	0.82	7.73			
MB5 There is quick responses on complaints	0.69	9.23			
Agency Banking and Financial Performance (AB)			0.803	0.457	0.830
AB1 It requires less space and time	0.86	Fixed			
AB2 I find the agency banking quite pleasant	0.65	10.16			
AB3 It ease the level of customers contact with the banks	0.59	9.34			

AB4 There is quick response on complain	0.70	9.27			
AB5 It reduces time spent and it very fast	0.50	9.07			
SMS Banking and Financial Performance (SMSB)			0.847	0.526	0.806
SMSB1 It helps in balance enquiry	0.69	Fixed			
SMSB2 It increases mini statement request	0.75	9.16			
SMSB3 It is used for electronic payment	0.65	8.31			
SMSB4 It is very private and less security concern	0.80	9.81			
SMS5 It can be done everywhere	0.70	9.75			
ATM Banking and Financial Performance (ATMB)			0.844	0.524	0.818
ATMB1 It reduces personal, paper and operational cost	0.58	Fixed			
ATMB2 It is more reliable and easy access	0.83	9.89			
ATMB3 It reduces stress and saves time	0.75	9.21			
ATMB4 It increases cash withdrawer and deposits	0.71	10.31			
ATMB5 It gives accurate time on transactions	0.70	10.12			
NEFT Banking and Financial Performance (NEFTB)			0.814	0.474	0.713
NEFTB1 It is use to trigger payment	0.58	Fixed			
NEFTB2 To make online purchase	0.57	7.95			
NEFTB3 It reduces human teller errors and banks operation cost	0.66	8.09			
NEFTB4 It very fast	0.87	9.19			
NEFTB5 Easily accessible and less costly	0.70	9.09			

PC Banking and Financial Performance (PCB)			0.775	0.416	0.763
PCB1 Access, store, receive and process payment	0.71	Fixed			
PCB2 Access information about their bank accounts through exclusive network	0.51	6.60			
PCB3 There is no limitation on bank hours	0.82	6.19			
PCB4 Less time spent on customers	0.59	7.23			
PCB5 There is an insurance of security	0.51	8.17			

From Table 4.2, the results for all the measures in the study exceeded their recommended threshold indicating that the variables were good for the study construct. Specifically, financial performance had a Cronbach alpha of 0.816 and a composite reliability of 0.908. Considering the independent variable, online banking construct of had Cronbach alpha of 0.827 and a composite reliability of 0.878, mobile banking had a Cronbach alpha of 0.723 and a composite reliability of 0.860. Agency banking had a Cronbach alpha of 0.830 and a composite reliability of 0.803. Furthermore, SMS banking had a Cronbach alpha of 0.806 and a composite reliability of 0.847. ATM banking had a Cronbach alpha of 0.818 and a composite reliability of 0.844. NEFT had a Cronbach alpha of 0.713 and a composite reliability of 0.814. Lastly, PC banking had a Cronbach alpha of 0.763 and a composite reliability of 0.775.

Furthermore, the factor loading for each item under all the measurement construct was above 0.40, and their respective AVE exceeded the minimum threshold of 0.50 (Hair et al., 2013), except for agency banking, NEFT and PC banking construct which had an AVE close to 0.5 (0.457, 0.474 and 0.416 respectively). This outcome implies the existence of convergent validity. At this stage, all the variables has higher factor loadings which was includes in each

study construct (Hair et al., 2013). Based on the outcome of the validity and reliability test, it can be concluded that the constructs are valid and reliable.

4.3.2 Confirmatory Factor Analysis (CFA)

To identify the exact variable that fit perfectly with the three-model construct, confirmatory factor analysis was conducted using LISREL 8.50. The measures considered for a good model fit included; Comparative Fit Index (CFI >0.90), the Non-Normed Fit Index (NNFI >0.90), and the goodness of fit index (GFI >0.90). Chi-Square (χ^2), degree of freedom DF, normed chi-square ($\chi^2/df < 2.0$), Root Mean Square Error of Approximation (RMSEA < 0.8), standard root mean square residual (SRMR).

Table 4.3: Model Fit Indices

CFA model	χ^2	Df	<i>p</i> – value	χ^2/df	RMSEA	NNFI	CFI	SRMR	GFI
Online banking	5.25	4	0.00439	1.31	0.0699	0.910	0.964	0.0301	0.976
Mobile banking	5.35	4	0.00443	1.33	0.073	0.962	0.973	0.0233	0.979
Agency banking	5.20	4	0.00437	1.30	0.070	0.986	0.995	0.0144	0.989
SMS banking	5.45	4	0.00472	1.36	0.077	0.921	0.977	0.0234	0.968
ATM banking	5.40	4	0.00481	1.35	0.075	0.950	0.958	0.0311	0.979
NEFT	5.74	4	0.00481	1.43	0.079	0.977	0.969	0.0257	0.982
PC banking	8.90	4	0.00743	2.22	0.083	0.899	0.910	0.0421	0.943
Overall	71.29	39	0.00000	1.83	0.080	0.910	0.935	0.0615	0.915

Table 4.3 below shows the model fit indices for the individual and overall construct. To obtain a good model fit for the individual construct, all the variable online banking, mobile banking, agency banking, SMS banking, ATM banking, NEFT and PC banking were measures under the financial performance construct, none of the items was dropped at this stage. Furthermore,

all the variables or items left for each construct was combined (overall construct) to evaluate the model fit indices. Thus, for the all the model fit, χ^2/df was below the standard 2, the p-values was below the threshold of 0.05, RMSEA values was below 0.08, the NNFI values was greater than 0.90, the CFI values was greater than 0.90 and the RMR values was less than 0.07. With the exception of PC banking which the p-values was greater than the threshold of 0.05, RMSEA values was greater than 0.08, the NNFI values was less than 0.90, even though the CFI values was greater than 0.90 and the RMR values was less than 0.07. These values are in accordance with the conventional cut-off points of 0.05 and 0.08 values considered as good and acceptable fit as recommended by Lei and Wu (2008) and Bagozzi and Yi (2012). Based on this outcome, it can be established that the model is good and fits well, with the exception of PC banking.

4.3.3 Correlation Analysis of Variables

A correlation analysis was conducted to demonstrate the determination of control variable and the independent variable. Table 4.11 below illustrates the outcome of the correlation analysis of the study. The study considered three control variables to comprehend how they contribute to the financial performance.

Table 4.4: Correlation Matrix of the Study Variable

Construct	1	2	3	4	5	6	7	8
1. Online banking	1							
2. Mobile banking	.092	1						
3. Agency banking	.315**	.451**	1					
4. SMS banking	.311**	.487**	.534**	1				
5. ATM banking	.316**	.675**	.682**	1				
6. NEFT	.190**	.403**	.137**	.254**	1			
7. PC banking	.020**	.091**	.071**	.069**	-.147**	1		
8. Financial Performance	.321**	.348**	.456**	.452**	.356**	.234**	1	

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

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

From the table it can clearly observed that all the control variables were significant and they correlates with financial performance of the banks. Furthermore, Online banking correlates positively with financial performance ($P=0.00$). Mobile banking correlates positively with financial performance of the banks ($R=0.092$, $P=0.00$). Agency banking positively correlates with financial performance of banks ($R=0.315$, $P=0.00$). SMS banking positively correlates with financial performance of banks ($R=0.311$, $P=0.00$). ATM banking positively correlates with financial performance of banks ($R=0.316$, $P=0.00$). NEFT positively correlates with financial performance of banks ($R=0.315$, $P=0.00$). It can be observed that there exist a significant positive correlation between all the variables under the study, all at 1% level of significant. That is, all the variables of e-banking were positively correlated with financial performance of the selected banks in Kumasi Metropolis.

4.4 DESCRIPTIVE STATISTICS

The required to find the level of conformity on variable financial performance of banks as it is related to e-banking services. Descriptive statistics was used to test the e-banking services and financial performance of banks. The e-banking services shows relating to financial performance with the mean and standard deviation.

4.4.1 Online Banking and Financial Performance

This section looks at the data in respect to the study's goals. Participants were quizzed about online banking and financial performance. It uses a scale of 1-5 where 1 represent strongly disagree (SD) and 5 represent strongly agree (SA). The analysis was carried out using mean (M) and standard deviation (SD). The study result is as shown in table 4.5.

Table 4.5: Online Banking and Financial performance

Statement	SD	D	N	A	SA	Mean	Std. Dev.
Most of the customers use online banking	5 1.3%	5 1.3%	8 2.1%	33 8.6%	329 86.1%	4.76	0.724
Online banking makes my transactions very fast	6 1.6%	1 0.3%	16 4.2%	36 9.4%	323 84.6%	4.75	0.690
it is more convenient	13 3.4%	18 4.7%	10 2.6%	33 8.6%	308 80.6%	4.58	0.994
Available 24/7	8 2.1%	3 0.8%	20 5.2%	47 12.3%	304 76.6%	4.66	0.792
Access to bank websites anytime and anywhere	13 3.4%	3 0.8%	18 4.7%	24 6.3%	324 84.1%	4.68	0.876

Source: field survey, 2022

Table 4.5 shows online banking on financial performance of banks, 329 of the respondents strongly agree that most of the banks customers patronize online banking, also it has (M=4.76, SD=0.724). 323 of the respondents (84.6%) strongly agree that online banking makes transaction fast, it has (M=4.75, SD=0.690). 308 of the respondents (80.6%) strongly agree that online banking is very convenient, it has (M=4.58, SD=0.994). 304 (76.6%) strongly agree that online banking is available 24/7, it has (M=4.66, SD=0.792). Lastly, 324 of the respondents (84.1%) strongly agree that with online, customers can access the bank website anytime and anywhere, the assertion has (M=4.76, SD=0.724).

4.4.2 Mobile Banking and Financial Performance

This section looks at the data in respect to the study's goals. Participants were quizzed about mobile banking and financial performance. It uses a scale of 1-5 where 1 represent strongly disagree (SD) and 5 represent strongly agree (SA). The analysis was carried out using mean (M) and standard deviation (SD). The study result is as shown in table 4.6;

Table 4.6: Mobile Banking and Financial performance

Statement	SD	D	N	A	SA	Mean	Std. Dev.
It reduces time, transactional process cost and very simple	5 1.3%	6 1.3%	21 5.5%	48 12.6%	302 79.1%	4.66	0.765
Elimination of paper and human error	4 1%	11 2.9%	8 2.1%	23 6%	336 88%	4.77	0.720
Reduces operation expenses and administrative expenditure of the banks	4 1%	4 1%	8 2.1%	23 6%	343 89.8%	4.82	0.613
Easy to use and very authentic	6 1.6%	7 1.8%	11 2.9%	29 7.9%	329 86.1%	4.75	0.739
There is quick responses on complaints	9 2.4%	8 2.1%	14 3.7%	33 8.6%	318 83.2%	4.68	0.837

Source: field survey, 2022

Table 4.6 shows mobile banking parameter of the relative banks in Kumasi Metropolis, 302 of the respondents (79.1%) strongly agree that mobile banking reduces time, transactional process cost and very simple, the statement has (M=4.66, SD=0.765). 336 of the respondents (88%) strongly agree that mobile banking help eliminate paper and human error, the statement has

(M=4.77, SD=0.720). 343 of the respondents (89.8%) strongly agree that mobile banking help reduce operation expenses and administrative expenditure of the banks, the statement has (M=4.82, SD=0.613). furthermore, 329 of the respondents (86.1%) strongly agree that mobile banking is easy to use and very authentic, the statement has (M=4.75, SD=0.739). Finally, 318 of the respondents (83.2%) strongly agree that mobile banking provide quick response on complaints, the statement has (M=4.68, SD=0.837).

4.4.3 Agency Banking and Financial Performance

This section looks at the data in respect to the study's goals. Participants were quizzed about agency banking **and** financial performance. It uses a scale of 1-5 where 1 represent strongly disagree (SD) and 5 represent strongly agree (SA). The analysis was carried out using mean (M) and standard deviation (SD). The study result is as shown in table 4.7;

Table 4.7: Agency Banking and Financial performance

Statement	SD	D	N	A	SA	Mean	Std. Dev.
It requires less space and time	3 0.8%	13 3.4%	6 1.6%	25 6.5%	335 87.7%	4.77	0.713
I find the agency banking quite pleasant	3 0.8%	6 1.6%	7 1.8%	25 6.5%	341 89.3%	4.82	0.612
It ease the level of customers contact with the banks	4 1%	4 1%	18 4.7%	34 8.9%	322 84.3%	4.74	0.689
There is quick response on complain	2 0.5%	5 1.3%	7 1.8%	19 5%	349 91.4%	4.85	0.551
It reduces time spent and it very fast	4 1%	1 0.3%	7 1.3%	23 6%	347 90.8%	4.85	0.551

Source: field survey, 2023

Table 4.7 shows the agency banking parameter of the relative banks in Kumasi Metropolis, 335 of the respondents (87.7%) strongly agree that agency banking requires less space and time, it has (M=4.77, SD=0.713). 341 of the respondents (89.3%) strongly agree that agency banking is quite pleasant, it has (M=4.82, SD=0.612). 322 of the respondents (84.3%) strongly agree agency banking ease the level of customers contact with the banks, it has (M=4.74, SD=0.689). 349 of the respondents (91.4%) strongly agree that agency banking is quick response on complain, it has (M=4.85, SD=0.551). 347 of the respondents (90.8%) strongly agree that agency banking reduce time and it very fast, it has (M=4.85, SD=0.551).

4.4.4 SMS Banking and Financial Performance

This section looks at the data in respect to the study's goals. Participants were quizzed about SMS banking and financial performance. It uses a scale of 1-5 where 1 represent strongly disagree (SD) and 5 represent strongly agree (SA). The analysis was carried out using mean (M) and standard deviation (SD). The study result is as shown in table 4.8;

Table 4.8: SMS Banking and Financial performance

Statement	SD	D	N	A	SA	Mean	Std. Dev.
It helps in balance enquiry	4 1%	4 1%	16 4.2%	36 9.4%	322 84.3%	4.75	0.679
It increases mini statement request	5 1.3%		17 4.5%	78 20.4%	282 73.8%	4.65	0.688
It is used for electronic payment	10 2.6%	9 2.4%	14 3.7%	61 16%	288 75.4%	4.59	0.879
It is very private and less security concern	7 1.8%	9 2.4%	17 4.5%	51 13.4%	298 78%	4.63	0.827
It can be done everywhere	5 1.3%	5 1.3%	12 3.1%	45 11.8%	315 92.5%	4.73	0.706

Source: field survey, 2023

Table 4.8 shows the parameters of SMS banking of the various banks, 322 of the respondents (84.3%) strongly agree that SMS banking help in balance enquiry, it has (M=4.75, SD=0.679). 282 of the respondents (73.8%) strongly agree that SMS banking increase mini statement request, it has (M=4.65, SD=0.688). 288 of the respondents (75.4%) strongly agree that SMS banking is used for electronic payment, it has (M=4.59, SD=0.879). 298 of the respondents (78%) strongly agree that SMS banking is very private and less security concern, it has (M=4.63, SD=0.827). Last but not least, 315 of the respondents (92.5%) strongly agree that SMS banking can be done everywhere, it has (M=4.73, SD=0.706).

4.4.5 ATM Banking and Financial Performance

This section looks at the data in respect to the study's goals. Participants were quizzed about ATM banking and financial performance. It uses a scale of 1-5 where 1 represent strongly disagree (SD) and 5 represent strongly agree (SA). The analysis was carried out using mean (M) and standard deviation (SD). The study result is as shown in table 4.9:

Table 4.9: ATM Banking and Financial performance

Statement	SD	D	N	A	SA	Mean	Std. Dev.
It reduces personal, paper and operational cost	8 2.1%	11 2.9%	13 3.4%	52 13.6%	298 78%	4.63	0.853
It is more reliable and easy access	10 2.6%	11 2.9%	10 2.6%	38 9.9%	313 81.9%	4.66	0.876
It reduces stress and saves time	7 1.8%	9 2.4%	16 4.2%	42 11%	308 80.6%	4.66	0.819
It increases cash withdrawer and deposits	3 0.8%	3 0.3%	14 3.7%	34 8.9%	329 86.1%	4.79	0.605
It gives accurate time on transactions	2 0.5%	9 2.4%	15 3.9%	87 22.8%	269 70.4%	4.60	0.724

Source: field survey, 2023

Table 4.9 shows the parameter of ATM banking, 298 of the respondents (78%) strongly agree that ATM banking help reduce personal, paper and operational cost, it has (M=4.63, SD=0.853). 313 of the respondents (81.9%) strongly agree ATM banking is more reliable and easy access, the statement has (M=4.66, SD=0.876). 308 of the respondents (80.6%) strongly agree that ATM banking reduces stress and saves time, the statement has (M=4.66, SD=0.819). 329 of the respondents (86.1%) strongly agree that ATM banking increases cash withdrawer, the statement has (M=4.79, SD=0.605). Last but not least, 269 of the respondent (70.4%) strongly agree that ATM banking gives accurate time on transaction, the statement has (M=4.60, SD=0.724).

4.4.6 National Electronic Fund Transfer and Financial Performance

This section looks at the data in respect to the study's goals. Participants were quizzed about national electronic fund transfer and financial performance. It uses a scale of 1-5 where 1 represent strongly disagree (SD) and 5 represent strongly agree (SA). The analysis was carried out using mean (M) and standard deviation (SD). The study result is as shown in table 4.10;

Table 4.10: National Electronic Fund Transfer and Financial performance

Statement	SD	D	N	A	SA	Mean	Std. Dev.
It is use to trigger payment	5 1.3%	11 2.9%	12 3.1%	46 12%	308 80.6%	4.68	0.783
To make online purchase	7 1.8%	12 3.1%	7 1.8%	40 10.5%	316 82.7%	4.69	0.813
It reduces human teller errors and banks operation cost	9 2.4%	14 3.7%	11 2.9%	53 13.9%	295 77.2%	4.60	0.896
It very fast	5 1.3%	16 4.2%	11 2.7%	40 10.5%	310 81.2%	4.66	0.832
Easily accessible and less costly	9 2.4%	11 2.7%	8 2.1%	24 6.3%	330 86.4%	4.71	0.839

Source: field survey, 2023

Table 4.10 shows the parameters of National Electronic Fund Transfer, 308 of the respondents (80.6%) strongly agree NEFT is use to trigger payment, it has (M=4.68, SD=0.783). 316 of the respondents (82.7%) strongly agree that NEFT is use to make online purchase, the statement has (M=4.69, SD=0.813). 295 of the respondent (77.2%) strongly agree NEFT reduces human teller errors and banks operation cost, it has (M=4.60, SD=0.896). 310 of the respondents (81.2%) strongly agree that NEFT is very fast, the statement has (M=4.66, SD=0.832). Lastly, 330 of the respondents (86.4%) strongly agree that NEFT is easily accessible and less costly, it has (M=4.71, SD=0.839).

4.4.7 PC Banking and Financial Performance

This section looks at the data in respect to the study's goals. Participants were quizzed about PC banking and financial performance. It uses a scale of 1-5 where 1 represent strongly disagree (SD) and 5 represent strongly agree (SA). The analysis was carried out using mean (M) and standard deviation (SD). The study result is as shown in table 4.11:

Table 4.11: PC Banking and Financial performance

Statement	SD	D	N	A	SA	Mean	Std. Dev.
Access, store, receive and process payment	7 1.8%	9 2.4%	11 2.9%	45 11.8%	310 81.2%	4.68	0.799
Access information about their bank accounts through exclusive network	18 4.7%	4 1%	5 1.3%	36 9.4%	319 82.5%	4.66	0.939
There is no limitation on bank hours	2 0.5%	8 2.1%	6 1.6%	47 12.3%	319 83.5%	4.76	0.634
Less time spent on transactions	1 0.3%	8 2.1%	8 2.1%	54 14.1%	311 81.4%	4.74	0.625
There is an insurance of security	2 0.5%	8 2.1%	9 2.4%	41 10.7%	322 84.3%	4.76	0.647

Source: field survey, 2023

Table 4.11 shows the parameters of PC banking, 310 of the respondents (81.2%) strongly agree that PC banking help to access, store, receive and process payment, it has ($M=4.68$, $SD=0.799$). 319 of the respondents (82.5%) strongly agree access information about their bank accounts through exclusive network, it has ($M=4.66$, $SD=0.939$). 319 of the respondents (83.5%) strongly agree that with PC banking, there is no limitation on bank hours, the statement has ($M=4.76$, $SD=0.634$). 311 of the respondents (81.4%) strongly agree that PC banking ensure less time spent on transactions, the statement has ($M=4.74$, $SD=0.625$). 322 of the respondents (84.3%) strongly agree that PC banking provide an insurance of security, it has ($M=4.76$, $SD=0.647$).

4.3.8 Financial Performance

This section looks at the data in respect to the study's goals. Participants were quizzed about financial performance of banks. It uses a scale of 1-5 where 1 represent strongly disagree (SD) and 5 represent strongly agree (SA). The analysis was carried out using mean (M) and standard deviation (SD). The study result is as shown in table 4.12:

Table 4.12: Financial performance

Statement	SD	D	N	A	SA	Mean	Std. Dev.
High customer retention base	4 1%	4 1%	9 2.4%	37 9.7%	323 85.9%	4.78	0.638
It increases efficiency and effectiveness of the banks	8 2.1%	13 3.4%	12 3.1%	29 7.9%	320 83.8%	4.68	0.860
Increase profits margin and liquidity	4 1%	8 2.1%	9 2.4%	32 8.4%	329 86.1%	4.76	0.693
Increases the size and speed of cash flows	3 0.8%	1 0.3%	14 3.7%	20 5.2%	344 90.1%	4.84	0.567
It leads to the increment of more customers and productivity	1 0.3%	2 0.5%	12 3.1%	37 9.7%	330 86.4%	4.81	0.527

Source: field survey, 2023

Table 4.12 shows the parameters of financial performance, 323 of the respondents (85.9%) strongly agree that all e-banking activities lead to high customer retention base, it has ($M=4.78$, $SD=0.638$). 320 of the respondents (83.8%) strongly agree that the e-banking services lead to increase in efficiency and effectiveness of the banks, it has ($M=4.68$, $SD=0.860$). 329 of the respondents (86.1%) strongly agree that e-banking services lead to increase in profits margin and liquidity of the banks, the statement has ($M=4.76$, $SD=0.693$). 344 of the respondents (90.1%) strongly agree that e-banking services increase the size and speed of cash flows, the statement has ($M=4.84$, $SD=0.567$). Lastly, 330 of the respondents (86.4%) strongly agree that e-banking services increase customers as well as productivity of the banks, the statement has ($M=4.81$, $SD=0.527$).

4.5 Test of Hypothesis

The hypothesis was tested using a linear regression analysis. The F and P values are used to determine the importance of the independent on the dependent variable. The alternative hypothesis (H_1) was accepted while the null hypothesis (H_0) was rejected for those with a sig level below (0.01). The R^2 will be used to describe the size of the independent variable's influence on the dependent variable, and the R value will demonstrate the relationship between the two variables.

4.5.1 Multiple Regression Analysis between E-banking services and Financial Performance

Table 4.13.1a: E-banking Banking Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.997 ^a	.995	.994	.22471

a. Predictors: (Constant), e-banking services

The table provide the output of the model summary of a regression analysis. The result support the findings on analysis as the correlation coefficient between e-banking services being a primary factor that leads to financial performance of Banks. The ($R=.997$) and ($R^2=.995$). This implies a strong positive liner relationship, since the value of coefficients of determination is 99.5%. It indicates that e-banking services are jointly responsible for 99.5% of variation in financial performance of banks

Table 4.13.1b: E-banking Services ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.181	35	.005	2.185	.000 ^b
	Residual	.817	346	.002		
	Total	.997	381			

a. Dependent Variable: Financial performance

b. Predictors: (Constant), E-banking

The result of analysis of variance (ANOVA) shows that the estimated regression model sufficiently fitted the set of observed data with the value of F-statistic is 2.185 at a level of significant of 0.000 which is less than P-value of 0.05 that had been adopted as threshold for making decisions and inferences at 95% level of confidence. This implies that the coefficient of determination that indicates the explanatory power of e-banking services on financial performance of banks.

Table 4.12.2c: E-Banking Services Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	5.881	.096		51.086	.000
Online banking	.014	.004	.197	3.630	.000
Mobile banking	.002	.003	.024	.477	.000
Agency banking	.005	.009	.013	.245	.000
SMS banking	.015	.021	.017	.338	.000
ATM banking	.019	.017	.026	.507	.000
NEFT	.012	.013	.009	.184	.000
PC banking	.021	.024	.021	.425	.271

a. Dependent Variable: Financial performance

The table above shows the degree of influence e-banking services has on financial performance of banks. The statistical results are presented as follows: e-banking services (online banking; $B=0.012$, $t=3.630$; $p<0.005$; mobile banking; $B=0.00$, $t=.477$; $p<0.005$; agency banking; $B=0.005$, $t=.245$; $p<0.005$; SMS banking; $B=0.015$, $t=.338$; $p<0.005$; ATM banking; $B=0.019$, $t=.507$; $p<0.005$; NEFT; $B=0.012$, $t=.184$; $p<0.005$; PC banking; $B=0.021$, $t=.425$; $p>0.005$). The results show that the e-banking services is a significant predictor of financial performance of banks, with the exception.

Linear regression model given as

$$Y = a + BX$$

Where Y = Dependent variable

a = constant

BX = coefficient of X

Hence, financial performance. = $5.881 + 0.014 + 0.002 + 0.005 + 0.015 + 0.019 + 0.012 + 0.021$

From the regression analysis of the effect of e-banking services has on financial performance, the significant level for financial performance is less than 0.01 hence the null hypothesis H_0 = "There is statistical significant relationship between mobile banking and financial performance." Is rejected. And with the PC banking the significant level for financial performance is more than 0.01. Hence the null hypothesis H_0 = "There is no statistical significant relationship between PC banking and financial performance." Fail to rejected.

Table 4.14 Summary of Hypothesis testing

NO	HYPOTHESIS	TEST RESULTS
1	Ho1: There is a positive significant effect between online banking and financial performance.	Rejected
2	Ho2: There is a positive significant effect between mobile banking and financial performance.	Rejected
3	Ho3: There is a positive significant effect between agency banking and financial performance.	Rejected
4	Ho4: There is a positive significant effect between SMS banking and financial performance.	Rejected
5	Ho5: There is a positive significant effect between ATM banking and financial performance.	Rejected
6	Ho6: There is a positive significant effect between NEFT and financial performance.	Rejected
7	Ho7: There is a positive significant effect between PC banking and financial performance.	Fail to rejected

The results from the analysis demonstrate that online banking, mobile banking, agency banking, SMS banking, ATM banking and NEFT are statically significant predictors of financial performance of banks. Whiles PC banking has no statistical significant relationship financial performance. This relates to empirical evidence of Offei & Nuamah (2016) that online banking, mobile banking, SMS banking and ATM banking has a positive significant impact of the financial performance of banks. The overall advanced in the information provided point out that e-banking services play a positive significant value to financial performance of banks (Nwankwo and Agbo, 2021).



CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

This chapter present summary of the main findings and the data collected are in relation to the objectives. It provides conclusion and appropriate recommendation to the study.

5.2 SUMMARY OF FINDINGS

The responses were analyzed through the use of table, percentages, chart, and regression to depict the response of the respondents. It illustrates the findings of the participants whom the questionnaires remained administered to throughout the field surveys. From the findings most of the participants are between the age of 31-40 years and they are matured enough to have adequate knowledge on the study. Also, the male participants are more than the female participants. From the selected banks, most of the participants are from ADB, followed by GCD, then Absa Bank, and Fidelity bank. And majority of the participants have engage in e-banking services for 10 years or more. On the other hand, the discussion of the results shows the following major findings.

5.2.1 Online Banking and Financial Performance

The result from the findings indicates that most of the banks customers patronize online banking. They also indicates that that online banking makes transaction fast, and it is very convenient. The strongly agree that online banking is available 24/7 and customers can access the bank website anytime and anywhere. With the mean (M) and standard deviation (SD) score, online banking had a high values, in effects the participants perceive online banking to be more positive. The correlations analysis indicates a positive correlations between online banking and financial performance of banks with P value of 0.00. This relates to the empirical evidence of Kagendo (2015), that online banking has positive significant relationship with financial

performance of the banks. Precisely, online banking construct had a Cronbach alpha of 0.827 and a composite reliability of 0.878. Also, the factor loading for each item under online banking construct was above 0.40, and their respective AVE exceeded the minimum threshold of 0.50. On the outcome of the validity and reliability test, it can be concluded that the constructs is valid and reliable. Furthermore, from the findings of the variable measures considered for a good model fit indices revealed that Comparative Fit Index is ($CFI > 0.90$), the Non-Normal Fit Index is ($NNFI > 90$) and the goodness of fit index is ($GFI > 0.90$), online banking was considered good model fits.

5.2.2 Mobile Banking and Financial Performance

From the findings, most of the participants indicates that mobile banking reduces time, transactional process cost and it very simple. As well they indicates that mobile banking help eliminate paper and human error. They further indicates that mobile banking help reduce operation expenses and administrative expenditure of the banks, it is easy to use and very authentic. Lastly, most of the participants indicates that mobile banking provide quick response on complaints. Nonetheless, mobile banking indicates a high mean (M) and standard deviation (SD) score, which signifies that mobile banking is perceived to be more positive. The analysis also revealed a positive correlations between mobile banking and financial performance of banks with P value of 0.00. This relates to the study of Zhang et al (2018), that mobile banking has a significant effects on financial performance. Furthermore, mobile banking construct had a Cronbach alpha of 0.723 and a composite reliability of 0.860. Also, the factor loading for each item under mobile banking construct was above 0.40, and their respective AVE exceeded the minimum threshold of 0.50. On the outcome of the validity and reliability test, it can be concluded that the constructs is valid and reliable. Furthermore, from the findings of the variable measures considered for a good model fit indices revealed that Comparative Fit Index

is (CFI>0.90), the Non-Normal Fit Index is (NNFI>90) and the goodness of fit index is (GFI>0.90), mobile banking was considered good model fits.

5.2.3 Agency Banking and Financial Performance

From the findings, most of the participants strongly agree that agency banking requires less space and time. Also, it is quite pleasant and it ease the level of customers contact with the banks halls. Furthermore, agency banking is quick response on complain, it reduce time and it very fast. Furthermore, agency banking indicates a high mean (M) and standard deviation (SD) score, which signifies that agency banking is perceived to be more positive. The analysis also revealed a positive correlations between agency banking and financial performance of banks with P value of 0.00. This relates to the empirical evidence of Salome-Mwongeli (2013), that agency banking has a significant effects on the performance of banks. Furthermore, agency banking construct had a Cronbach alpha of 0.830 and a composite reliability of 0.803. Also, the factor loading for each item under agency banking construct was above 0.40, and AVE is close to 0.5. On the outcome of the validity and reliability test, it can be concluded that the constructs is valid and reliable. Furthermore, from the findings of the variable measures considered for a good model fit indices revealed that Comparative Fit Index is (CFI>0.90), the Non-Normal Fit Index is (NNFI>90) and the goodness of fit index is (GFI>0.90), agency was considered good model fits.

5.2.4 SMS Banking and Financial Performance

The analysis from most of the participants revealed SMS banking help in balance enquiry and it increase mini statement request. As well, SMS banking is used for electronic payment. SMS banking is very private and less security concern. Last of all, SMS banking can be done everywhere. Besides, SMS banking indicates a high mean (M) and standard deviation (SD) score, which signifies that SMS banking is perceived to be more positive. The analysis also

revealed a positive correlations between SMS banking and financial performance of banks with P value of 0.00. This relates to the empirical evidence of Bamoriya & Singh (2012), that SMS banking has a significant effects of financial performance. Besides, SMS banking construct had a Cronbach alpha of 0.806 and a composite reliability of 0.847. Also, the factor loading for each item under SMS banking construct was above 0.40, and their respective AVE exceeded the minimum threshold of 0.50. On the outcome of the validity and reliability test, it can be concluded that the constructs is valid and reliable. Furthermore, from the findings of the variable measures considered for a good model fit indices revealed that Comparative Fit Index is ($CFI > 0.90$), the Non-Normal Fit Index is ($NNFI > 90$) and the goodness of fit index is ($GFI > 0.90$), SMS banking was considered good model fits.

5.2.5 ATM Banking and Financial Performance

From the findings, it indicates that most respondents strongly agree that ATM banking help reduce personal, paper and operational cost. As well ATM banking is more reliable and easy access, is also reduces stress and saves time. Furthermore, ATM banking increases cash withdrawer, lastly it gives accurate time on transaction. More to it, ATM banking indicates a high mean (M) and standard deviation (SD) score, which signifies that ATM banking is perceived to be more positive in the banking sector. The correlation analysis also revealed a positive correlations between ATM banking and financial performance of banks with P value of 0.00. According to Mwatsika (2016), adoption of ATM banking help promote the financial performance of banks. Further, ATM banking construct had a Cronbach alpha of 0.818 and a composite reliability of 0.844. The factor loading for each item under SMS banking construct was above 0.40, and their respective AVE exceeded the minimum threshold of 0.50. On the outcome of the validity and reliability test, it can be concluded that the constructs is valid and reliable. Also, from the findings of the variable measures considered for a good model fit indices revealed that Comparative Fit Index is ($CFI > 0.90$), the Non-Normal Fit Index is

(NNFI>90) and the goodness of fit index is (GFI>0.90), ATM banking was considered good model fits.

5.2.6 National Electronic Fund Transfer and Financial Performance

From the findings, most of the participants strongly agree that NEFT is use to trigger payment, as well is use in making online purchases, NEFT is very fast and is easily accessible and less costly. On the part of the banks NEFT reduces human teller errors and banks operation cost. In addition, NEFT indicates a high mean (M) and standard deviation (SD) score, which signifies that NEFT is perceived to be more positive in the banking sector. The correlation analysis also revealed a positive correlations between NEFT and financial performance of banks with P value of 0.00. This is in line with Bahia (2007) study, that NEFT such as E-Zwish, credit card, debits cards and payroll payments help promote the financial performance of banks. Additionally, NEFT construct had a Cronbach alpha of 0.713 and a composite reliability of 0.814. The factor loading for each item under NEFT construct was above 0.40, and AVE is close to 0.5. Also, from the findings of the variable measures considered for a good model fit indices revealed that Comparative Fit Index is (CFI>0.90), the Non-Normal Fit Index is (NNFI>90) and the goodness of fit index is (GFI>0.90), NEFT was considered good model fits.

5.2.7 PC Banking and Financial Performance

From the findings, most participants indicates that PC banking help to access, store, receive and process payment. Also, PC banking help access information about their bank accounts through exclusive network. Furthermore, they indicates that, with PC banking there is no limitation on bank hours. PC banking ensure less time spent on transactions and it provide an insurance of security. Furthermore, PC banking indicates a high mean (M) and standard deviation (SD) score, which signifies that PC banking is perceived to be more positive in the

banking sector. The correlation analysis also revealed a positive correlations between PC banking and financial performance of banks with P value of 0.00. This is in line with Vila et al (2013) study, that PC banking has a negative relationship with financial success of banks especially in Africa. Moreover, PC banking construct had a Cronbach alpha of 0.763 and a composite reliability of 0.775. The factor loading for each item under PC banking construct was above 0.40, and AVE is close to 0.5. Also, from the findings of the variable measures considered for a good model fit indices revealed that Comparative Fit Index is ($CFI < 0.90$), the Non-Normal Fit Index is ($NNFI < 90$) and the goodness of fit index is ($GFI < 0.90$), PC banking was not considered good model fits.

The effect was measured using a multiple regression analysis. The outcome of the study revealed a strong positive relationship e-banking services (online banking, mobile banking, agency banking, SMS banking, ATM banking, NEFT) and financial performance of the banks, with the value of ($R = 0.997$, $R^2 = 0.995$ and the $P < 0.01$), indicating 99.5% of variation in financial performance of banks. Also, the significant value of all the e-banking is 0.00 which indicates a major impact on financial performance. With the exception of PC banking with significant value of more than 0.00.

5.3 CONCLUSION

The study established that e-banking services help promote the financial performance of banks in the Kumasi Metropolis. In other words, e-banking services such as online banking, mobile banking, agency banking, SMS banking, ATM banking, NEFT are statistically significant predictors of financial performance of banks in the Kumasi Metropolitan Assembly. On the other hand, PC banking is not statistically significant predictors of financial performance of banks in the Kumasi Metropolitan Assembly, as there is not much practice in Ghana. It also implies that the banks do not rely on then as e-banking services to improve financial performance. There is as well as limited number of customers to access PC banking system.

The usage of e-banking services provides numerous benefits which includes increase profits and liquidity of the banks, increase efficiency and effectiveness of banks, it increase in size and speed of cash flows, increase customers as well as productivity of the banks as well as higher customer's retentions.

5.4 RECOMMENDATIONS

Based on the finding, the study recommends the following:

Banks should try as much as possible to overcome safety issues related to cybercrime, fraud and theft. There is need for the banks to collaborate with other stakeholders in addressing the issue. They need to invest in better risk management practice towards e-banking services and operations. As well educate the customers on the approach to tackle the crime and the fraud. Also, banks has the duty of providing the customers with confidence in the e-banking services as to assured them of the security and the privacy they need in the patronage of the services. the banks should has a technological means to protect the customers as well as themselves from fraudulent activities and unauthorized usage of customers' accounts or cards.

The government should support by put up legislation and provide infrastructure to provide smooth environment for e-banking services to strive among the banking sector. Also the policy makers need to consider e-banking services as a major required when putting in guidelines for the banking industry. This would have a major influence the use of technology in the banking industry for performance index. The government and stakeholders should take on partners to highlight it technological capacity, as banks continued to increase leverage on technology to increase performance. In as much as the performance of banks increase, it has an effects on the economic growth of the country. Therefore, it is appropriate for stakeholders to put on procedures to help with the course of the beaning services.

The banks should keep working in cycle with mobile network companies to craft innovation services that are tailored to their target market to promote e-banking services. The banks should

cycle with other institution to helped use e-banking services for bill payment and other activities, this will improve the customer base and improve financial performance, as well it would bring more stakeholders on board.

The should increase awareness on the e-banking services and advocates for more fast, safe and convenience services for customers to access and utilizes it. The awareness campaign should ensures the customers becomes aware of the benefit of the e-banking services. From the study the e-banking services increase financial performance, therefore it is recommend that banks must force on it by getting right technology in achieving it. Acquiring appropriate technology would help banks achieve it vision and objectives.

The banks management should lower their transaction fees and commission to increase the customer based this will help them get more revenue and profits. Usually customers do not like high transactions fees and it desist them into engaging in e-banking services. in as much as quality services is provided by the banks, there should be a way to reduce the cost of the transaction activities this as well will the customers in use of the e-banking services. The banks should introduced fixed charges or capped charges on e-banking services to encourage high patronage.

5.5 SUGGESTION FOR FUTURE STUDIES

A similar study should be done to determine the e-banking services and financial performance of the banking sector in general. Secondly, there should be a study e-banking services of banks and its effects on economic development in Ghana.

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APPENDIX



KNUST School of Business

Department of Marketing and Corporate Strategy

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Dear Respondent,

SURVEY ON EFFECT OF E-BANKING ON THE FINANCIAL PERFORMANCE OF BANKS IN GHANA

I am Winnifred Opoku, a student at the Kwame Nkrumah University of Science and Technology in Kumasi-Ghana. As part of the data collection process on the project titled "Effect of E-banking on the Financial Performance of Bank in Ghana “Evidence from Banks within Kumasi Metropolis, Adum to be Precise ". I am writing kindly to request your participation in the survey by completing the questionnaire, which is purposely to sample the views of workers and customers of selected banks in Adum in the Kumasi Metropolitan Assembly. The purpose of this study is to examine “Effect of E-banking on the Financial Performance of Bank in Ghana”.

The findings of the study are expected to add knowledge to the existing academic literature, which would be used for academic purposes and would also help explain the e-banking services

such as Online Banking, Mobile Banking, ATMs Banking, Agency Banking, SMS Banking, NEFT, and PC Banking on how it stimulated the financial performance among banks.

No individual information will be disclosed and all results will be presented as aggregate summary data for academic purposes. It would take a participant approximately 10 to 15 minutes to fill out the questionnaire.

Thank you for your cooperation.

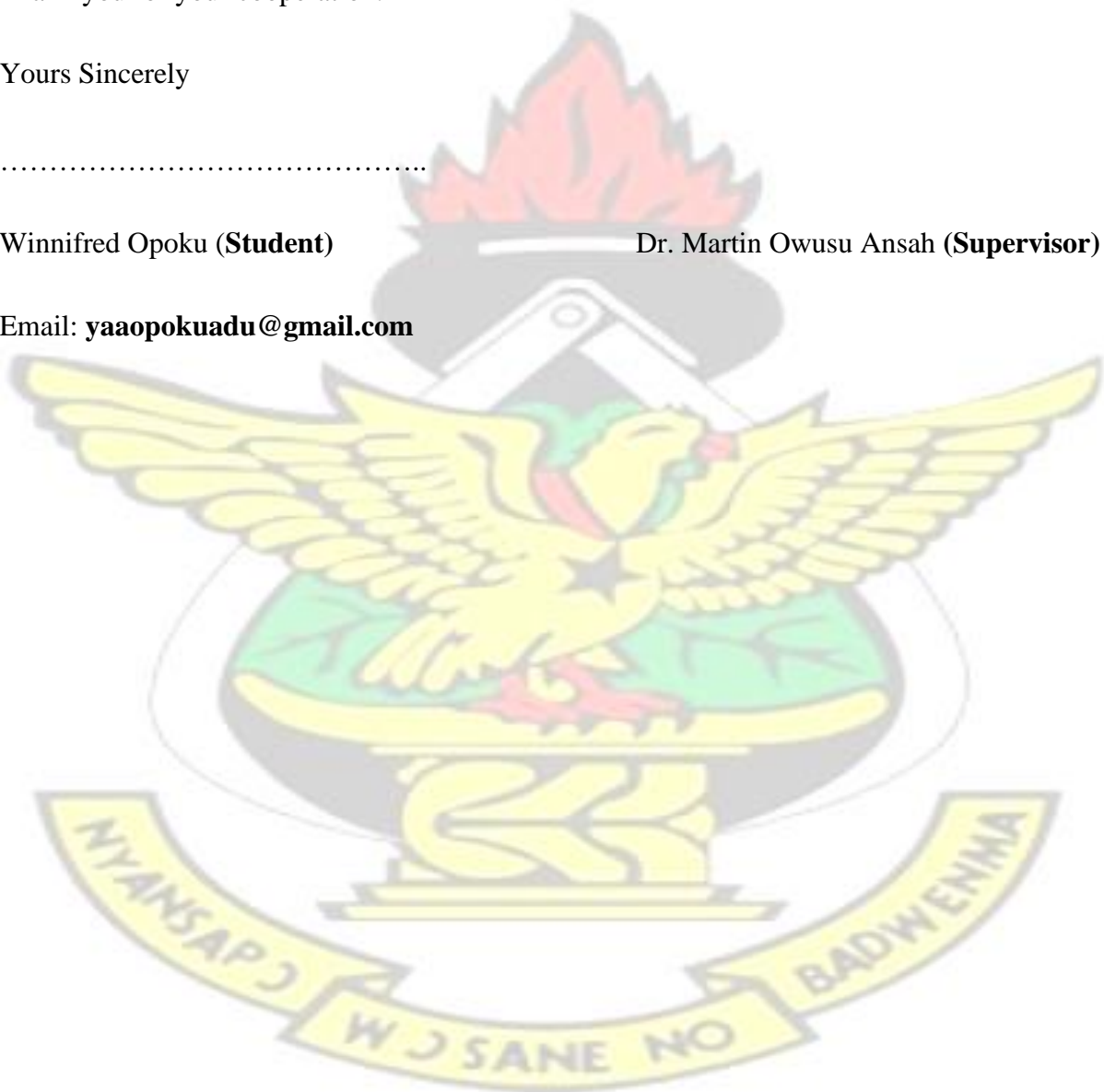
Yours Sincerely

.....

Winnifred Opoku (**Student**)

Dr. Martin Owusu Ansah (**Supervisor**)

Email: yaaopokuadu@gmail.com



APPENDIX A: CONSENT FORM

I acknowledge that, I understand the research and that the study has fully been explained to me.

I am also aware that, any information I offer to the researcher would be used in the research report. I further concede that the researcher has assured me the following:

- That my participation in this research is voluntary.
- That my details or information will remain anonymous throughout the research study as well as in the research thesis.
- That I can decline to answer any question about which I feel uncomfortable without any compulsion.

I hereby consent to be a participant in the research study titled: Effect of E-banking on the Financial Performance of Bank in Ghana “Evidence from Banks within Kumasi Metropolis, Adum to be Precise.

Signature (Please Sign with an [X] or [√])



QUESTIONNAIRE

Effect of E-Banking on The Financial Performance of Banks in Ghana “Evidence From Banks Within Kumasi Metropolis, Adum to be Precise

Please answer the following questions by marking the appropriate answer(s) with an [X] or [✓]. This questionnaire is strictly for research purposes only.

SECTION A: GENERAL INFORMATION

The section is asking for your background information. Please indicate your answer by ticking (✓) Or (X) on the appropriate box.

A1. Please indicates your age category

20-30 years	
31-40 years	
41-50 years	
Above 50 years	

A2. Please indicates your gender?

Male	
Female	

A3. Please indicates your Bank

Ghana Commercial Bank	
Agriculture Development Bank	
Absa Bank	
Fidelity Bank	
Others please specify	

A4. Please indicates the number of years the bank engage in e-banking services?

Less than a year	
1-10 years	
10-20 years	
More than 20 years	

Below are statement about online banking, Mobile Banking, ATMs Banking, Agency

Banking, SMS Banking, NEFT, and PC Banking all measured on a 1 to 5 point Likert scale.

SECTION B: ONLINE BANKING AND FINANCIAL PERFORMANCE

Please indicate to what extent you agree/disagree with each statement as the statement relates to the perceived organizational change management.

1= Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

	Online Banking	1	2	3	4	5
OB1	Most of the customers use online banking					
OB2	Online banking makes my transactions very fast					
OB3	it is more convenient					
OB4	Available 24/7					
OB5	Access to bank websites anytime and anywhere					

SECTION C: MOBILE BANKING AND FINANCIAL PERFORMANCE

Please indicate to what extent you agree/disagree with each statement as the statement relates to the perceived organizational change management.

1= Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

	Mobile Banking and Financial Performance	1	2	3	4	5
MB1	It reduces time, transactional process cost and very simple					
MB2	Elimination of paper and human error					
MB3	Reduces operation expenses and administrative expenditure of the banks					
MB4	Easy to use and very authentic					
MB5	There is quick responses on complaints					

SECTION D: AGENCY BANKING AND FINANCIAL PERFORMANCE

Please indicate to what extent you agree/disagree with each statement as the statement relates to the perceived organizational change management.

1= Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

	Agency Banking and Financial Performance	1	2	3	4	5
AB1	It requires less space and time					
AB2	I find the agency banking quite pleasant					
AB3	It ease the level of customers contact with the banks					
AB4	There is quick response on complain					
AB5	It reduces time spent and it very fast					

SECTION E: SMS BANKING AND FINANCIAL PERFORMANCE

Please indicate to what extent you agree/disagree with each statement as the statement relates to the perceived organizational change management.

1= Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

	SMS Banking and Financial Performance	1	2	3	4	5
SMSB1	It helps in balance enquiry					
SMSB2	It increases mini statement request					
SMSB3	It is used for electronic payment					
SMSB4	It is very private and less security concern					
SMSB5	It can be done everywhere					

SECTION F: ATM BANKING AND FINANCIAL PERFORMANCE

Please indicate to what extent you agree/disagree with each statement as the statement relates to the perceived organizational change management.

1= Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

	ATM Banking and Financial Performance	1	2	3	4	5
ATMB1	It reduces personal, paper and operational cost					
ATMB2	It is more reliable and easy access					
ATMB3	It reduces stress and saves time					
ATMB4	It increases cash withdrawer and deposits					
ATMB5	It gives accurate time on transactions					

SECTION G: NATIONAL ELECTRONIC FUND TRANSFER

Please indicate to what extent you agree/disagree with each statement as the statement relates to the perceived organizational change management.

1= Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

	National Electronic Fund Transfer	1	2	3	4	5
NEFTB1	It is use to trigger payment					
NEFTB2	To make online purchase					
NEFTB3	It reduces human teller errors and banks operation cost					
NEFTB4	It very fast					
NEFTB5	Easily accessible and less costly					

SECTION H: PC BANKING AND FINANCIAL PERFORMANCE

Please indicate to what extent you agree/disagree with each statement as the statement relates to the perceived organizational change management.

1= Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

	PC Banking and Financial Performance	1	2	3	4	5
PCB1	Access, store, receive and process payment					
PCB2	Access information about their bank accounts through exclusive network					
PCB3	There is no limitation on bank hours					
PCB4	Less time spent on customers					
PCB5	There is an insurance of security					

SECTION I: FINANCIAL PERFORMANCE

Please indicate to what extent you agree/disagree with each statement as the statement relates to the perceived organizational change management.

1= Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree

	Financial Performance	1	2	3	4	5
FP1	High customer retention base					
FP2	It increases efficiency and effectiveness of the banks					
FP3	Increase profits margin and liquidity					
FP4	Increases the size and speed of cash flows					
FP5	It leads to the increment of more customers and productivity					

If you have any comment, please write the below

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Thank you for completing the questionnaire