THE IMPACT OF ELECTRONIC BANKING ON THE PROFITABILITY AND GROWTH OF THE GHANAIAN BANKING SECTOR:

(A CASE STUDY OF FIDELITY BANK)

By

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DECLARATION

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Kwame Nkrumah University of Science and Technology, Kumasi or any other educational institution, except where due acknowledgment is made in the thesis

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ABSTRACT

Electronic delivery channels such as Automated Teller Machines (ATMs), telephone banking and online banking are options that have been made available by banks to serve their customers better. Customers do not have to transact business with their banks only through face to face contact. Information technology has brought about changes that have transformed the structure of the banking industry. With the transformation, customers have become more sophisticated, and new products have been made available. This has also resulted in changes in cost structure and an improvement in competition among banks profitability. Therefore, this study examined the impact of electronic banking on the profitability and growth of the Ghanaian banking sector. To explore the perceptions of employees about the introduction of electronic banking services, to determine the extent to which electronic banking contributes to profitability and growth in the banking sector, to determine the challenges encountered with the use of electronic banking in Banks in Ghana and to determine the types of electronic banking services provide by Fidelity bank.

In achieving the above objectives, a survey was carried out using well-structured questionnaires, targeting the banks as the population, however, fidelity bank was used as the case study with a sample size of 83 using quantitative approach. Statistical Package for the Social Sciences (SPSS) and Microsoft excel were used for the data entry and analysis. After the analysis the findings indicated that the employees have a perception that Quality of services and products have improved with the use of electronic banking systems, customers are satisfied with services provided through the use of electronic banking system and the competition among banks has intensified with more banks adopting the use of electronic banking systems. Secondly, electronic banking contributes to profitability and growth in the banking sector. E-banking system has increased the productivity of the bank, customers have fewer complaints with the use of electronic banking system. E-banking system has positively impacted on the growth of the bank and the availability of electronic banking system (ATM, Mobile banking etc.) has reduced the number of customers that come to the banking hall. Furthermore, the challenges that are encountered with the use of electronic banking in banks in Ghana were frequent service interruptions and system failures, security features delaying access to e-banking services and issues with access to internet connection. Finally, the use of electronic banking has a significant impact on profitability and growth of Banks.

Keyword: Automated Teller Machines, E-banking, Telephone Banking and Online Banking

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LIST OF ABBREVIATIONS

ATM	- Automated Teller Machine
BOG	-Bank of Ghana
SMS	-Short Messaging Service
SPSS	- Statistical Packages for Social Sciences

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DEDICATION

I dedicate this Thesis to my dear wife, Mrs. Edith Akorfa Okudjeto, my parents, Mr. Richard Quao and Ms. Comfort Awuku and my entire family am eternally grateful for providing me with unfailing support, prayers and continuous encouragement throughout my studies. This accomplishment would not have been possible without you all. Thank you and God bless you.

CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

It is a fact that ever since introduction of information technology (IT) and its other related new technologies like computers and the Internet were introduced, there have been a good number of organizations who are making significant investments in them. Organizations such as banks continue to pursue any available opportunity such as IT to improve their competitive advantage, (Appiahene et al, 2018). Also, Information technology has globally turned out to be a key component in economic growth of many developed and developing countries in the world. Many improvements and innovations have taken place in the world in recent years and the most striking and one of the most prominent is the growth of information communication technology (Baffour, A.B 2015).

In the Ghanaian banking industry, Information technology has now been recognized as the life wire of banks in the financial sector as it facilitates and supports the financial performance of banks in the country. This makes it necessary to embrace information technology. Information communication technology has been involved in most aspect of human life, creating a major advancement of social progress and the dynamic development in IT has greatly improved its role in every face of human life (Adeoti, 2005).

Consequently, Electronic delivery channels such as ATMs, telephone banking and online banking are options that have been made available by banks to serve their customers better. Customers do not have to transact business with their banks only through face to face contact. Information technology has brought about changes that have transformed the structure of the banking industry. With the transformation, customers have become more sophisticated, and new products have been made available. This has also resulted in changes in cost structure and an improvement in competition among banks profitability (Amanfo, 2010). In addition, Oppong (2015) stated that in order to improve service in the financial sector, electronic banking products such as mobile banking, Internet banking, and ATM products are the new delivery technologies which are now replacing the traditional delivery methods. There has been a complete improvement on banks performance and provision of good customer service within the banking sector due to the adoption of Information and Communication Technologies (ICT).

Furthermore, the banking sector of Ghana comprises a total of 33 banks, of which sixteen are under domestic control and 17, foreign controlled. The branch network of the banks stood at 1,377 branches as at April 2017; distributed across the ten regions of Ghana (Bank of Ghana, 2017). The Ghanaian banking sector in recent times has been submitted to rapid changes as a result of technological innovation, increased awareness and demands from customers (Asiamah, 2011). Considering the dynamism in the drivers of economies, it is notable that the world is more of a knowledge-based economy of which Information technology have become one of the key driving forces, (San-Jose, Txomin, & Maseda, 2009). The world is now termed as a Global Village and technology has proven to be a key contributing factor to such developments all over the world. A greater percentage of innovations and technologies in recent years in the world have been observed to accommodate Information Technology. Since the introduction of technology, information and communication has become a very vital aspect of human life. In the banking industry, Information technology has now been recognized as the life wire of banks in the financial sector as it facilitates and supports the financial performance of banks (Adeoti, 2005).

Finally, researchers have defined the profitability of a firm to be the net result of several policies and managerial decisions especially with liquidity, asset management and debt management. It is also the ability of firms to generate earnings, not only earnings but ones that are higher than expenses involved (Gibson, 1998; Brigham, Gapenski & Ehrhardt, 1999; Stefea, 2002). A profitable firm could definitely be termed as a growing firm over a period of time. A growing firm is able to maintain its market share even when the economy and industry are in a period of expansion. Growth is also considered as the rate at which an entity can achieve profitability, as it is usually measured by retained profits and profitability rates with the help of Return on Equity (Grueni, 2005). Through the development of technology, business environment can be global and can be revolutionized through creativity, innovation and technological advancement increasing customers' awareness of the availability of products and services leading to profitability and growth. For example, according to the Bank of Ghana Report (2017), the performance of the banking sector for the first quarter in 2017 revealed improved performance in the industry's asset growth as a result of increased investment portfolio and pickup in credit as compared to the previous year.

1.1 Statement of problem

Ghana's financial system, which is largely dominated by banks, has undergone a process of restructuring and transformation in recent years. These banks today are challenged with rapidly changing market situations showed by increase rate of merging and tough competitors. Owing to this, traditional management methods that emphasize on financial figures and on integrated, analytical planning approaches are well-thoughtout to be inadequate for the effective and efficient steering of the organization in a changing environment (Baffour, 2015). Financial reports have revealed that, one major driving force in the banking industry under the current dispensation is the customer experience, nevertheless, consumer expectations are not met on any given day because many banks are under pressure as they are unable to keep up with modern trends of service delivery as demanded by customers especially with regards to technology. Banks are therefore compelled to comply by spending a large part of their discretionary budget on building process and systems to keep up with the ever-increasing demand and requirements (Obeng, 2017).

However, banking institutions has continued to pursue vigorous transformation with a view to improve their services and maximizing profits, while some level of negative perceptions of electronic banking services is increasing throughout the entire banking industry. Most of these negative perceptions come from both the staff and customers of the bank who have raised concerns about the reliability and availability of these new technologies' being introduced and the ability of the banks to manage them efficiently for their outmost benefit. Another concern is the effect of this roll out of electronic banking services on staff job security (Tamakloe, 2015).

Consequently, it is worthy to note, however, that the level of competition in the Ghanaian banking sector has a rippling effect on the level of efficiency in the level of service delivery by banks in the country. This kind of competition in the banking sector has stimulated the spirit of innovations in the banks which is seen in the provision of the state of the art automated teller machines (ATMs), e-banking, telephone banking, short message service (SMS) banking and more importantly, mobile banking (Obeng, 2017). It is not surprising that Mobile banking, taking advantage of high rates of mobile phone subscription (over 70 percent of adult population in 2010), is well developed and growing in Ghana presenting a variety of products and services which are available to consumers, from payment systems for university students to balance inquiries on savings accounts (Making Finance Work for Africa, 2017). These innovations in technology have contributed largely to deepening banking services in Ghana. Notwithstanding the importance of electronic banking in banking profitability, much work has not been done by both academia and practitioners in Ghana to ascertain the real or perceived impact of electronic banking on banking profitability in the banking sector. Therefore, there are expectations that, information technology such as internet banking would enhance effective business processes, service delivery and efficiency in banks, leading to appreciable positive effects on bank productivity, cashiers' work, and banking transactions, bank patronage, bank services delivery and customer care services. This study therefore aims to access the impact of electronic banking on the profitability and growth of the Ghanaian Banking Sector.

1.2 Research Questions

1. What are the perceptions of employees about the introduction of electronic banking services?
2. To what extent does electronic banking contribute to profitability and growth in the banking sector?
3. What challenges are encountered with the use of electronic banking by Banks in Ghana?
4. What are the types of electronic banking services used by Fidelity Bank?

1.3 Research hypothesis

H0: The use of electronic banking does not have a significant impact on profitability and growth of Banks

H1: The use of electronic banking has a significant impact on profitability and growth of Banks

1.4 Research Aim

The aim of the study is to examine the impact of electronic banking on the profitability and growth of the Ghanaian banking sector.

1.5 Objectives

The objectives of the study are:

1. To explore the perceptions of employees about the introduction of electronic banking services.
2. To determine the extent to which electronic banking contributes to profitability and growth in the banking sector
3. To determine the challenges encountered with the use of electronic banking by Banks in Ghana.
4. To determine the types of electronic banking services provided by Fidelity Bank

1.6 Significance of the study

Information technology serves as a great support for the Banking industry in Ghana to achieve their goals and to make profit. Information technology could be a major driving force to the development and growth of the Ghanaian banking sector through technology. As such the need for its development and management to fulfill corporate needs. Also, Mansel et al (2004) indicated that "the Internet is becoming an important business tool". Anyway, there are difficulties to acknowledge full advantages of Internet banking including hierarchical capacity to use the innovation, the executive's mentalities, asset imperatives, and information issues. The financial business in Ghana is an administration industry critical to the development of its economy. This proposition investigates the effect of electronically putting money on banks productivity in Ghana alongside difficulties in the arrangement of this administration.

The study further presents the current trends in information technology used within the banking industry and its influence on profitability and growth in banking sector. This attempts to add up to existing literature as well as serve as a resource to the management of Fidelity Bank and other stakeholders to improve upon their Information Technologies to enhance survival in the industry

Furthermore, this study is of help to the Banks in Ghana as it seeks to leverage on technology to grow the financial services sector and enhance financial access and inclusion. One of the key drivers of change in Ghana is information technology and innovations. Through the findings of the study, the government of Ghana can be able to support the banking sector by either enhancing security or other regulations that governs electronic banking. The study findings can help banks in evaluating the importance of electronic banking.

Finally, the management of the various banks in Ghana will learn from this study and understand the mobile banking as a financial innovation strategy that they can replicate in their businesses in order to improve on their performance. They will also learn the measures in terms of policies and procedure to put in place to enhance security and quality of transactions while carrying out mobile banking services.

This study also makes available proposed recommendations which can assist in curbing the opportunities, threats, technological competition and contingencies of technological banking in Ghana.

1.7 Research Methodology

This study makes use of the quantitative method approach of a single case study as the research strategy. Only structured questionnaires were used to retrieve primary data. Secondary data for this study was sourced from text books, journal, newspaper and online materials. Furthermore, this study used Fidelity Bank as a case study. This is because it has been recognized as one of the banks leading in technology and innovations. The study looks at 83 participants as its sample size. This includes employees in Operations, Marketing and IT departments of the bank. Thus 83 respondents were administered questionnaires using a convenient sample technique. In convenience sampling (also known as haphazard or accidental sampling), “a sample of units or people is obtained, who are most conveniently available” (Zikmund, 2000). Purposive sampling on the other hand (also known as judgment sampling) requires researcher to use his or her personal judgment to select cases that will best answer the research questions and meet the research objectives (Saunders et al., 2009). SPSS were employed for the entire data analysis, producing both inferential and statistical analysis.

1.8 Scope of the study

This study sought to examine the impact of electronic banking on the profitability and growth of the Ghanaian banking sector. The bank was qualified for the study due to its diverse innovations in information technology practices. The study is concerned with how new technologies are impacting on profitability and growth of the bank and the scope of the study covers Fidelity bank. The study discovered if investment made in IT is worth the returns. The study also attempted to find out the key challenges encountered by the bank from which useful recommendations were made. This study is limited to the extent that the researcher was unable to cover all the Banks in the country as a result of time and the cost involved.

1.9 Delimitation of the Research

Though this study can be delimited to all the Banks in Ghana, however the study will be delimited to only one Banks which is the Fidelity Bank. Moreover, the respondents in this study are limited

1.10 Structure of the Report

This study is structured into five (5) main chapters.

Chapter one will include the background of the study, problem statement and objectives of the study, research question and hypothesis, scope and limitations of the study, significance of the study and the organisation of the study.

Chapter two presents a review of literature related to the study

Chapter three will detail out the procedure and methods that will be used to carry out the study.

It will explain the entire research design and methodology to be used, the data collection method and statistical procedures used to analyze the data.

Chapter four will present the data analysis and interpretation, presenting them in forms that shall be easily and readily understood by readers. This will include tables, figures and charts.

Chapter five will feature a summary of findings, conclusions and recommendations of the study

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter deals with literature review. It involves locating, reading, and summarizing of materials written by other authors that are related to the research topic under investigation. The chapter provides the theoretical and empirical review for the study. The literature for this study focused on the following thematic areas of electronic banking and its impact, profitability and growth of the Ghanaian banking sector, Banking System in Ghana, and the impact of electronic banking on the profitability and growth of the Ghanaian banking sector.

2.1 Overview of Banking System in Ghana

The banking sector obviously has seen the remarkable transformation over the period. Pragmatic policies coupled with enabling environment created by the Bank of Ghana and governments have had significance implication for the sector. Major reforms to the banking sector started in 1989 through the enactment of the banking law (PNDC Law 225). These reforms saw the emergence and the operations of a number of locally incorporated banks. Obeng (2017). Also, by the end of December 2016, the Ghana Bank sector comprised thirty-three (33) banks, of which sixteen (16) were domestically controlled and the remaining seventeen (17) were foreign-controlled. In total, the bank branch was 1,342 branches distributed across the ten (10) regions of the country.

The performance of the banking sector remained strong, underpinned by relatively strong asset growth and marginal improvement in liquidity in 2016. (Bank of Ghana Banking Sector (2017). According to PWC (2014) today banking industry is fairly saturated comprising 27 universal banks, 137 rural and community banks, and 58 nonbanking financial institutions including finance houses, savings and loans, leasing and mortgage firms. During the year the regulator strengthened its supervision of these nonbank financial institutions. This has led to the closure of those institutions which did not meet the regulatory requirements. The minimum capital for the deposit and nondeposit taking micro-finance institutions was raised in August 2013 to GHS 300,000 and GHS 500,000 respectively. The capital requirement increases up to an additional GHS200, 000 for institutions with over 5 branches. Primary liquidity reserves have been set at 10% of total deposits.

In addition, the banking sector has witnessed many reforms. Prior to the reforms, there has been an extensive post-independence government intervention. Public ownership characterized the banking systems. All the banks that were set up between the early 1950 to the late 1980 were either wholly or majority-owned by the public sector. Interest rates were centrally controlled by the Monetary Authority (Bank of Ghana) and there were restrictions on sectorial credit allocation. According to Brownbridge & Gockel, (1996), financial sector policies were characterized by severe financial repressions, real interest rates were steeply negative and most of the credit was channeled to the public sector. This triggered a series of reforms which included the liberalization of allocative controls on banks, restructuring of 10 insolvent banks and reforms to prudential regulation and supervision. Thus, as part of a comprehensive macroeconomic adjustment programme, financial sector liberalization in Ghana was initiated in the early 1990s, under the Financial Sector Adjustment Programme (FINSAP).
Consequently, in terms of Innovations the Banks and other financial institutions have taken advantage of current technological developments in the world and are introducing new services especially those which are ICT oriented to meet the targets of customers. All these are expected to bring customers' satisfaction in the banking sector. Innovative services such as international funds transfer, school fees loan, negotiable certificate of deposit, car loans, consumer/hire purchase loan, travellers' cheque, etc., have been

established (Gilbert & Wheelock, 2007). Additional growth that has occurred over the last decade is computerization and networking of all banks’ branches nationwide to capture and retain customers. Roughly, there are certain banks that have a nationwide network while others have gotten to an advanced stage of networking all their branches in the country.

Most banks processes and data processing have massively improved over time (Abor, 2005). Automated Teller Machines (ATMs) have become common, giving customers the liberty to execute business at their own convenience. Personal computer banking, telephone banking, internet banking, branchless banking, SMS banking, etc., have also been developed. Currently, banks are extending their branch networks. The banking sector landscape in this regard can be said to be changing, competitive and promising with regards to savings mobilization, development financing and service delivery (Hinson, Amidu & Ensah., 2006). These are driven by the improvement in telecommunication networks and advancement in computer technology in Ghana. If these innovations are tailored towards savings mobilizations which are channelled to productive sectors, economic growth and customer satisfaction would occur.

2.2 Concept and Definition of electronic banking

Basel Committee on banking supervision (2003) defined E-banking as the provision of retail and small value banking products and services through electronic channels. Such products and services can include deposit taking, lending, account management, the provision of financial advice, electronic bill payment, and the provision of other electronic payment products and services such as electronic money. Daniel (1999) defines electronic banking as the delivery of banks' information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as a personal computer and a mobile phone with browser or desktop software, telephone or digital television.

Also, Peprah and Obeng (2011) indicated that e-banking is when the activities of the banking system are provided via the use of computerized and networking facilities. These computerized activities include withdrawals, deposits, account opening, checking of balances, and the provision of electronic products. It is also asserted that computerization enables banks to break the barrier of serving low-income market and have the ability to processes large amounts of data at high speed and with high degree of accuracy. Karjaluoto et al (2002) also indicated that Internet technology is the main electronic distribution channel in the banking industry. According to this author he indicated that E-banking as an online banking that involves the provision of banking services such as accessing accounts, transferring funds between accounts, and offering an online financial service.

Consequently, the term electronic banking or e-banking covers both computer and telephone banking. It refers to the use of information and communication technology by banks to provide services and manage customer relationship more quickly and most satisfactorily (Charity-Commission, 2003). Burr (1996) describes it as an electronic connection between the bank and the customer in order to prepare, manage and control financial transactions. Electronic banking according to Al-Abed (2003) is an umbrella term for the process by which a customer August perform banking transactions electronically without visiting a brick and- mortar institution. Lustsik (2004) describes electronic banking as a variety of the following platforms: Internet banking, telephone banking, TV-based banking, mobile phone banking, and PC banking.

Furthermore, Keivani et al. (2012) said that electronic banking is “an umbrella term for the process by which a customer August perform banking transactions electronically without visiting a brick-and-mortar institution . According to Jehangir, et al. (2016) Electronic banking is an automated delivery of new and traditional banking products and services, using electronic channels, like computers and telecommunication technologies. The e-banking customers, either individual or business wise, could access their accounts; make enquiries; initiate and perform transactions via electronic channels ". Furst, Nolle & Lang (2009) defined electronic banking as the use of the Internet as a channel of delivering banking services. These services include traditional ones, such as opening a deposit account and transferring funds from one bank account to the other different accounts as well as modern banking services electronic payment of utility bills and electronic loan applications.

Finally, the Basel Committee on Banking Supervision is the source of one of the most common definitions of electronic banking as follows: "e-banking includes the provision of retail and small value banking products and services through electronic channels as well as large value electronic payments and other wholesale banking services delivered electronically". Nigudge and Pathan (2014) explained that electronic banking involves applies information technology through a Computer-Controlled System. This system is an interface where customers can have direct access to having their banking needs met in the comfort of their location without visiting the bank's premises.

2.2.1 History and Development of Electronic Banking

Banks are constantly on the search for solution which will help reduce their cost of operation and improve customer service and experience. In this continuous journey, the banking industry has seen several technology trends being adopted and several innovations delivered. The information technology revolution in the banking industry distribution channels began in the early 1970s, with the introduction of the credit card, the Automatic Teller Machine (ATM) and the ATM networks. This was followed by telephone banking, cable television banking in the 1980s, and the progress of Personal Computer (PC) banking in the late 1980s and in the early 1990s (Giannakoudi, 1999). Information Technology enables electronic channels to perform many banking functions that would traditionally be carried out over the counter (Giannakoudi, 1999). From ATMs came internet banking with its catch phrase anywhere banking. This afforded customers the opportunity to access their accounts at homes and offices. The problem that characterized the use of ATM and internet banking were high maintenance cost on ATM and security issues with internet banking respectively. Banking then contained to look for more innovative ways to delight their customers. This has led the mobile banking as banks want to tap into the potential of offering banking services through the mobile phone serving both old and new generation customers. Banking technology experts including Devlin (1995) and Devlin and Young (2003) agree and explain how technology has tipped remote (anytime and anywhere) banking into the mainstream Western culture.

According to Shreyan et al (2002), the evolution of the e-banking industry can be traced to the early 1970s. Banks began to look at e-banking as a means to replace some of their traditional branch functions, for two reasons. Firstly, branches were very expensive to set up and maintain due to the large overheads associated with them. Secondly, ebanking products/services were a source of differentiation for banks that utilized them. The fact is that technology does hold revolutionary potential for the delivery of banking products and services. Technology does not only have an absolute cost advantage in providing financial products and services, it has the potential for enhancing the value of these products and services by making them more convenient for consumers to acquire, empowering consumers to make better choices, and personalizing those products and services to their individual needs. (Jayamaha, 2008) Electronic banking can be defined as a variety of platforms such as Internet banking (or online banking), telephone banking, TV-based banking, mobile phone banking, and PC banking (or offline banking) whereby customers access these services using an intelligent electronic device, like a personal computer (PC), personal digital assistant (PDA), automated teller machine (ATM), point of sale (POS), or Touch Tone telephone. The definition of e-banking varies amongst researches partially because electronic banking refers to several types of services through which bank customers can request information and carry out most retail banking services via computer, television or mobile phone (Sathye, 1999)., For example, describes it as an electronic connection between bank and customer in order to prepare, manage and control financial transactions. (tGyabaah, 2015) .

2.2.2 Electronic Banking in Ghana

According to Abor (2004) and Boateng (2006), the rate of diffusion of digital technology in the Ghanaian banking sector, recent adoption of online banking services in the country brings the phenomenon into focus especially in the face of a new landscape in the banking industry. The banking industry in Ghana is undergoing rapid growth with the liberalization of the financial sector by the Bank of Ghana and positive economic environment. Not only has the bank introduced Universal Banking but has also introduced the Ghana Interbank Payment and settlement System enabling common electronic platforms for payments across financial institutions (Bank of Ghana 2008).

Consequently, one of these platforms, the National Switch and Smartcard Payments System dubbed 'E-Zwich', which currently, is vigorously being promoted by the Bank of Ghana. Banks in Ghana are vying, through many commercials and a range of products and services, for customers. Products and services, such as prestige account, cash passport, executive loan, child account, telephone banking, electronic cards and ATMs, which were hither to offered by a few banks, are now offered by most of the banks. Many products and services are now a matter of competitive necessity rather a competitive advantage (William et al 2005). With many banks offering common products and services, the focus of competition is now moving towards speed, customization of products and services and the opening up of more branches (branch banking) to add value to the core banking products and service (Abor, 2004).

2.3 Types of electronic banking products and its services

2.3.1 The Automated Teller Machine (ATM)

Increasing labor costs in the 1960s placed pressure on labor intensive industries like banking to look towards automating some of their functions. Barclays Bank was the first to envisage the potential of ATMs and introduced the first ever ATM in 1967. Initially, ATMs were not very sophisticated, and served only as cash dispensers. Originally, large banks offering an ATM service achieved an advantage over their competitors (Asante-Gyabaah, 2015). There was scant understanding of the customers' needs or expectations and the role of ATMs in banks' retail delivery system was vague (Asante-Gyabaah, 2015). Marcia Crosland of NCR Corp. (2010) indicated that aside from revenue generation and cost savings, ATMs are becoming the face of many financial institutions. For many consumers, ATMs are becoming the only interaction they have with their banks. In addition, ATMs are also becoming a competitive mark for many banks. Therefore, it is imperative to ensure that the customer's experience with the ATM is safe and secure.

2.3.2 Internet Banking

According to Ntsiful, Acka and Odorh (2010) the Internet banking refers to systems that enable bank customers to access accounts and general information on bank products and services through a personal computer (PC) or other intelligent devices. Internet banking products and services can include wholesale products for corporate customers as well as retail and fiduciary products for consumers. Internet banking according to Akuffo-Twum (2011) is to give customers access to their bank accounts via a website and to enable them to enact certain transactions on their account, given compliance with stringent security checks."

According to Johns and Perrott (2008) cited by Akuffo-Twum (2011) Internet banking involves a bank, internet technology and users" computers. The banks clients for example business-based clients and command post clients can approach their ledger through the web. The items and administrations acquired through Internet banking August reflect items and administrations offered through the customary bank conveyance channel when a client visits the bank premises. 8 Electronic financial administrations run from data push administrations where clients get data about the bank, its items and administrations, to data download administrations where clients can download account data and full-exchange administrations where clients can perform most financial exchanges, (for example, move between records, charge installment, outsider installment, card and credit applications, and so forth.) electronically (Boateng and Molla, 2006; Singh and Malhotra, 2004).

Internet banking enables assets to be moved from a financial record to an investment account, or the other way around. Clients can round out advance applications for anything from individual advances to contracts on the web and can even utilize web banking for speculations. Web banking records can get to whenever, day or night insofar as there is a web association of any sort. Additional alert is taken when setting up web banking frameworks. Clients who have accounts online utilize complex passwords. The data will be encoded. Besides, if clients attempt to make unsafe exchanges, they will be asked greater security inquiries.

2.3.3 Short Messaging Service (SMS) Banking

SMS banking is a technology-enabled service offering from banks to its customers, permitting them to operate selected banking services over their mobile phones using SMS messaging. SMS banking services are operated using both push and pull messages. Push messages are those that the bank chooses to send out to a customer's mobile phone, without the customer initiating a request for the information. Typically push messages could be either Mobile marketing messages or messages alerting an event which happens in the customer's bank account, such as a large withdrawal of funds from the ATM or a large payment using the customer's credit card (Peevers, et al., 2008). Pull messages are those that are initiated by the customer, using a mobile phone, for obtaining information or performing a transaction in the bank account. Examples of pull messages for information include an account balance enquiry, or requests for current information like currency exchange rates and deposit interest rates, as published and updated by the bank. Barnes et al (2003). The bank’s customer is empowered with the capability to select the list of activities (or alerts) that he/she needs to be informed. This functionality to choose activities can be done either by integrating to the internet banking channel or through the bank’s customer service call center.

2.3.4 Mobile banking

According to Muisyo, Alala and Musiega (2014), mobile banking is the use of a mobile phone or another mobile device to perform a financial transaction linking to a customer's account. Mobile banking can also be defined as provision and availability of banking and financial services through the help of mobile telecommunication devices. The services offered August include facilities to conduct bank and stock markets transactions, administer accounts and to access customized information. Mobile banking is one of the newest widespread to the provision of financial services through Information Communication and Technology (ICT) made possible by the widespread adoption of mobile phones even in low income countries and has witnessed explosive growth in markets such as Kenya, Philippines, South Africa and Ghana (Abunyang, 2007).

To deepen financial inclusion, mobile phone service providers have taken mobile money services deeper into financial sector. This is through offering a range of financial services such as bulk payments, pay bills, funds transfers and enabling depositing and withdrawing funds to commercial banks through use of a phone. The mobile banking has been used lately as a way of competition to increase deposits and offer loans to consumers without visiting the branches. The mobile banking has also increased the customer base by reaching out the earning groups that did not operate banks accounts. The banking Sector also use mobile banking a security by informing customers on all transactions performed in their accounts, (Kimenyi & Ndung'u, 2009).

Mobile banking has helped to transform people's lives, by offering customer centric products that allow them access banking and payments services without physically visiting the institution hence saving time and travelling cost. The mobile banking services offer a number of services ranging from account information, by alerting customers on the updates and transactions on their account through their phones. Customers use mobile banking in payments of utility bills, deposits, withdrawals, purchases of airtime, funds transfer, bank statements requests among other tasks

(Bangens & Soderberg, 2008). These services are offered in real time hence providing banking services in a convenient and efficient way. With the introduction of new products within mobile banking customers are able to register for a bank account without necessarily visiting the bank, make deposits and withdrawals often with minimal charges. They can also access micro-loans without collateral or looking for guarantors through the use of mobile banking.

2.4 Impact of electronic banking on the profitability of banks in the Ghanaian banking industry

In the Ghanaian banking industry, adopting electronic banking and investing in information and communication technology in the delivery of banking products and services is now essential in a bank's quest to achieve profitability. SCN Education B.V. (2001), suggested that E-Banking generates revenue as there are few banks who provide services online on the internet, they are considered as leaders of technology implementation and have better brand image than other banks; costs are reduced on services provided online, such banks efficiently judge the needs of their customers because of regular feedbacks. Electronic banking results in an increase in productivity as it minimizes the need to physically visit the bank and decrease the time involved in performing routine banking activities. Hence customers spend their time and energy on focusing on their various means of earning a livelihood rather than spending time in long queues in banking halls: they become more productive and earn more money which will eventually end up in the bank as part of cash deposits thus increasing the deposit mobilization values of the bank. Vyas (2018), argued that though what the future holds is bright regarding the adoption of electronic banking in Ghana, the phenomenon however involves quite a number of teething challenges. These challenges include internet connectivity, high cost of implementation, Security concerns for customers, perceived customer readiness and other problems they encounter. Some of the banks in Ghana that have implemented internet banking have achieved success regardless of its challenges. These indicate that electronic banking increases profitability as these banks have demonstrated enough zeal for electronic banking despite the challenges and are bent on educating customers, igniting the interest of customers and enrolling.

Furthermore, Nathan (1999), Indicated that electronic banking services have provided numerous benefits for both banks and customers. The first benefit for the banks offering electronic banking service is better branding and better response to the market. Those banks that would offer such service would be perceived as leaders in technology implementation. As a result, they would enjoy a better brand image. The other benefits are possible to measure in monetary terms. In actual sense the main goal of every company is to maximize profits for its owner and other stakeholders. According to Allen and Hamilton (2002), an estimated cost of providing the routine business of a full-service branch in USA is $1.07 per transaction, as compared to 54 cents for telephone banking, 27 cents for ATM banking and 1.5 cent for internet banking. On the other hand, the advantages for the customers are significant time saving and reduced costs in accessing and using the various banking products and service, increased comfort and convenience (Pyun, Scruggs and Nam, 2002).

Moreover, Internet Banking provides clear advantages to both the financial institutions and the customers. From the banks' perspective, Internet Banking has very low-cost transactions, compared to human teller banking. According to the Fourth International Conference on Electronic Business (ICEB, 2004) e-banking reduces the following expenses (Wright & Ralson, 2002)):

- Banks can reduce customer service staff as customers use more self-service functions;
- There is less cheque processing costs due to an increase in electronic payments.
- Costs of paper and mail distribution are reduced as bank statements and disclosures are presented online;
- There is less data entry as applications are completed and processed online by customers. On the other hand, according to KPMG (1998), bank's revenue increases from Internet Banking due to: (1) Increased account sales; (2) Wider market reach; (3) New fee-based income; (4) New market opportunities; (5) Improved customer satisfaction. For consumers, Internet banking provides convenience, lower service charges, more accessible information about bank accounts, and an attractive option for busy people since it saves time to go to the bank branches and gives 24 hours access (Lee & Lee, 2000).

All the benefits of B2C e-commerce such as 24 hours bank service, convenience, access from anywhere, one stop shop and easy access to information also apply to internet banking Singh (2004). The benefits of E-banking are manifold and are to be seen from the point of view of the banks themselves, customers and even the regulators Sergeant (2000). Sergeant is of the view that for banks, E-banking brings different and arguably lower barriers to entry; opportunities for significant cost reduction; the capacity to rapidly reengineer business processes; and greater opportunities to sell cross border. For customers, the potential benefits are: more choice; greater competition and better value for money; more information; better tools to manage and compare information; and faster service. Electronic banking (E-banking) enables customers to do their banking 24 hours a day, 7 days a week. E-banking customers are able to check their account balances, pay bills, apply for a loan, trade securities, and conduct other financial transactions. E-banking can be divided into five major categories: (1) Internet banking, (2) Telephone banking, (3) TV based banking, (4) Mobile phone banking, and (5) PC banking. Technological innovations in recent decades have made the move towards E-banking possible. The increasing competition for customers in banking and need to decrease cost of providing banking services has led banks to integrate these changes.

2.5 Banking performance

Observational studies have utilized different strategies to assess productivity just as the execution of banking establishments utilizing cross-country information. The solid measure nearly utilized by these investigations have, for the most part depending on the return of benefits and value since they uncover the genuine effect of changes in the firm activities on resources just as speculator capital. In accordance with the review led by Sinkey (1992), return on resource estimates the general execution of the organizations from its bookkeeping point of view. In this manner, he takes note of that arrival on resource reinforces as an essential marker of administrative productivity henceforth uncover the presence of the administration in accordance with its effective use of the organizations' assets to expand investor capital as uncover in the office and partner hypotheses (Rose and Hudgins 2006).

However, these studies retain that return on equity since it is linked to shareholder capital, is also imperative as a performance indicator that seeks the interest of the investors and owners of the firms (Akintoye 2004). However, Russo and Fouts (1997) examines that since ICT is a function of the capital employed by the firm in its operation, it is relevant to consider return that accrues to capital employed by the firm since it has benign effect on performance of the firms.

2.5.1 The Electronic Banking and Bank Performance

Price factors suggest that perceived relative economic advantages will motivate consumers to use electronic banking (Sathye, 1999). However, Carlson et al. (2001) and Furst et al. (2002a) assess the viability between electronic banking and bank profitability. They reveal in their studies that the larger US banks had higher return on equity. However, they concluded that since the adoption of electronic banking has no first mover advantage in the case of a developed economy, it is too small a factor to have influenced the performance of the banks at that time. This conclusion was also evidenced by Egland et al. (1998) in the US. Sathye (1999) argue that in the case of internet banking, two kinds of price were accounted for; the normal costs associated with internet activities, and the bank costs and charges. Consequently, Polatoglu and Ekin (2001) identify that users of electronic banking are significantly satisfied with the cost saving factor through electronic banking.

However, it is noted that in cases where consumers perceive electronic banking as expensive, then it does not add to the satisfaction they derive from the product or service rendered by the financial institution (see Gerrard and Cunningham, 2003). Notwithstanding these conflicting findings, Sathye (1999) showed that the costs of electronic banking poses a negative impact on its adoption (Akhalumeh and Ohiokha 2012; Adeniyi and Olutayo 2015). Mohammad and Saad, (2011) examines that electronic banking poses a negative impact on performance of commercial banks in Jordan. Thus, they note that e-banking in its entirety has not improved the performance of financial institutions that are holding on to these financial innovations.

However, Mohammad and Saad, (2011) attribute this phenomenon to the issue of high dependence of bank customers on traditional channels of banking to carry out their banking operations. Also, they posit that the resultant costs associated with adopting electronic banking are still higher in developing economies hence less beneficial to the financial industry. Simpson (2002) noted that the motivation for e-banking is largely based on prospects minimizing operating costs and maximization of operating revenues. An evaluation of online banking in developed and emerging markets shows that in developed markets lower costs and higher revenues are more noticeable. While Sullivan (2000) provides no systematic evidence on the importance of e-banking, Jayewardene and Foley (2000) examine that e-banking result in cost and efficiency gains for banks in the U.K.

2.6 Benefits of Electronic Banking to the Bank

The main benefits to banks are cost savings, reaching new segments of the population, efficiency, enhancement of the bank's reputation and better customer service and satisfaction (Jayewardene et al., 2000). Besides, electronic banking removes geographical limitations for small and medium size banks, thereby international operations without limits can be operated. E-banking has enabled banks to increase their data collection, and management, efficient financial engineering that have improved the ability of assessing potential creditors, measuring the creditworthiness of potential borrowers and to price the risk associated with those borrowers through standardized mechanisms such as credit scoring (Zigi et al., 2003). Kiang et al (2000) is of the view that disputes can be minimized between the employees as there is a clear flow of processes. Conducting business outside the normal branch working hours has also been a factor that has been considered convenient for bankers. According to Jayewardene et al., (2000) each ATM has the capacity to carry out the same, essentially routine, transactions as do human tellers in branch offices but at half the cost and with a four to one advantage in productivity. Thus, banks can provide customers convenient, inexpensive access to the bank 24 hours a day and seven days a week. Banks just like other businesses are tuning to information technology to improve business efficiency, service quality and attract new customers (Nath et al, 2001).

Increased availability and accessibility of more self-service distribution channels help bank administration in reducing the expensive branch network and associated staff overheads (Birch et al., 1997). A reduction in the percentage of customers visiting the banks with an increase in alternative channels of distribution will also minimize the queues in branches (Thornton et al., 2001). According to Thornton et al., (2001) this ultimately leads to improved customer satisfaction. Jayewardene et al., (2000) observe that electronic banking increases competition within the banking system and also from non-bank financial institutions. Other benefits that have accrued because of the adoption of electronic banking in developed countries include the ability to attract new customers and widening the customer database, improving bank marketing and communication, and having the ability to retain high profit customers (Al-Sukkar et al., 2005).

Consequently, Kerem (2003) observes that banks are responding to electronic banking differently and that those which see electronic banking as a complement and substitute to the traditional channels achieved better communication and interactivity with the customers. Online banking extends the relationship with the customers through providing financial services right into the home or office of customers (Robinson, 2000). Al-Sukkar and Hassan (2005) support the view that technology can improve service quality for banks and enhance customer satisfaction and loyalty. According to Nath et al (2001) provision of high-quality services August also lead to high profit consumers for the bank, Polatoglu et al., (2001) argue that early adopters and heavy uses of internet banking services are more satisfied with the services compared to the other customer groups. According to Joseph et al., (2003) the ability to deliver services via technology is positively correlated with satisfaction. Financial firms are using latest technological support to increase transactional security and provide maximum number of mediums for serving consumers (Bock, 2000). According to Robinson (2000) the cost of an electronic transaction is dramatically less when done online compare to at a branch.

2.7 Challenges of Electronic Banking to the Banks and the Customer

It is not enough for a bank to think about the benefits of electronic banking nor is it sufficient for a bank to address electronic banking development issues. Some researchers (Nath et al., 1998) mention multitudes of issues relevant to post developing a site for online banking purposes such as security concerns, customer distrust, cost and difficulty of maintaining the site, legal concerns, and privacy of customer information. Furthermore, online banking is subject to the dependability of other computers or web servers. In case of any problem regarding safety or usage, a customer cannot have access to his/her account.

Online users have to know how to use a computer before he/she can carry out a transaction. The customers need to be aware and up-to-date with the latest safety programmes such as firewalls, virus programmes. Hackers are still able to hack into the accounts and transactions of account holders to perpetrate atrocious activities. It is not 100% safe, thus there is the need to exercise caution (Kephart, 2007). CIA Triad states that there are set of people for example older ones who don't want to follow the technological trend and continue traditional conventional branch banking, thus ignore to learn the new technologies due to lack of confidence and personal capability. In some ways they are right as the governmental policies that guide Internet banking operations across international border are not always efficient (Fojt, 1996).

There is a very real possibility for fraud when SMS banking is involved, as SMS uses insecure encryption and is easily spool able. Supporters of SMS banking claim that while SMS banking is not as secure as other conventional banking channels, like the ATM and internet banking, the SMS banking channel is not intended to be used for very high-risk transactions. Most of the attacks on online banking used today are based on deceiving the user to steal login data and valid TANs. Two well-known examples for those attacks are phishing and pharming. Cross-site scripting and key logger/Trojan horses can also be used to steal login information. A method to attack signature based online banking methods is to manipulate the used software in a way, that correct transactions are shown on the screen and faked transactions are signed in the background. As good as ATMs are, many banks customers fear losing their cards and pins to fraudsters while a few other also complain about services charges. Again, illiterate customers had problems learning how to use the ATMs and still preferred to visit the brick and mortar bank building.

Besides its benefits, electronic banking has its own draw backs as well. Another disadvantage of electronic banking application internationally is the lack of governmental policies that guides internet banking operations across international borders (Kannan, 2004). While electronic banking can provide a number of benefits for customers and new business opportunities for banks, it exacerbates traditional banking risks. Even though considerable work has been done in some countries in adapting banking and supervision regulations, continuous vigilance and revisions will be essential as the scope of E-banking increases. In particular, there is still a need to establish greater harmonization and coordination at the international level. To understand the impact of E-banking on the conduct of economic policy, policymakers need a solid analytical foundation. Without one, the markets will provide the answer, possibly at a high economic cost. Further research on policy-related issues in the period ahead is therefore critical (Al adwani, 2001).

2.8 Theoretical Review

The essence of incorporating modernization in the Ghanaian financial industry stems from the speed at which the global financial environment is dynamically shifting across geographical spheres. Prior studies (Singh, 2006) for instance comment on the importance of innovation and dynamism and the benefits that comes with it. Innovation is imperative for the existence of every firms in the economy. For example, Damanpour et al (2009) affirms that innovation significantly impacts positively on firm's financial performance. Thus, innovation depends on the quality and quantity of the products and services the banking sector presents its customers (Kumar, 2011). Frei et al (1998) notes that the liberalization of domestic regulations, competition, innovations in financial market and growth in information technology is more likely to propel the growth of innovative ideas in the banking industry than the case of regulated banking sector. Consequently, Domeher, Frimpong and Appiah (2014) examine that financial innovations including absence of complexities and compatibility leads to the creation of user-friendly electronic banking products which according to Merton (1992) limits costs associated with transactions in the banking industry. Consequently, Domeher et al. (2014) note that in terms of cross industry innovations and dynamism, the utmost benchmark upon which financial innovations can be made must include the extent to which financial innovations improves efficiency in the banking sector through modifications and inventions of new financial products.

Also, Tufano (2003) in his argument on the importance of innovations and dynamism, notes that two innovation processes are employed by the banking industry in their activities including product and process innovations. Tufano (2003) espouse that whilst the product incorporated new derivative contracts, corporate securities and pooled investment products, the process innovation employs new distribution channels including ways of distributing securities, processing transactions and pricing transactions in the commercial banking system to yield customer satisfaction and investor goodwill.

However, Schiffman and Kanuk (2009) also assess 24 that contrary to the innovation in diffusion theories, the users as well as the process and product are imperative since it August influence the market reputation of the bank as well as the returns to shareholder if consumers are not satisfied or the product do not impact significantly on the day-to-day transactions of the consumers or user of the product. Though, consumer characteristics are employed as the predictors of the innovation, the process August only incorporate the profit motive of the commercial bank rather than the full information set on the motives of the firm or its shareholder interest (Polatoglu and Ekin 2001; Black et al. 2001). Accordingly, Frimpong (2010) examine that, innovations in the banking sector forms an impetus which leads to improvement in the banks capacity, efficiency and financial performance.

2.9 Empirical Review

Mahotra and Singh (2007) examined the impact of Internet banking on banks' performance and risk in India. The study examined a comprehensive set of 10 measures of financial performance that made it possible for the authors to critically look into bank performance. By developing a deeper understanding of these phenomena, the researchers drew more insightful inferences about the impact of the Internet on banking on business strategies, production processes and financial performance. The results of the study revealed that on average, Internet banks are more profitable than non-Internet banks and are operating with lower cost as compared to non-Internet banks, thus, representing the efficiency of the Internet banks.

According to AKI (2002) on the impact of technology in banking sector, the researcher established that new technologies cannot replace the branch network, but these can support old methods of delivering the services. The author evaluated the structural change in Finnish banking sector from the period 1993 to 2002 which showed that 42 per cent of households have internet connection with banks and 90% have mobile banking services. From the analysis it was concluded that main goals of management of technology were to improve customer satisfaction, reduce cost and develop new methods to collect and analyze the customer information. Durkin and Howcroft (2003), evaluated the banker-customer relationship using Technology Acceptance Model and found that, the relationship was improved through mobile, phone and internet banking. The authors found that the mobile banking has made the banks very competitive and profitable and internet has played a key role in it. Perception of bankers and customers regarding the use of internet was examined. They pointed out that as consumer usage of remote bank delivery channels increases, relationship management will become more important. Further, the combination of traditional and new delivery channels, if followed, can help to improve their productivity and profitability. By employing innovation diffusion theory and the decomposed theory of planned behavior, Brown et al. (2003) surveyed 162 respondents and discovered that perceived advantages, the opportunity to try out cell phone banking, the number of banking services required by respondents and perceived risk significantly influenced people to adopt mobile banking.

Also, Lee et al. (2003) performed eight interviews to collect transcripts from participants and concluded that relative advantages and compatibility were positive factors affecting the adoption of mobile banking, perceived risk was negative factor affecting the adoption of mobile banking, and consumer previous experience and selfefficacy generalized their beliefs (a negative or positive attitude) toward the adoption of mobile banking. Suoranta and Mattila (2004) researched on Bass model of diffusion to separate 1253 respondents into non-users, occasional users, and regular users according to their mobile banking usage experience and density. The Bass diffusion model assumes that potential adopters of an innovation are influenced by two types of communication channels: mass media and interpersonal word-of-mouth, and the adoption rate can be described by S-shaped diffusion curves. The study empirically identified that interpersonal influence was over mass media in affecting users to adopt mobile banking.

Consequently, Laforet and Li (2005) surveyed 128 respondents randomly selected in the city streets and indicated that awareness significantly influenced the adoption of online and mobile banking, while consumer awareness was effectively increased through mass media rather than word-of-mouth communications. Given that the reference group did not significantly affect the adoption of online and mobile banking, thus contended that mass media was much more important than interpersonal word-ofmouth in affecting people to adopt mobile banking (Ceylan & Emre, 2011). By looking at trust and resources, Luarn and Lin (2005) employed the extended technology acceptance model to explore human behavioral intention to use mobile banking. They collected 180 respondents in Taiwan and found that perceived self-efficacy, financial cost, credibility, easy-of- use and usefulness had positive effects on the behavioral intention to use mobile banking. Likewise, due to the parsimony and predictive power of Technology acceptance model, Furthermore, Amin et al. (2008) used an extended research containing five constructs perceived usefulness, perceived ease-of-use, perceived credibility, the amount of information, and normative pressure - to explore the adoption of mobile banking. They gathered 158 valid questionnaires in Malaysia and supported that perceived ease-of-use markedly influenced perceived usefulness and credibility, and human intentions to adopt mobile banking was significantly affected by perceived usefulness, perceived ease-of-use, perceived credibility, the amount of information, and normative pressure A study was done by Laukkanen et al (2007) summarizing 18 factors into five barriers, namely Usage, Value, Risk, Tradition, and Image barriers. The theory of innovation resistance, adapted from the psychology and the IDT of Rogers (Rogers 2003), aims to explain why customers resist innovations even though these innovations were considered necessary and desirable. Through investigating 1525 usable respondents from a large Scandinavian bank, the study uncovered that the value and usage barriers were the most intense barriers to mobile banking adoption, while tradition barriers (such as preferring to chat with the teller and patronizing the banking office) were not an obstacle to mobile banking adoption.

Another study was carried out by Yang (2009), employed the Rasch measurement model and item response theory to survey 178 students from one of largest university in south Taiwan. He found that the speed of transactions and special reductions in transaction fees encouraged mobile baking adoption, while factors inhibiting mobile banking adoption were safety and initial set-up 28 fees. Similar to the finding of Cruz et al (2010) surveyed 3585 online respondents in Brazil and supported that the cost of Internet access and service and perceived risk were top two barriers for adopting mobile banking services. Puschel et al. (2010), researched on adoption of mobile banking, he studied the factors that influences individuals to use the mobile banking services.

Similar studies on the effect of mobile banking were carried out by King (2012) and Mbiti and Weil, (2011). The study employed the unified theory of acceptance and use of technology (UTAUT) to investigate what impacts people to adopt mobile banking. Through sampling 441 respondents, the study empirically concluded that individual intention to adopt mobile banking was significantly influenced by social circles, perceived financial cost, performance expectancy, and perceived credibility, in their order influence strength. The behavior was considerably affected by individual intention and facilitating conditions. The study discovered that gender significantly moderated the effects of performance expectancy and perceived financial costs on behavior intention. The age considerably moderated the effects of facilitating conditions and perceived self-efficacy on actual adoption behavior.

Finally, Ndung'u (2013) sought to determine the impact of mobile and internet-banking on performance of financial institutions in Kenya where the survey was conducted on financial institutions in Nairobi. The study also sought to identify the extent of use of mobile and internet banking in financial institutions. The study investigated 30 financial institutions. The study found that the most prevalent internet banking service is balance inquiry while the least is online bill payment. Cash withdrawal was the most commonly used mobile banking service whereas purchasing commodities was the least commonly used. The empirical study has bought in the following conclusion; relative advantage, trial ability, number of banking services, and risk significantly influence mobile banking usage. Secondly, Information sources (i.e., interpersonal word-of-mouth), age, and household income significantly influence mobile banking adoption. To add on this, awareness, confidential and security, past experience with computer and new technology are salient factors influencing mobile banking adoption. Moreover, perceived self-efficacy, financial costs, credibility, easy-of-use, and usefulness had remarked influence on intention to adopt mobile banking, perceived benefits are main factors encouraging people to adopt mobile banking.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes the method used for the study. This includes the research design, population, sample and sampling procedure, the instrument used in the data collection, validity and reliability of the instrument, data collection procedure and data analysis and profile of the Fidelity bank.

3.1 Research Design

The descriptive design was employed in this study. According to Merriam (1998), the descriptive research design's key concern is for the understanding of the phenomenon of interests from the participant's perspective, not the researchers. She further observed that descriptive studies are undertaken because there is lack of theory, or existing theory fails to adequately explain a phenomenon of interest. Best and Khan (1993) also state that descriptive research reduces oversimplification to the particular group of individuals observed and that no conclusions are extended beyond this group. It is expected that data gathered from the field through a descriptive survey would provide relevant information to policy-makers on what the actual situation is like in the Fidelity Bank in Ghana. This design was used because it provided a meaningful picture of events and sought to explain people's perceptions and behavior on the basis of information obtained at a point in time.

The study employed the case study strategy for this study. Yin (2003) identified case study research to be the best strategy if the research questions are explanatory, when the research is on contemporary issue and when behavioral events within the research environment occur within a real-world context and outside the control of the researcher. The nature of issue under investigation makes the case study ideal for the research. Yin (2003) further distinguished between single and multiple case approaches.

The single case research methodology is the basis of making this assessment. The choice of using single case to investigate the phenomenon is by virtue of its ability to enable the study to get closer, have an in-depth insight and a better exposure to its deep structure and enabling a right description. The case study approach employed only quantitative (nomothetic) methods. In so doing, the study built a fuller, richer picture surrounding the phenomenon than depending on their individual capabilities and they also enable for cross-validation to ensure consistency and authenticity (Cavaye, 1996). Quantitative research, according to Saunders, Lewis and Thornhill (2012), is a study approach planned to ensure accuracy, reliability and generalization of findings. It does that by developing testable hypothesis and theories which lend themselves to generalization. This research approach is usually applied in the natural sciences and entails the collection of numerical data in order to exhibit a view of the relationship between theory and research as deductive, having in mind an objective conception of social reality (Dampson & Ofori, 2012). Some of the data collection techniques used under the quantitative approach are usually questionnaires, surveys, personality test and standardized research instrument (Creswell, 2012)."

3.2 Study Population

A population of a study is the aggregation of all possible individuals, objects or measurement of interest (Cohen, Manion & Morison, 2007). In a different perspective, Babbie (2007) posits that a population is a group that the researcher is interested in for the purpose of generalization. Bajpai (2009) also opines that the group should possess information relevant to the researcher. Therefore, the target population of the study comprised 500 employees of fidelity bank in Greater Accra. The population of the study is 500 because the workers of the Fidelity bank in Accra are about 500 employees and this was obtained from their HR data base.

3.3 Sample size calculation

The survey of the population involved a minimum optimal size of 83 respondents out of the total population of 500 staff at fidelity banks in Greater Accra. Therefore 500 were used as N since the sampling technique was purposive. The desired maximum sampling error was 10%. The minimum optimal size (n) of was chosen based on the Yamane formula (1973).

This formula is given as n= $^{N}/1 + \mathrm{N}\, e^{2}$

Where, n = desired sample,

Size N= total population,

e = margin of error (10%)

The optimal sample size (n) is therefore calculated from the equation as follows;

N = 500

= $500/1 + 500 * 0.1^{2}$

= $150/1 + 5$

$150/6$

= 83

Therefore 83 of the respondents were used for the analysis

3.4.1 Sample Size and Sampling Technique

A research sample refers to the sub-members of the target population from whom data will be collected. (Lavrakas, 2008) stated that the sample size of a survey most typically refers to the number of units that were chosen from which data were gathered. The sample size is an important feature of any empirical study in which the goal is to make inferences about a population from a sample. In practice, the sample size used in a study is determined based on the expense of data collection, and the need to have sufficient statistical power.

Consequently, sampling process or technique involves taking a portion of the target population; investigate that group and then generalizing the findings to the larger population from which the sample was drawn (Alugchaab, 2011). According to Singh (2012), the use of sampling technique saves time, reduces cost and makes provision for accuracy and reliability. There are several sampling techniques that researchers use in selecting of respondents but in this research, the sample techniques used for the study were the convenience sampling and purposive sampling method. In convenience sampling (also known as haphazard or accidental sampling), is when “a sample of units or people is obtained, who are most conveniently available” (Zikmund, 2000).Therefore the convenient sampling was used to select respondents that were available at the time of the data collection to respond to the questionnaires and the purposive technique ensures that each individual is chosen have the idea or knowledge about the study. Therefore, for ease of convenience, proximity and accessibility in distributing and collecting data, the sample size for the study was 83 selected from the Fidelity bank.

3.5 Sources of Data

There are two types of sources available for data collection which is the primary and secondary data. In this study. The main sources of data for the study were primary and secondary sources. With regard to the primary data, questionnaire was used to collect data from respondents. For the secondary data, relevant documents, books, journals, internet search, libraries were depended on for more detailed information. The secondary data provided more information on the issue under study.

3.5.1 Secondary Data

Researchers used secondary sources of data to facilitate the useful information for this study. Researchers employed the secondary data sources for this study to get desired goals. Secondary data means the data that has been collected by scholars and documented in articles, books and other publications. Secondary data is very useful for research with its significant advantages: time saving and rapid accessibility. This, however, depends on if the data is already collected and published or internally exists and also on the cost. It could also be freely available at different sources with detailed information. Therefore, secondary data is gathered from published and unpublished materials; bank publications, journals, predominantly and website of Fidelity Bank.

3.5.2 Primary Data

Structured questionnaires guides were used in the data collection. The structured questionnaires were used to get the unbiased opinion of respondents, the Specimen of the questionnaire is attached as Appendix I. These data collection instruments made it very convenient for respondents to give the information needed for the analysis. In collecting primary data, close-ended questionnaires were designed and used.

3.6 Research Instruments

Questionnaires were used to collect data from the customers. A questionnaire comprises a number of questions or statements that relate to the purpose of a study. It is a datagathering instrument through which respondents are made to answer questions or respond to a given statement in writing (Best & Kahn, 1995). This method gave the necessary information needed from the respondents.

3.7 Validity and Reliability of the Instruments

Validity of the instruments was ensured by using appropriate sampling techniques and data instrumentation in measuring the concepts of the research instrument. Other experts in research made useful suggestions to help in fine tuning the questionnaires.

3.8 Ethical Consideration

Ethics as defined by Saunders et al. (2012) refer to rightness of the researcher's conduct in relation to the rights of those who become the subjects of the researcher's work. Ethical considerations are very relevant in being professional with what one does. Bryman and Bell (2007); Saunders, Lewis and Thornhill (2007) describe ethical consideration as the commitment ensured by the researcher to put into consideration the requisite ethics needed to be followed. Ethics and access are some of the critical aspects of every educational research work. The researcher's ability to collect data is dependent on gaining access to appropriate and relevant resources and respondents.

In the researcher's quest to collect data from the population of this study, the consent of the management of the bank under study was first sought for. The respondents were also promised that the data collected are solely for academic purpose and will be used only for that. Cooper and Schindler (2006) also add that the assurance of the confidentiality of the respondents and their responses is what allows for the identity of the respondents not to be indicated on the questionnaires. Therefore, based on the assurance of the confidentiality, the respondent agreed and responded to the questionnaire ad the interview without any fear or doubt

3.9 Data Collection Procedure

In order to get respondents to respond to the instruments on time, an initial contact was made to explain the objective of the dissertation and soliciting the respondents' cooperation and permission of the management of the bank. The rationale and purpose of the study was explained to the managers and staff of the selected units, after which they responded to the questionnaire. It took time to explain the items to the respondents to enhance the validity of the data. As they responded to the questionnaires, the researcher frequently checked up on them for further elaborations when the need arose and to find out whether they had completed. This exercise was carried out within ten (10) days.

3.10 Data Analysis

The raw data collected from the respondents was processed by coding the questionnaires using Statistical Package of Sciences Solution (SPSS) and Microsoft Excel. The questionnaires were analyzed using descriptive statistics. According to Glass and Hopkins (1996), descriptive statistics involves tabulating, depicting, and describing collections of data. They state that descriptive statistics provide very simple summaries about the sample of study and the measures. In this regard, the study used graphs, tabulations, simple frequencies and percentages to present the results, whiles regression analysis, and ANOVA was used as the models to determine the impact of electronic banking on profitability and growth of Banks where the profitability was the

Return on assets (ROA) as dependent variable and types of electronic banking as independent variables.

(Y)= $\beta_{\circ} + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_t X_t + \varepsilon_{it}$ Where:

Y1= Return on Assets

$X_1 =$ ATM

X_2 = Mobile banking

X_3 = Internet banking
X_4= SMS Banking β0 = Constant $\beta_1\ \beta_2\ \beta_3\ \beta_4$

=Regression Coefficients ε = Error term"

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CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

In this chapter, the results of the data analysis were presented and interpreted in line with the research objectives and the research questions. The data was presented in tables and graphs forms beginning with the sample characteristics and then research questions that were formulated to guide the research. The main objective of the study is to examine the impact of electronic banking on the profitability and growth of the Ghanaian banking sector. In this regard, the following objectives were outlined and these were to explore the perceptions of employees about the introduction of electronic banking services, to determine the extent to which electronic banking contributes to profitability and growth in the banking sector, to determine the challenges encountered with the use of electronic banking in Banks in Ghana and to determine the types of electronic banking services provide by the Fidelity bank.

4.1 Data Presentation and Analysis

In all, eighty-three (83) individuals were given questionnaires. This was used as a generalization for the entire establishment.

4.2. Demographic Characteristics of Participants

The study collected information on the demographics of the respondent. Information was collected on the sex and Age of the respondents.

4.2.1 Gender Distribution

This includes male and female who participated in the research.

Table 4.1 Gender Distribution

Gender	Frequency	Percentage
Female	18	21.7
Male	65	78.3
Total	83	100

Source: Field Data, August 2019

From the table 4.1 above, sixty- five (65) representing 78% of the total responses were males while eighteen (18) representing 22% of the total numbers were females. This clearly shows that there were more males participants than males.

4.2.2 Age of Respondents

Table 4.2: Age of respondents

Age interval	Frequency	Percent
Below 25 years	8	9.6
26-35 Years	21	25.3
36-45 Years	28	33.7
46-55 Years	17	20.5
56 years and above	9	10.8
Total	83	100.0

Source: Field Data, August 2019

Table 4.2 above shows the respondent suggestions on the percentage of age range of respondents. As seen above, 9.6% of the respondents fall below 25, 25.3 % fall between 26 and 35 years, 33.7% fall between 36 and 45 years whiles 20.5% of the respondent's fall in between the ages of 46 and 55 years. Finally, 10.8% of the respondents fall between, 56 years and above.

This includes the age range of respondents is below 25years to 56 years and above.

4.2.3 Education Level of respondents

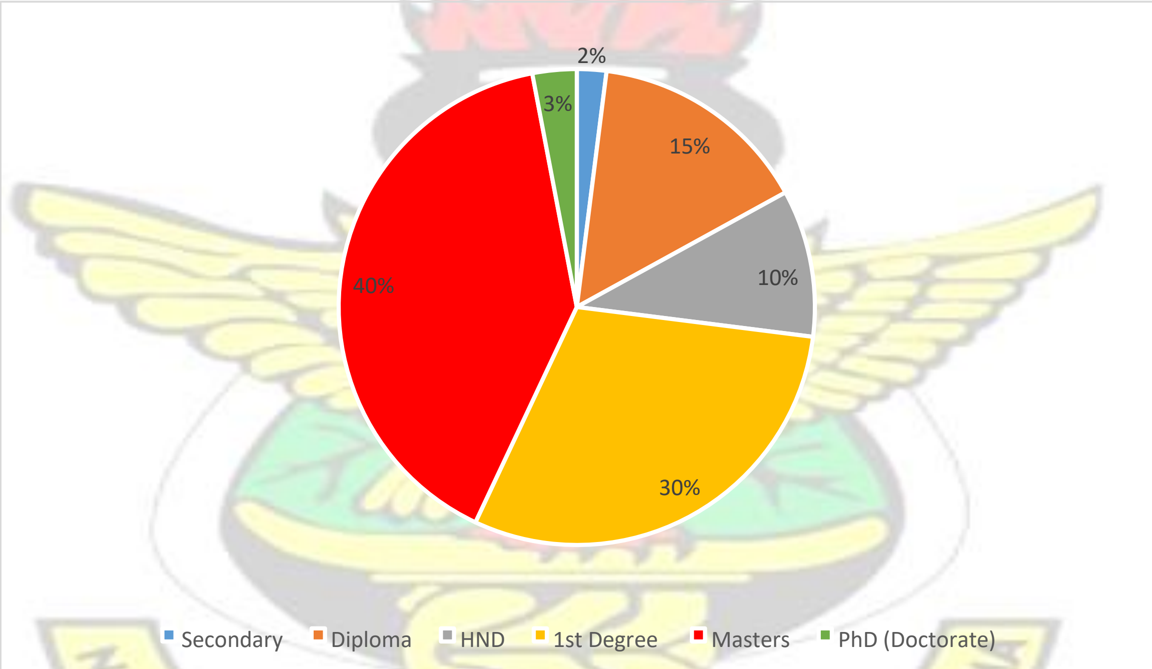

Figure 4.1: Education Level of respondents

Source: Field Data, August 2019

Figure 4.1 represents the educational level of the respondents. The results show that 2% of the respondents have only been to Secondary school while 15% of the respondents hold Diplomas. 10% of the respondents are HND certified while 30% of the respondents are degree holders. 40% of the respondent have attained their master's degrees. Finally, 3% of the respondents are PhD holders. Therefore, from the analysis, 90% of the respondents have completed either tertiary or post graduate level thus it can be assumed that they August have much knowledge about the research conducted.

4.2.4 Working experience of the respondents

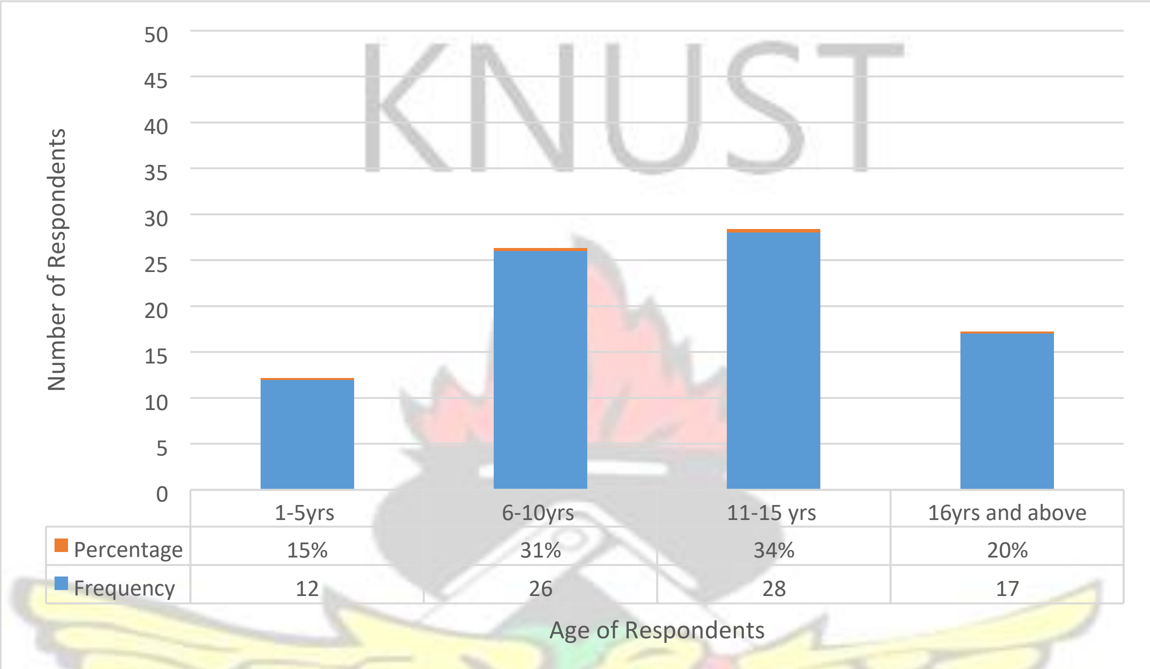

Figure 4.2: Working experience of the respondents

Source: Field Data, August 2019

The results in figure 4.3 revealed that 15% of the respondents had been with the bank for about 1to 5 years while 31% of the respondent had been with the bank between 6 to 10 years. 34% of the respondent have worked with the bank between 11 to15years. Finally, 20% of the respondents have worked with the bank between 16 years and above**.** In conclusion, majority of the respondents have worked with the bank between 11-15 years which represent 34%.

4.2.5 Category of Staff the Respondents

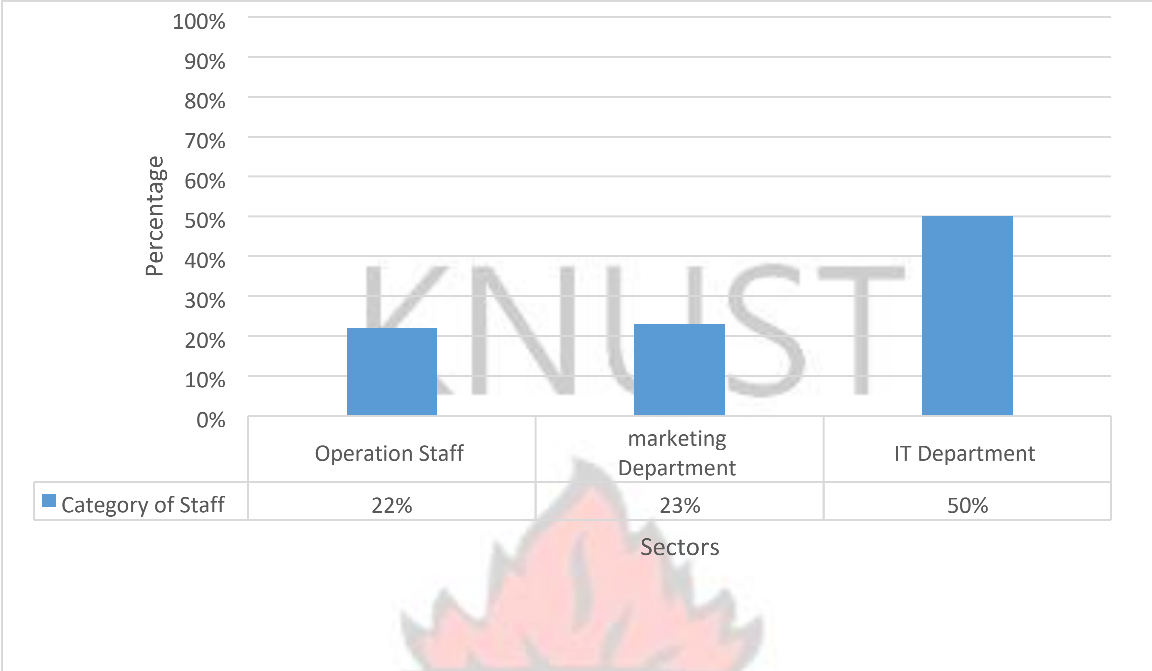

Figure 4.3: Category of Staff the Respondents

Source: Field Data, August 2019

From the below figure 4.3 represent the category of staff of the respondents in the bank. The researcher asked the respondents which category they belong to in the banking and it was indicated that 22% of the respondents were operational staff, while 23% of the respondents were at the marketing department. Finally, 50% of the respondents were at the IT department.

4.3 The perceptions of employees about the introduction of electronic banking services.

4.3.1 If the respondents have any perception about the electronic banking system

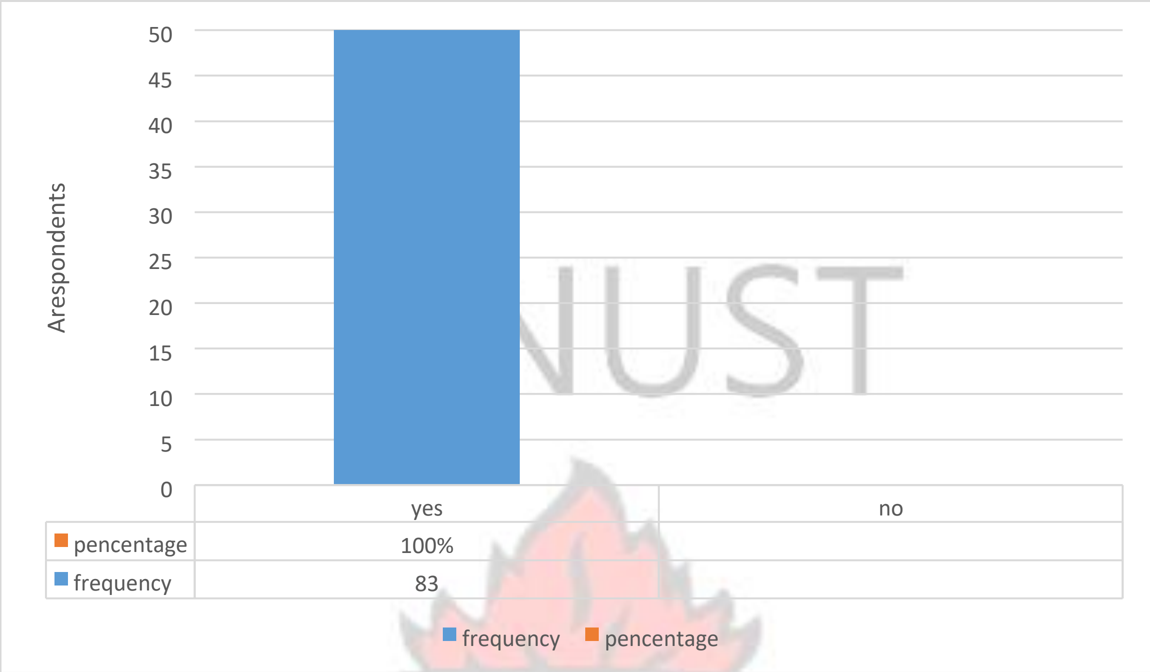

Figure 4.4 If the respondents have any perception about the electronic banking system

Source: Field Data, August 2019

The researcher wanted to know If the respondents have any perception about the electronic banking system and from the respondents 83 which represent 100% of the respondents said **yes,** they respondents have any perception about the electronic banking system.

4.3.2 The electronic banking system service or product that customers highly patronize

Table 4.3 The electronic banking system service or product that customers highly patronize

	Frequency	Percentage
The Automated Teller Machine (ATM)	78	19.4
Internet Banking	67	16.6
SMS Banking	81	20.1
Mobile banking	67	16.6
Credit and debit cards	55	13.6
Electronic Funds Transfer (EFT) system	55	13.6
Total	403	100

Source: Field Data, August 2019

The .researcher wanted to know the electronic banking system service or product that customers highly patronize and according to the respondents, more than 50 of the respondents responded that the electronic banking system service or product that customers highly patronize are the; The Automated Teller Machine (ATM) , Internet Banking, SMS Banking, Mobile banking, Credit and debit cards and Electronic Funds Transfer (EFT) system.

4.3.3 How reliable is the electronic Banking service provided by the bank

Table 4.4 How reliable is the electronic Banking service provided by the bank

	Frequency	Percentage

Very reliable	45	54.2
Reliable	16	19.3
Sometimes reliable	19	22.9
Unreliable	3	3.6
Very unreliable	0	0.0
Total	405	100.0

Source: Field Data, August 2019

In order to determine how reliable the electronic Banking is service provided by the bank, the respondents indicated that 45 representing 54% of the respondents stated that the electronic Banking service provided by the bank is very reliable whiles 19% of the respondents indicated that the electronic Banking is service provided by the bank is Reliable and 23% of them also, indicated that the electronic Banking is service provided by the bank is sometimes reliable. This clearly indicates that the respondents have agreed that the electronic Banking is service provided by the bank is very reliable by the customers.

4.3.4 The perception about the use of electronic banking system

Table 4.5 The perception about the use of electronic banking system

	Convenience (24 hours service, anywhere connectivity)				. es		l secure		Low service charge		Easy to ack my banking n activity	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Not important	2	2.4	22	26.5	55	66.3	11	13.3	11	13.3	15	18.1
least important	6	7.2	25	30.1	14	16.9	13	15.7	16	19.3	24	28.9
important	27	32.5	23	27.7	10	12.0	8	9.6	13	15.7	39	47.0
very important	48	57.8	13	15.7	4	4.8	51	61.4	43	51.8	5	6.0
Total	83	100.0	83	100.0	83	100.0	83	100.0	83	100.0	83	100.0

Source: Field Data, August 2019

The table above table 4.5 shows the perception the respondents have about the use of electronic banking system. In term of Convenience that is how available is the electronic banking system in 24 hours service and 90% of the respondents indicated that Convenience electronic banking system very important. 57% of the respondents indicated that been Curiosity about the use of electronic banking system is least or not important. Furthermore, 83.2% of the respondents indicated that it is not important to have better rates about the use of electronic banking system.

In addition, 71% of the respondents indicated that it very important to have the perception on the Safe and secure about the use of electronic banking system and 68% of them also indicated that it is very important to have perception on the Low service charge about the use of electronic banking system and finally, it is important to have perception on the easy to track the banking transaction activity using electronic banking system.

Therefore, in determine the perception about the use of electronic banking system the respondents indicated that they have perception about the Convenience, Safe and secure, Low service and the easy way to track the banking transaction activity using electronic banking system. However, it was indicated from the analysis that it was no important to have perception about curiosity and better rate about the use of electronic banking system.

4.3.5 The perceptions of employees about the introduction of electronic banking services

Table 4. 6 The perceptions of employees about the introduction of electronic banking services

	Quality of services and products have improved with the use of electronic banking system		I think customers are satisfied with services provided through the use of electronic banking system		I think the competition among banks has intensified with more banks adopting the use of electronic banking system	
	Frequency	Percentage	Frequency	Percentage	Frequency	percentage
strongly disagree	2	2.4	3	3.6	4	4.8
Disagree	2	2.4	4	4.8	3	3.6
Neutral	2	2.4	1	1.2	3	3.6
Agree	35	42.2	31	37.3	19	22.9
strongly agree	42	50.6	44	53.0	54	65.1
Total	83	100.0	83	100.0	83	100.0

Source: Field Data, August 2019

To determine the perceptions of employees about the introduction of electronic banking services and the following statement were made as the perceptions of the employees; Quality of services and products have improved with the use of electronic banking system, I think customers are satisfied with services provided through the use of electronic banking system and I think the competition among banks has intensified with more banks adopting the use of electronic banking system. And according to the respondents 94% of the respondents agreed that quality of services and products have improved with the use of electronic banking system.

Furthermore, about 90% of the respondents agreed that they think customers are satisfied with services provided through the use of electronic banking system and finally, 88% of them also indicated that they think the competition among banks has intensified with more banks adopting the use of electronic banking system.

Therefore, it can be concluded that the employees have a perception that Quality of services and products have improved with the use of electronic banking system, customers are satisfied with services provided through the use of electronic banking system and the competition among banks has intensified with more banks adopting the use of electronic banking system.

4.4 How electronic banking contribute to profitability and growth in the banking sector.

Table 4.7 How electronic banking contribute to profitability and growth in the banking sector.

	The availability of electronic banking system (ATM, Mobile banking etc.) has number of customers that come to the banking hall.		E-banking system has increased the productivity of our bank.		Customers have fewer complaints with the use of electronic banking system.		Electronic banking system has increased the productivity of our bank reduced the		E-banking system has positively impacted on the growth of our bank.	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	percentage
strongly disagree	3	3.6	2	2.4	2	2.4	2	2	7	8.4
Disagree	3	3.6	3	3.6	3	3.6	3	3	3	3.6
Neutral			2	2.4			0	0	5	6.0
Agree	15	18.1	21	25.3	20	24.1	58	24.1	31	37.3
strongly agree	62	74.7	55	66.3	58	69.9	83	69.9	37	44.6
Total	83	100.0	83	100.0	83	100.0	2	100.0	83	100.0

Source: Field Data, August 2019

To determine how electronic banking contribute to profitability and growth in the banking sector, 92.8% which represents the highest response agreed that the availability of electronic banking system (ATM, Mobile banking etc.) has reduced the number of customers that come to the banking hall whiles 7.2% disagreed that the availability of electronic banking system (ATM, Mobile banking etc.) has reduced the number of customers that come to the banking hall. Also, it was indicated Also 91.6% of the respondents said the E-banking system has increased the productivity of our bank. Whiles 94% of the respondents indicated that Customers have fewer complaints with the use of electronic banking system. 95% of the respondents stated that Electronic banking system has increased the productivity of our bank and finally 82% of the respondents said E-banking system has positively impacted on the growth of our bank. Therefore it was observed that electronic banking contribute to profitability and growth in the banking sector by E-banking system has increased the productivity of our bank, Customers have fewer complaints with the use of electronic banking system, Electronic banking system has increased the productivity of our bank, E-banking system has positively impacted on the growth of our bank and the availability of electronic banking system (ATM, Mobile banking etc.) has reduced the number of customers that come to the banking hall.

4.5 The challenges are encountered with the use of electronic banking in banks in Ghana.

Table 4.8 the challenges are encountered with the use of electronic banking in banks in Ghana.

	E-banking user friendly and understandable		Bank response customer complaints are not rapid enough		Frequent bank site downtimes		Frequent service interruptions and system failures		many security Issues with features delaying access to e-banking services		products are not to access to internet connection	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
strongly disagree	36	43.4	23	27.7	14	16.9	13	15.7	18	21.7	13	15.7
Disagree	19	22.9	27	32.5	11	13.3	12	14.5	11	13.3	13	15.7
Neutral	14	16.9	18	21.7	14	16.9	6	7.2			13	15.7
Agree	9	10.8	10	12.0	29	34.9	24	28.9	39	47	20	24.1
strongly agree	5	6.0	5	6.0	15	18.1	28	33.7	15	18.1	24	28.9
Total	83	100.0	83	100.0	83	100.0	83	100.0	83	100.0	83	100.0

Source: Field Data, August 2019

According to the researcher he listed some challenges that are encountered with the use of electronic banking in banks in Ghana. So, the researcher wanted to know if the respondents agree or disagree to it. Therefore, the researcher stated that E-banking products are not user friendly and understandable and 6% of the respondents strongly agreed that E-banking products are not user friendly and understandable, 11% of the respondents agreed that E-banking products are not user friendly and understandable. 43% of the respondents disagreed that E-banking products are not user friendly and understandable and 23% of the respondents also strongly disagreed that E-banking products are not user friendly and understandable. However, 17% which is the majority of the respondents said they do not agree or agree if E-banking products are not user friendly and understandable. This can be said that majority of the respondents disagreed that the E-banking products are not user friendly and understandable which means it is not challenge they are facing.

6% of the respondents strongly agreed bank response to customer complaints are not rapid enough, whilst 12% of the respondents agreed that bank response to customer complaints are not rapid enough. Also, 33% of the respondents disagreed that bank response to customer complaints are not rapid enough and 28% of the respondents also strongly disagreed that bank response to customer complaints are not rapid enough. However, 22% which represent of the respondents said they disagree or agree if bank response to customer complaints are not rapid enough.

Furthermore, 17% of the respondents strongly disagreed that frequent service interruptions and system failures and 13% of the respondents disagreed that frequent service interruptions and system failures whilst 35% of the respondents agreed that frequent service interruptions and system failures and 18% of the respondents also strongly agreed that frequent service interruptions and system failures. However, 17% said they disagree or agree if frequent service interruptions and system failures.

Moreover, 16% of the respondents strongly disagreed that frequent service interruptions and system failures and 15% of the respondents disagreed that frequent service interruptions and system failures whilst 29% of the respondents agreed that frequent service interruptions and system failures and 34% of the respondents also strongly agreed that frequent service interruptions and system failures. However, 7% said they disagree or agree if Frequent service interruptions and system failures.

In addition, 18% of the respondents strongly agreed that many security features delaying access to e-banking services, whilst 47% of the respondents agreed that many security features delaying access to e-banking services. Also, 22% of the respondents disagreed that many security features delaying access to e-banking services and 13% of the respondents also strongly disagreed that many security features delaying access to e-banking services

Finally, 16% of the respondents strongly disagreed that issues with access to internet connection16% of the respondents disagreed that issues with access to internet connection whist 21% of the respondents agreed that issues with access to internet connection and 29% of the respondents also strongly agreed that issues with access to internet connection. However, 16% responded that they agree or disagree if issues with access to internet connection.

In conclusion the respondents said the challenges that are encountered with the use of electronic banking in banks in Ghana were frequent service interruptions and system failures, security features delaying access to e-banking services and issues with access to internet connection. However, E-banking products are not user friendly and understandable, the E-banking products are not user friendly and understandable which means it is not challenge they are facing and bank response to customer complaints are not rapid enough were identified not to be a challenge encountered with the use of electronic banking in banks in Ghana.

4.6 The types of electronic banking services used by the fidelity bank

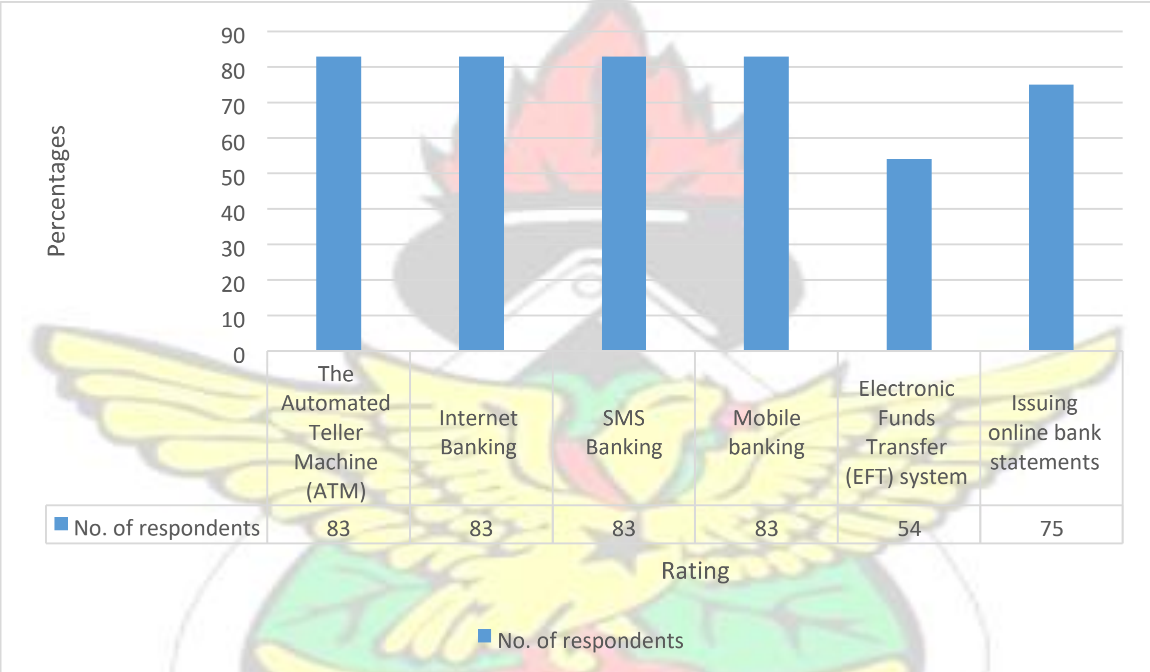

Figure 4.7 The types of electronic banking services used by the fidelity bank

Source: Field Data, August 2019

From the figure 4.7 to identify the types of electronic banking services used by the fidelity bank, it was observed that all the 83 respondents stared that the types of electronic banking services used by the fidelity bank are the automated teller machine, internet banking, SMS banking, and Mobile banking. Whiles 54 and 75 of the respondents agreed that some of the types of electronic banking services used by the fidelity bank are the Electronic Funds Transfer (EFT) system and Issuing online bank statement.

4.7 The impact of **electronic banking on profitability and growth of Banks.**

(Y)= $\beta_{\circ} + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_t X_t + \varepsilon_{it}$ Where:

Y1= Profitability

X_1 = ATM

X_2 = Mobile banking

X_3 = Internet banking X_4= SMS Banking β0 =

Constant β_1 β_2 β_3 β_4 =Regression Coefficients ε =

Error term

4.3.1 Hypothesis

H0: The use of electronic banking does not have a significant impact on profitability and growth of Banks

H1: The use of electronic banking has a significant impact on profitability and growth of Banks

Table 4.9: Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.593[a]	.351	.318	.537

a. Predictors: (Constant), SMS Banking, Internet banking, ATM, Mobile banking

Source: Field Data, August 2019

Table 4.9 recorded R value as 0.593[a] which signifies a strong positive relationship between the dependable variable, Overall (SMS Banking, Internet banking, ATM, Mobile banking). The statistics of more importance is the Adjusted R-Square which recorded a value of 0.318 representing 31.8% of the total variability in average performance accounted for by the independent variables in the model.

Table 4.10; ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	12.013	4	3.003	10.425	.000[a]
	Residual	22.182	77	.288		
	Total	34.195	81			

a. Predictors: (Constant), SMS Banking, Internet banking, ATM, Mobile banking

b. Dependent Variable: Profitability

Source: Field Data, August 2019

The results showed R^2 value of 0.351 meaning that 35.1%, systematic variations could be explained by the measures of the performance of the electronic banking system in the banking sector. This indicates that there are more variables that explain the performance of the electronic banking system in the banking sector. The F value which is the overall goodness of fit is 10.425 and greater when compared to the critical value of the constant on the F-table at 5% level of significance.

Also, we fail to reject the null hypothesis when the P value is greater 0.05 but reject the null hypothesis when less than 0.05. Since 0.000 < 0.05 we reject the null hypothesis and therefore accept the alternative hypothesis and conclude that the use of electronic banking has a significant impact on profitability and growth of Banks.

Table 4.11 Coefficients of the variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	3.495	.326		10.735	.000
ATM	.296	.059	.557	4.991	.000
Mobile banking	.089	.065	.160	1.365	.176
Internet banking	.023	.057	.048	.410	.683
SMS Banking	.011	.057	.026	.198	.844

a. Dependent Variable: Profitability

From the table 4.11 of coefficients above, the regression equation is given by

Profitability$= 3.495_{\circ} + 0.29$ ATM$_1$ $+ 0.089$ Mobile banking $_2 +$

$0.023 \text{ Internet banking}_3 + .011 \text{ SMS Banking}_4$

The independent variables were positively correlated with the profitability of the bank and all the independent variables (SMS Banking, Internet banking, ATM, Mobile banking) including the constant are correctly signed. None of the independent variable of its t-test above 10.425 and passes the t-test at 5% level of significance. Therefore, will conclude that the use of electronic banking has a significant impact on profitability and growth of Banks.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This final chapter is a concluding chapter of the whole project and the summary of the findings, given conclusions of the entire research work against the background of the objectives as outlined in Chapter One of the study and making of recommendations for possible consideration to the problem identified.

5.2 Summary of the Study

Majority of the respondents were males and they were between the ages of 25 to 45 years. Also, from the analysis, about 90% of the respondents have completed either tertiary or post graduate level thus it can be assumed that they August have much knowledge about the research conducted. In addition, majority of the respondents have worked with the bank between 11-15 years which represent 34% and most of the respondents were senior staff, Operational staff, marketers and IT personal.

5.2.1 Key findings

The main objective of the study is to examine the impact of electronic banking on the profitability and growth of the Ghanaian banking sector. In this regard, the following objectives were outlined and these were to explore the perceptions of employees about the introduction of electronic banking services, to determine the extent to which electronic banking contributes to profitability and growth in the banking sector, to determine the challenges encountered with the use of electronic banking in Banks in Ghana and to determine the types of electronic banking services provide by the Fidelity bank.

Therefore, the first objective which is to explore the perceptions of employees about the introduction of electronic banking services. It was identified that the respondents have any perception about the electronic banking system. It was also, observed that the electronic banking system service or product that customers highly patronize are the; The Automated Teller Machine (ATM), Internet Banking, SMS Banking, Mobile banking, Credit and debit cards and Electronic Funds Transfer (EFT) system. From the analysis it was indicated that the respondents have agreed that the electronic Banking is service provided by the bank is very reliable by the customers. Again, it was observed that the employees have a perception that Quality of services and products have improved with the use of electronic banking system, customers are satisfied with services provided through the use of electronic banking system and the competition among banks has intensified with more banks adopting the use of electronic banking system.

Secondly, to determine the extent to which electronic banking contributes to profitability and growth in the banking sector. It was discovered that electronic banking contribute to profitability and growth in the banking sector by E-banking system has increased the productivity of our bank, Customers have fewer complaints with the use of electronic banking system, Electronic banking system has increased the productivity of our bank, E-banking system has positively impacted on the growth of our bank and the availability of electronic banking system (ATM, Mobile banking etc.) has reduced the number of customers that come to the banking hall.

Furthermore, the next objective was to determine the types of electronic banking services provide by the Fidelity bank and after the analysis it was indicated that the types of electronic banking services used by the fidelity bank are the automated teller machine, internet banking, SMS banking, and Mobile banking. Whiles 54 and 75 of the respondents agreed that some of the types of electronic banking services used by the fidelity bank are the Electronic Funds Transfer (EFT) system and Issuing online bank statement.

Lastly but not the least, the forth objective was to determine the challenges encountered with the use of electronic banking in Banks in Ghana and from the analysis it depict that the challenges that are encountered with the use of electronic banking in banks in Ghana were frequent service interruptions and system failures, security features delaying access to e-banking services and issues with access to internet connection. However, E-banking products are not user friendly and understandable, the E-banking products are not user friendly and understandable which means it is not challenge they are facing and bank response to customer complaints are not rapid enough were identified not to be a challenge encountered with the use of electronic banking in banks in Ghana.

Finally, determine the main objective of the study which is to examine the impact of electronic banking on the profitability and growth of the Ghanaian banking sector. it was observed that the independent variables were positively correlated with the profitability of the bank and all the independent variables (SMS Banking, Internet banking, ATM, Mobile banking) including the constant are correctly signed. None of the independent variable of its t-test above 10.425 and passes the t-test at 5% level of significance. Therefore, it was concluded that the use of electronic banking has a significant impact on profitability and growth of Banks.

5.3 Conclusion

In conclusion the employees have a perception that Quality of services and products have improved with the use of electronic banking system, customers are satisfied with services provided through the use of electronic banking system and the competition among banks has intensified with more banks adopting the use of electronic banking system

Secondary, the electronic banking contribute to profitability and growth in the banking sector by E-banking system has increased the productivity of our bank, Customers have fewer complaints with the use of electronic banking system, Electronic banking system has increased the productivity of our bank, E-banking system has positively impacted on the growth of our bank and the availability of electronic banking system (ATM, Mobile banking etc.) has reduced the number of customers that come to the banking hall.

Furthermore, the challenges that are encountered with the use of electronic banking in banks in Ghana were frequent service interruptions and system failures, security features delaying access to e-banking services and issues with access to internet connection.

Finally, the use of electronic banking has a significant impact on profitability and growth of Banks.

5.4 Recommendations

In order for E-banking banking to positively impact the banking industry of Ghana, the study recommends the following: 1. Ensure Internet Banking Security It is particularly important that banks in Ghana that are providing Internet banking products and services ensure that the privacy and security of their Internet banking customers are effectively guaranteed. This will embolden customers to continue using the service.

2. Ensure Constant Availability of Service Banks must ensure that the internet banking service is always available. Periodic routine maintenance and replacement of faulty equipment must be prompt to prevent service disruptions.

3. Marketing of Internet Banking products and services Banks should intensify the campaign on internet banking services to prospective customers by ensuring to provide customers with quality internet banking service which is always available.

4. Maintenance of system frequently to avoid frequent service interruptions and system failures,

5. Employ more IT specialist to operate on the issues with access to internet connection. 6. Routine maintenance and replacement of e-facilities and other related equipment to prevent system disruptions Banks must work their way through to earn the trust of their customers as customers‟ decision to adopt e-banking is based on trust 7. Staffs should be given regular training on how to provide customers with quality service.

5.5 Suggested Areas for Further Research

It must be emphasized that this study forms part of other similar studies that have been conducted in different areas. Taking into consideration its limitations, the study wishes to suggest that further research could be conducted in the following areas:

i. The challenges the banks face with the use of E-banking system and its implications.
ii. Increase from one bank to four to five different banks in Ghana.

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Appendix 1

Questionnaire

PROJECT WORK

THE IMPACT OF ELECTRONIC BANKING ON THE PROFITABILITY AND GROWTH OF THE GHANAIAN BANKING SECTOR

(CASE STUDY OF FIDILITY BANK)

The researcher is a master's student of the …………. writing a project on the topic: the impact of electronic banking on the profitability and growth of the Ghanaian banking sector in partial fulfillment of the requirements for the master's degree in ………. I would be very grateful to welcome your response to the questionnaire below as your contribution to make the writing of my project work a success. Any information given would be purely for the purpose of academic work and would be treated with utmost confidentiality.

(Please tick (√) the appropriate boxes where applicable).

SECTION A: DEMOGRAPHIC

1. Gender a) Male [ ] b) Female [ ]
2. Age a. 25 Years and below [ ] b. 26-35 years [ ] c. 36-45 Years [ ]

   d. 56-55 Ears [ ] e. 56 years and above [ ]
3. What is your Educational Level?

 a. Secondary/Equivalent [ ] b. Diploma [ ] c. HND [ ] d. 1st Degree [ ]

 e. Masters [ ] f. PhD (Doctorate) [ ] Other(s) [ ]. If other(s) specify ………………………

4. Years of Working in the Bank a) 1-5yrs [ ] b) 6-10yrs [ ] c) 11-15 yrs [ ] d) 16yrs and above [ ]

5. Category of Staff a) Junior Staff [ ] b) Senior Staff [ ] c) Management Staff [ ] d. marketing Department e.IT Department [ ] f. Operation Staff [ ]

 Department Please specify ……………………………………

SECTION B

THE PERCEPTIONS OF EMPLOYEES ABOUT THE INTRODUCTION OF ELECTRONIC BANKING SERVICES.

6. Do you have any perception about the electronic banking system?

a. Yes [ ] b. No [ ] c. Not Sure [ ]

7. Which electronic banking system service or product do customers highly patronize?

a. The Automated Teller Machine (ATM) [ ]

b. Internet Banking [ ]

c. SMS Banking [ ]

d. Mobile banking [ ]

e. credit and debit cards **[ ]**

a. Electronic Funds Transfer (EFT) system **[ ] b.**

Others (specify)

……………………………………………………………………………………

……………………………………………………………………………………………

……………………………

8. How reliable is the electronic Banking service provided by the bank?

a. Very reliable [ ]
b. Reliable [ ]

c. Sometimes reliable [ ]

d. Unreliable [ ]

e. Very unreliable [ ]

9. What are perception about the use of electronic banking system? (Please prioritize the following list in the order of importance. 4: the most important 1: the not important) Please use each number only once.

a. Convenience (24 hours service, anywhere connectivity) [ ]

b. Curiosity [ ]

c. Better rates [ ]

d. Safe and secure [ ]

e. Low service charge [ ]

f. Easy to track my banking transaction activity [ ]

10. Please indicate the degree of your agreement or disagreement with each statement by checking on the space provided in terms of your perception.

Use a scale of 1- 5 where 5= agree strongly, 4=agree, 3= not sure, 2= disagree and 1= strongly disagree

NO.	DESCRIPTION	Strongly disagree	Disagree	Not sure	Agree	Agree Strongly
1	Quality of services and products have improved with the use of electronic banking system					
2.	I think customers are satisfied with services provided through the use of electronic banking system					
3.	I think the competition among banks has intensified with more banks adopting the use of electronic banking system					

SECTION C

HOW ELECTRONIC BANKING CONTRIBUTE TO PROFITABILITY AND GROWTH IN THE BANKING SECTOR.

11. Please indicate the degree of your agreement or disagreement with each statement on how electronic banking contribute to profitability and growth in the banking sector by checking on the space provided.

Use a scale of 1- 5 where 5= agree strongly, 4=agree, 3= not sure, 2= disagree and 1= strongly disagree

NO.	DESCRIPTION	Strongly disagree	Disagree	Not sure	Agree	Agree Strongly

1	The availability of electronic banking system (ATM, Mobile banking etc.) has reduced the number of customers that come to the banking hall.					
2.	Customers have fewer complaints with the use of electronic banking system.					
3.	Electronic banking system has increased the productivity of our bank					
4.	E-banking system has positively impacted on the growth of our bank.					
5	E-banking system has increased the productivity of our bank.					

THE CHALLENGES ARE ENCOUNTERED WITH THE USE OF ELECTRONIC BANKING IN BANKS IN GHANA.

12. Please indicate the degree of your agreement or disagreement with each statement on the challenges encountered with the use of electronic banking in banks in Ghana by checking on the space provided.

Use a scale of 1- 5 where 5= agree strongly, 4=agree, 3= not sure, 2= disagree and 1= strongly disagree

NO.	DESCRIPTION	Strongly disagree	Disagree	Not sure	Agree	Agree Strongly
1	E-banking products are not user friendly and understandable					

2.	Bank response to customer complaints are not rapid enough					
3.	Frequent bank site downtimes					
4.	Frequent service interruptions and system failures					
5.	Many security features delaying access to e-banking services					
6.	Issues with access to internet connection					

SECTION E

THE TYPES OF ELECTRONIC BANKING SERVICES USED BY THE FIDELITY BANK

13. What are the types of electronic banking services do this bank offer?

f. The Automated Teller Machine (ATM) [ ]

g. Internet Banking [ ]

h. SMS Banking [ ]

i. Mobile banking [ ]

j. Funds transfer and utility bill payments [ ]

k. Electronic Funds Transfer (EFT) system **[ ]**

l. Issuing online bank statements **[ ]**