

**EFFECT OF BANK INNOVATIONS ON FINANCIAL PERFORMANCE OF  
UNIVERSAL BANKS IN GHANA**

By  
**KNUST**

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**A thesis submitted to the department of Accounting and Finance,**

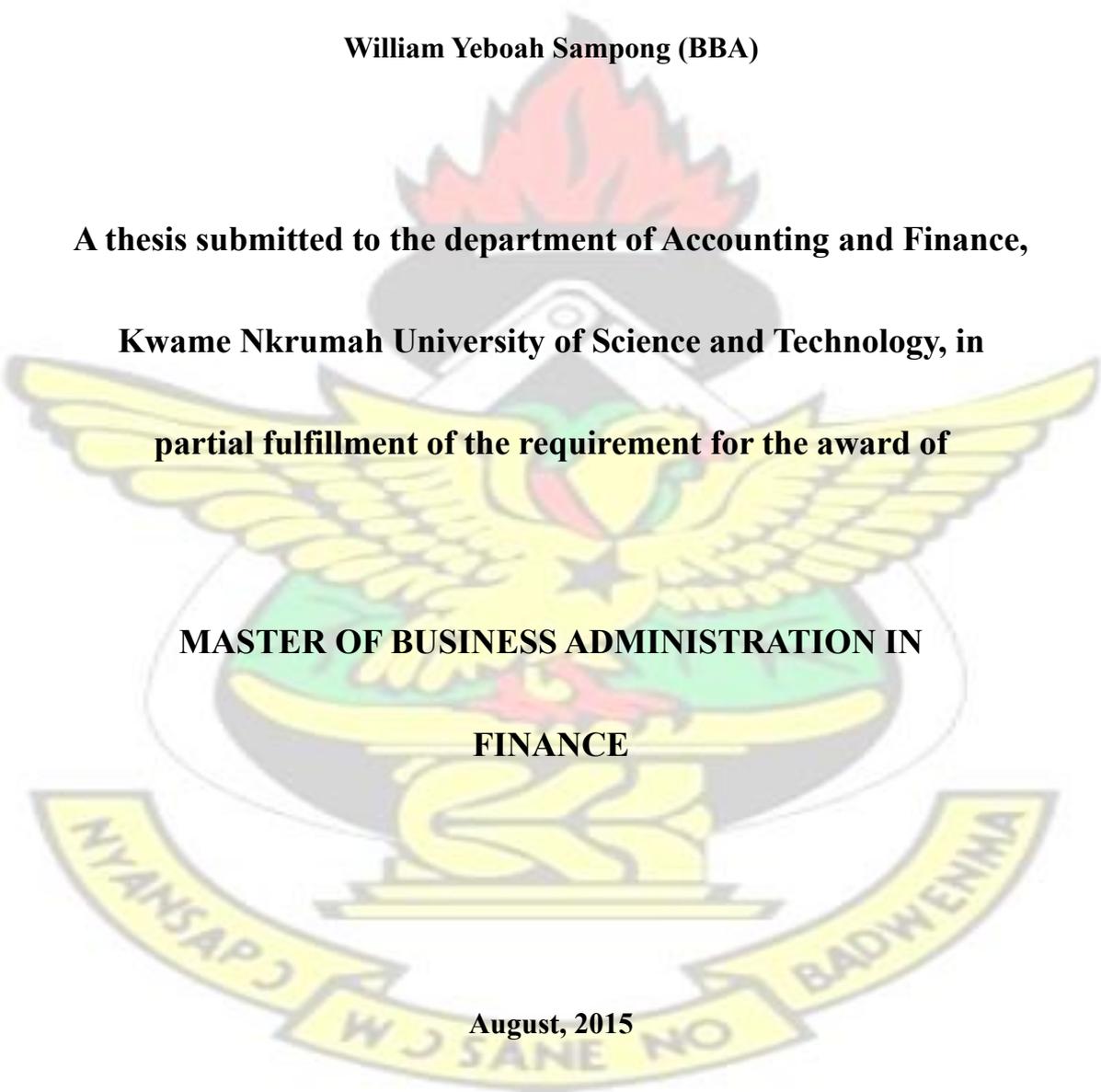
**Kwame Nkrumah University of Science and Technology, in**

**partial fulfillment of the requirement for the award of**

**MASTER OF BUSINESS ADMINISTRATION IN**

**FINANCE**

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## DECLARATION

I hereby declare that this submission is my own work towards the MBA and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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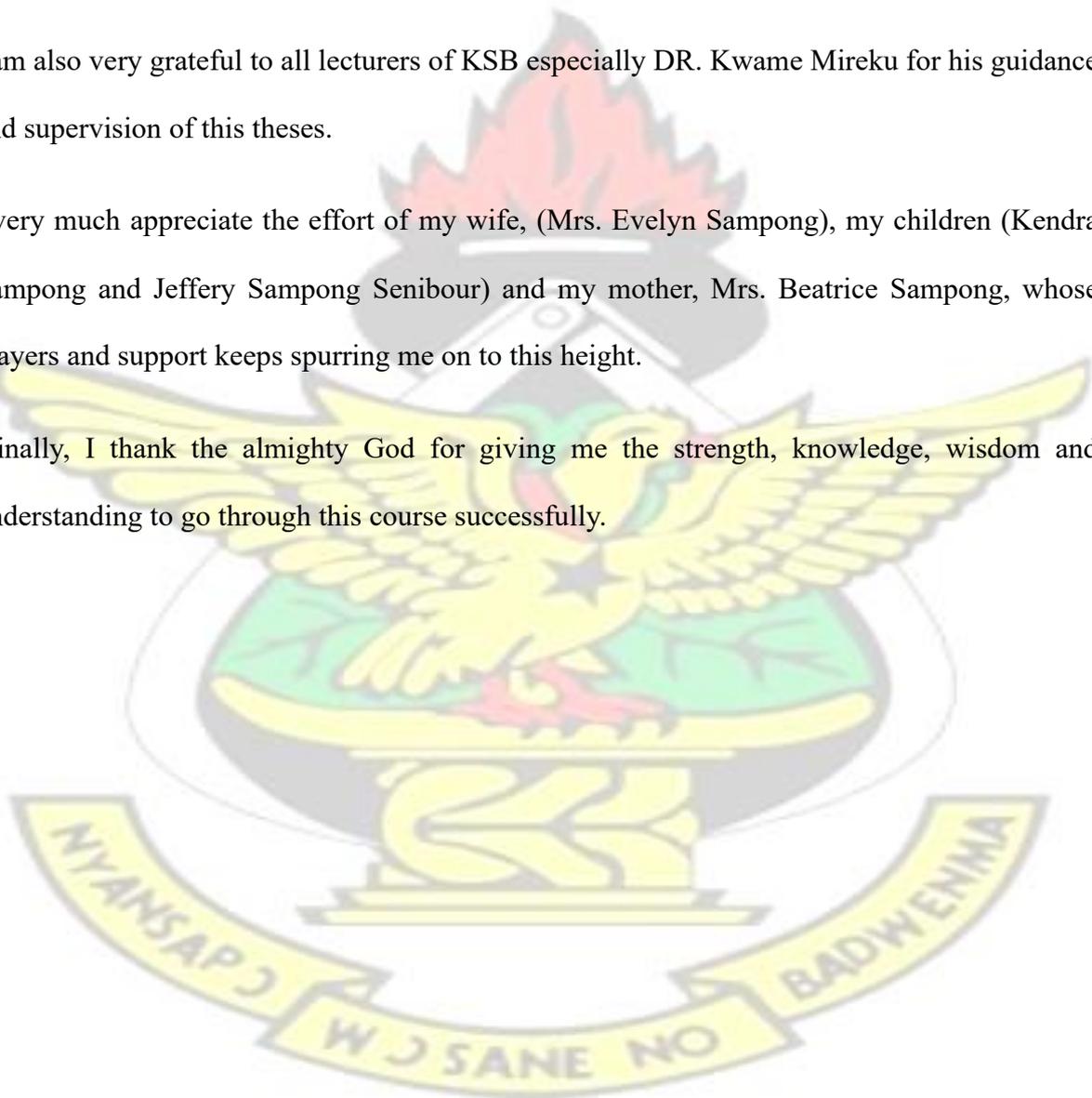
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Finally, I thank the almighty God for giving me the strength, knowledge, wisdom and understanding to go through this course successfully.



## DEDICATION

To the Almighty God be the glory for making my dreams come into reality.

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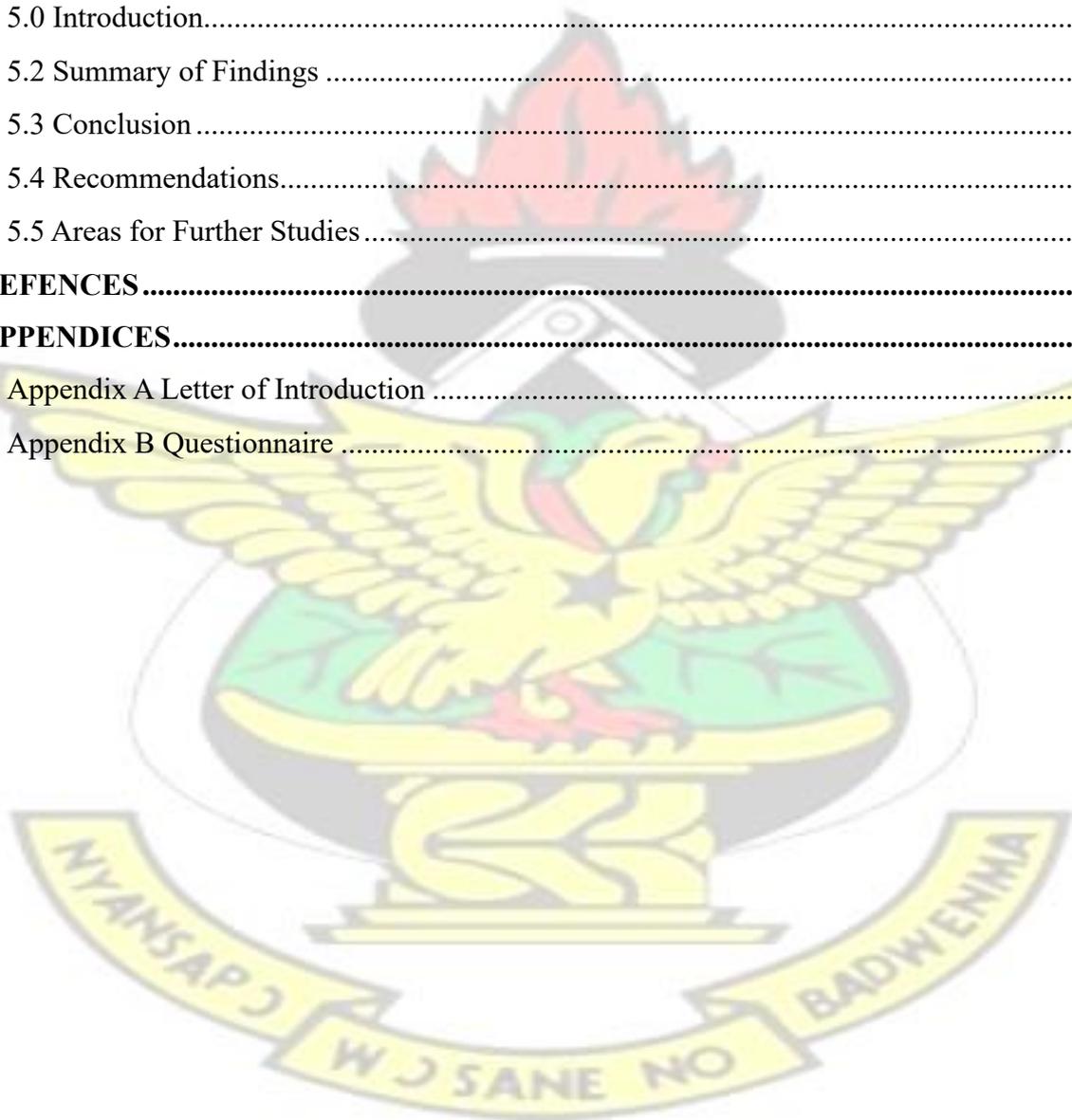
## ABSTRACT

The Ghanaian Banking industry is witnessing a revolution as a result of technological innovations that have become a common feature of banking in the contemporary business environment. The arrival of the Internet and the proliferation of mobile telecommunication companies in Ghana present both an opportunity and a challenge to banks in Ghana. The test for the banking sector has been how to profitably formulate a new service delivery means in such a way that its clients will enthusiastically learn to use and trust. The purpose of this work is to identify the effect of bank innovations on the financial performance of universal banks in terms of their income or revenue generation, liquidity, efficiency, profitability and the general patronage of banking services in Ghana. This work is a survey of bank executives from fifteen (15) universal banks in Accra and Kumasi. Questionnaires were administered to find out the opinions of bank executives on the effect of bank innovations on financial performance. It was discovered that most of the innovations have positive effect on the income generating potentials of the banks, they also improves efficiency, liquidity and profitability of the banks. This study also found out that E-zwich as an innovation in the financial sector has no direct effect on financial performance of the universal banks in Ghana. It is recommended that corporate banks must make it a policy to establish an efficient and effective marketing department to oversee the publicity of all bank innovative products. The Government through Bank of Ghana must continue to invest in researching into innovations in the financial sector, and the universal banks whose operations are affected by any national innovative products or platforms such as E-zwich should be consulted and their concerns factored in the product before implementation.

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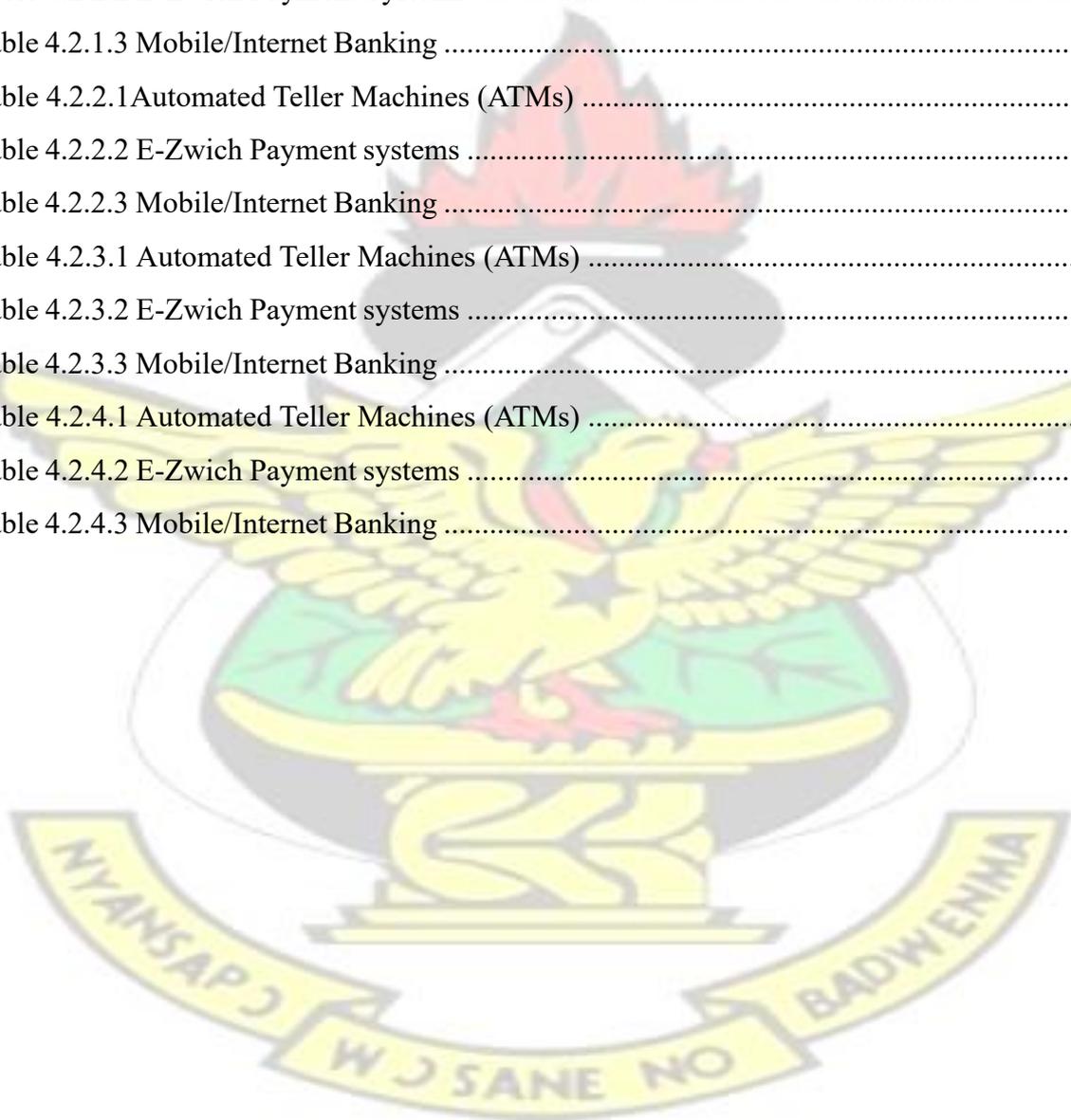
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## CHAPTER ONE

### INTRODUCTION

#### 1.0 BACKGROUND OF THE STUDY

This study is to show how financial innovative products affect the financial performance of the Ghanaian Banking Sector. Rose (1999) defines banks as any financial institutions which offer a broad range of financial services, including the provision of credit, deposits and payment systems and employ an extensive variety of financial intermediation functions in any business economy. According to Lerner and Tufano (2011), „financial innovation is defined as the „act of creating and then popularizing new financial assets or products, as well as new financial technologies, organizations and markets“. In recent past, it was possible for banks to satisfy their customers and to meet their own performance targets without the need to develop any new products to enhance service delivery due to the fact that account holders and banks were few, with the low volume of transactions, and lack of competition in the banking industry. According to the 2014, Ghana Banking survey by PricewaterhouseCoopers

„Ghana has 27 universal banks, 137 rural and community banks, 58 non-bank financial organizations including, leasing firms, mortgage providers, finance houses, and saving and loan institutions“. These do not include the hundreds of „Susu“ collectors, who serve as informal, small-scale depository financial organizations for market sellers, artisans and commercial transport operators. Of the twenty-seven (27) universal banks, 10 are owned by Ghanaians while the remaining is backed by international owners.

Bank innovations involve the development of new products/services or production process that lead to efficient and effective operations. Nofie (2011), described innovations in the banking industry as the entrance of new or improved products or a processes which reduces the operational cost of rendering existing banking services. According Agboola (2003), the

adoption of Information and Communication Technology in financial institutions have improved customer services, facilitated the accuracy of account, provided for home and office banking services, ensured convenient business hours, timely and fair attention, and improved service delivery.

The liberalization of banking industry by the bank of Ghana, and the resultant rise in competition among the banking and non-banking financial institutions in the Ghanaian financial market has brought to the fore the need for the creation of innovative financial assets or products that would maintain current customers and attract new ones. The Banking Act, 2004, has reinforced the threat of new entrants of competitors into the financial market, and the continuous education has created public awareness of banking services which have resulted in a rise in customer quest for quality and improvement in products and introduction of new ones. The banking sector in the country comprises mainly universal banks, savings and loans organizations and also special rural and community banks.

The traditional commercial banking is declining in terms of competition and this may threaten the financial stability of the banks. This will result in increasing bank failures through the exposure to higher risk by the banks, which either makes more risky advances to clients or by involving in 'nontraditional' banking activities that guarantee better returns but with additional risk. The conventional manual system of banking, for instance, put a lot of stress and strain on bank staff that has to attend to many more customers and handle more paper work. To reduce the Increasing cost of manual processing of customers" data, Banks are thus compelled to introduce measures that will increase their profitability, capitalization, deposit and fund mobilization as well as reduce their operational costs, to serve the customers who complained of time wasted in queuing for banking services compelling most of them to keep their savings at home and thereby adversely affecting deposit mobilization.

In furtherance of the objective to compete, universal banks in the Country decided to restructure their system of operations by embarking on Bank Innovation or other Direct Customer banking Sales services, which offer consumers and businesses the opportunity to undertake a lot of banking functions at home instead of been physically present in the banking hall. The customer is able to do home banking through the internet and telephones that provide him/her with a lot of convenient banking services. The customers are able to transfer funds from one account to another, make loan applications, request for cheque books, monitor the loan payments, pay bills, check accounts balances, buy and sell financial assets, and perform other services. Through innovation home banking has become easier and very convenient to users. Home banking gives the user the following advantages; privacy, speed, accuracy and the ability to do business in all the 24 hours in a day. The banks also levy moderate commission for the use of home banking innovation. One banking function that is not currently available to home bankers is the ability to receive cash; therefore, the users must still attend to the bank teller or automatic teller machine (ATM)

The internet bank operates solely through the Internet, which is a global network of computer networks with no "brick and mortar" building or the branch offices. Internet banking has the following advantages; firstly, it eliminates many of the expenses of the conventional banks, secondary, the banks can hypothetically pay depositors a higher rate of interest on deposits as compared with the conventional commercial bank's rate. Thirdly, financial institution that uses the internet banking for service delivery removes or minimizes the need to build more branches to serve clients efficiently. Fourthly, Internet banking has the prospect of convenient banking to the customer who is able to manage personal accounts and to perform other services such, as paying bills on-line, applying for auto loans and also the ability to offer the customer a 24-hour telephone response to the customers who can discuss his/her needs with bank service representatives.

This help to reduce long queues, long waiting hours and inaccessibility to banking services outside banking hours and weekends. When there were only three commercial banks, for example in Ghana, there was limited or no competition at all, but with the emergence of new banks and government deregulation of Interest rates. Competition has become very keen. The universal banks, therefore, developed different innovative products in order to stay in business. The networking system is a typical example of this. In recent times, also banks have developed new methods of advancing loans to their customers especially salaried workers. This is done by entering into agreement with established organizations to facilitate the grant of loans to their staff. This has proved very helpful to workers, and relieved employers of the burden of having to look for funds to grant loans to their workers.

### **1.1 STATEMENT OF THE PROBLEM**

The traditional commercial banking is declining in terms of competition and this may threaten the financial stability of the banks. Therefore, banks in Ghana must have business strategy that include the development, implementation and evaluation of the effect of innovative products, aimed at maintaining existing customers and attracting new ones, such innovations must also improve efficiency and profitability of the banks. Banks in Ghana have been generally slow in adopting new and modern innovative ways of improving service delivery to their customers, and three reasons may be attributable to their lackadaisical attitude toward the development of new financial innovations. Firstly, the payback period for the initial capital outlay may be longer and unacceptable to management and shareholders, secondly, these innovations may not have a positive correlation with financial performance in terms of efficiency and profitability and thirdly, the innovations may, nevertheless have their peculiar problems like computer and internet frauds, frequent breakdowns of the system and lack of personnel with requisite skill and commitment, which the banks needed in order to satisfy their customers, stay in business and effectively compete. However, some universal banks in Ghana are developing innovative

products in place of their old modus operandi of manual ways of doing business. Modern technologically advanced methods like E-zwich, Internet Banking, and Telephone Banking, which are all envisaged to reduce operational costs, and to attract more retail depositors to the banks. According to Frimpong (2010), „innovations provide an impetus for banks to improve their market performance by recovering from palpable inefficiencies prevalent in the banking industry, as is the case in Ghana and other emerging countries“. But what still remains uncertain to bank executives is whether bank innovations assist to attain the expected financial performances of the banks and the customer welfare“. Even though bank innovations have attracted considerable interest to researchers, the effect of these innovations on bank performance in Ghana has not been extensively researched into, therefore, the need to conduct this study. The results of this study will determine whether bank innovations have resulted in improving efficiency and profit levels of universal banking institutions in Ghana.

## **1.2 OBJECTIVE OF THE STUDY**

The general objective of this work is to identify the effect of bank innovations on the financial performance of the Ghanaian universal banks. The study also pursued other specific objectives in evaluating the impact of bank innovation on financial market as follows:

1. To examine the effect of innovations on the revenue or income of universal banks in Ghana.
2. To examine the effect of these innovations on liquidity and efficiency of banks in Ghana.
3. To examine the effect or the consequences of bank innovations on the levels of profits of the universal banking institutions in Ghana.
4. To find out the effect of bank innovations on patronage of banking services.

### **1.3 RESEARCH QUESTIONS**

With regard to the research objectives the following sampled questions adapted from previous studies by Ngumi (2013) were posed to management, heads of departments and staff of selected commercial banks in Ghana:

1. Whether Automatic Teller Machines (ATMs) have had an encouraging impact of improving bank earnings in terms of commissions?
2. Whether ATMs control the reduction of costs, and thereby resulting in improved return on assets for the bank?
3. Whether Income from E-Zwich has high mark-up which leads to more profits for the banks?
4. Whether Mobile/Internet Banking achieves less costs of operation resulting in greater amounts of profits over their useful life to the firm?
5. Whether Mobile/Internet Banking facilitates or enhances the accessibility to funds by customers for ease of withdrawal?
6. Whether Mobile Banking is attracting more retail depositors for the bank?

### **1.4 SIGNIFICANCE OF THE STUDY**

The study is significant in terms of its contribution towards understanding the important role of bank innovations in the Ghanaian banking industry and the whole economy of Ghana. This would enable shareholders or investors and management to be able to deal with and justify the resources spent on bank innovations. It would also bring to the fore the impact of these innovative products on the banks, and how it will help improve service delivery to their customers and to improve profitability and efficiency. „Innovations in electronic banking (e-banking) in Ghana have helped to improve not only efficiency but also financial intermediation“ (Acquah, 2006).

The benefits of bank innovation would not be left out on policy makers as it would be useful to Bank of Ghana who has the desire to grow the financial services in Ghana and to reduce the level of cash transactions in the country. The findings and recommendation of this study would bring to light the areas of support that government of Ghana should pay attention to towards bank innovations, and to formulate fiscal and monetary policies that aid the universal banks.

The research work will become a secondary source of information for any one who wants to undertake a further research work in this area. The suggested recommendations will also help the public and banking officials in their work.

### **1.5 SCOPE AND LIMITATIONS OF THE STUDY**

The study was restricted to fifteen (15) universal banks out of the twenty seven (27) banks in Ghana. The research was also restricted to only banks in Accra and Kumasi. There are many bank innovations but the study concentrated on E-zwich, Automatic Teller Machines and Mobile/internet Banking. Banking confidentiality is cardinal principle under banking law and therefore, strategic level staffs of the banks were reluctant of answering questions.

### **1.6 ORGANIZATION OF THE STUDY**

The organization of the study will be as follows: Chapter one will deal with or talk about the background of the study, statement of the problem, significance of the study, research question, scope and limitations of the study and finally the organization of the study. Chapter two is also another which will take into account the literature review on the topic the researcher is writing on. Chapter three of the study will cover the research methodology. Chapter four of the study will deal with analysis and presentation of data collected Chapter five which will be the last chapter will take into account summary of findings, conclusions and recommendations based on a researcher's topic.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 INTRODUCTION**

This chapter undertakes an academic appraisal of diverse literatures pertaining to bank innovation. The study focuses on the following important areas of the phenomenon under review; bank innovations and their effect on bank performance.

#### **2.1 DEFINITION OF KEY TERMS**

##### **2.1.1 FINANCIAL PERFORMANCE**

Financial performance can be defined as the measurement of how well an organization has put to good uses, its resources or assets to conduct business and generate revenue and thereby making profit which is the ultimate goal of every business organization, for its stakeholders. Financial performance could also be described as the measurement of an organization's total financial wellbeing over a specific period of time, usually one year. The same bank could have its performance compared over a number of years; there could also be comparison of performances between firms across the banking industry.

##### **2.1.2 RETURN ON ASSET**

The return on asset is a ratio which measures how efficient and effective a firm is using its resources. It shows the ability of the management of a bank to generate additional income from the investment in innovations. This ratio is indicative of the profitability of a bank and the higher this ratio, the more efficient management is using resources at their disposal. It also measures the relationship in terms of ratio between profit before interest and taxes and the total assets of a bank.

### **2.1.3 UNIVERSAL BANK**

According to Rose (1999), a bank is a financial institution that undertakes a broad variety of financial services; especially the provision of credit, savings and payment services and undertakes a broad variety of financial activities in any business economy. This definition, by far goes beyond the meaning of commercial banking which is restricted to the provision of services such as accepting of deposits, giving loans, operating checking accounts, electronic funds transfer, and foreign exchange transactions and are mainly in the area of commerce. Universal banks are not restricted in their scope of operations. They deal in commerce, merchandising, agriculture, investment in socio-economic development and the provision of services to the peripheral markets like unbanked or under-banked in an economy.

### **2.1.4 INNOVATION**

Innovation is the development of new approaches or techniques for delivering existing product, or on the other hand, the creation of new product or requirement. According to Lerner & Tufano (2011), two categories of innovation exist, which are product and process innovations. The former are exemplified by new derivative contracts, new corporate securities or new forms of pooled investment products, while the latter are typified by new means of distributing securities, processing transactions or pricing transactions.

### **2.1.5 RETURN ON EQUITY**

Return on equity is a ratio that measures the periodical relationship between the profit available to shareholders and their total equity of the firm. It shows how profitable the shareholder's investments have been over a period, usually one year.

## **2.2 BANK INNOVATION**

The importance of innovation in the Ghanaian Banking Industry abounds in several banking literature, few of which are indicated as follows:

According to Ghana Banking Survey (2008), carried out by PricewaterhouseCoopers, „valuable returns, convenience banking, Presence everywhere banking, Satisfying banking hall experience, Good customer service, and a Convincing image of a strong bank would be among key factors consumers would consider in deciding where to deposit their funds“.

PricewaterhouseCoopers (2014) survey confirmed that „bankers (executives) consider that technological factors will have the greatest influence on the future business of banking, and that key drivers for informing decisions about the industry“s uptake and deployment of technology for the increasing wealth, demand for convenience, cost-efficiency, and increased banking penetration“. According to Al-Hawari and Ward (2011), „the banking industry in mature markets has witnessed a wholesale and ongoing shift in confidence, and never before has loyalty management and personal customer attention been such an issue for the sector“. As rivalry within the banking sector intensified convenience and improved returns on deposit funds continued to be the trademark of bank“s marketing strategies for extensive growth over the recent past years, many more banks commenced identified variations of the same range of products-spots of virtual banking or innovation (e.g. e-banking and m-banking products). Zero balance accounts, quick cash, easy cash, school transactions solutions, juvenile saving accounts, card-based solutions.

Mobile/Internet banking has many advantages to the customer and the bank or financial institution. It increases ease of banking, grants more access to savings and significantly reduces time for banking. From the perspective of the bank, Mobile/internet banking reduces operational costs of the bank considerably as compared with the cost of operating additional branches to expand operations. Internet banking has all the impact on productivity of ATMs, except it lacks the function of cash dispensing by the ATMs as an innovation that provides retail banking services even after banking hours (24 hours a day). It accrues continual productivity for the bank.

The selection of particular banking products to be used by a bank is strategic in achieving a good reputation or image for the bank both in the short and long run. Apart from the high reputation and prestige, they also help in improving the banks chances of increasing its deposit mobilization. Even if the bank's sole purpose is to maximize share holders' investments, the concern for bank reputation may also be important. Investors' belief about the bank's ability of offering good and unique services may affect the price at which the bank can raise capital, employ people and sell its products.

According to Rose (1999), the combination of both the Automated and human tellers imply more productivity for the bank during banking hours. Also as it saves customer's time in service delivery as an alternative to queuing in banking halls, customer can invest such time saved into other productive activities. ATMs are a cost efficient way of yielding higher productivity as they achieve higher productivity per period of time than human tellers (an average of about 6400 transactions per month for ATM compared to 4300 for human tellers, (Rose 1999)

The automation of the Ghanaian domestic payments system is will help the banks reduce the processing cost associated with the use of cheques to make payments whilst keeping control over payments in the hands of the their managements. This for both banks and customers, will save time, costs, offer control of cash, improve relations with vendors and simplify reconciliation. The adverse effect of this product is the cost of set up and maintenance.

The cheque clearing process is very labour intensive and requires that paper cheque be moved from point to point. Movement of physical cheques is by a bearer to speeding up the collecting process. Through technology some banks are speeding up these processes by transmitting the Magnetic Ink Character Recognition (MICR) data electronically to the paying bank followed

by the physical Cheque. Cheque processing is another area in banking that technology is influencing significantly.

Technological innovations initiated by financial institutions have resulted in a significant increase in public savings in terms of time and money. Innovation significantly supplemented the central banks' effort in mopping up excess liquidity and controlling monetary growth, thereby reducing inflation. It also enables banks to adapt to new situations to increase the scale and range of their operation and to cater for both domestic and international needs as well as helping banks in networking their operations.

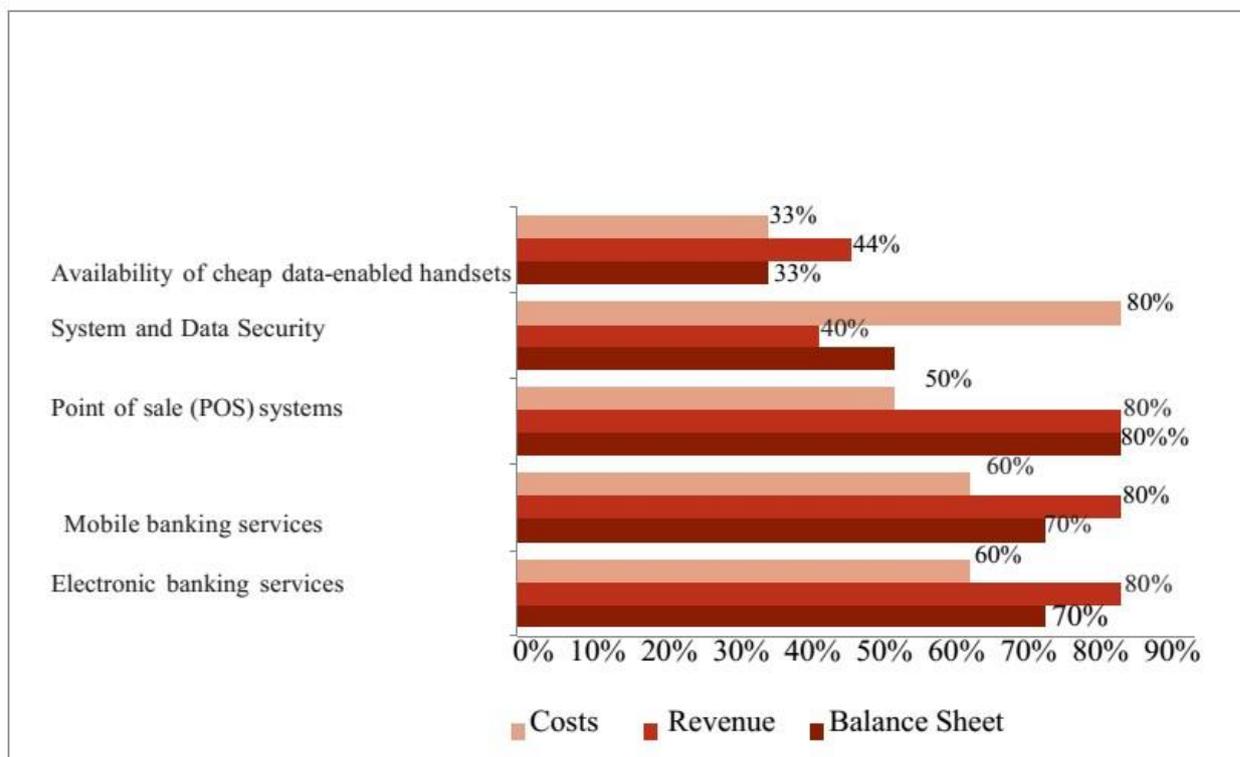
### **2.3 FINANCIAL PERFORMANCE OF UNIVERSAL BANKS**

Creativity and innovations are crucial for the survival of every business been it private or public sector. According to Damanpour et al., (2009), „innovation affects a firm's performance positively“. According to Frimpong (2010), „innovations provide an impetus for banks to improve their market performance by recovering from palpable inefficiencies prevalent in the banking industry, as is the case in Ghana and other emerging countries“. Profitability and efficiency are the major motives for banks to assume risks for expansion in its operations. Some of the measures that are used in evaluating a bank's profitability and efficiency are Return on Asset, Return on Equity, Net Profit Margin. Bank innovations have the potentials to increase the volume of retail transactions through increase usage of electronic transfers and payment systems which encourage the banking business. According to Mawutor (2014), „the introduction of E-banking has indeed had a positive effect on the profitability of Agricultural Development Bank (ADB) since it was introduced“.

Table 2.2.2.1 shown below is a secondary data from a survey work done by

PricewaterhouseCoopers on the „opportunities and challenges that technology-driven factors will most likely bring to the future business of banking in Ghana“. The table shows the responses on

how bank managers anticipate how technological factors may affect the future of the Ghanaian banking business. According to the survey bank executives confirmed that, these technologies or competitive drivers will have a significant increase in balance sheet/cost/revenue of the banking sector over the next 5 years. From the table, revenue especially non-interest income streams, to be generated outweighed the cost of implementing bank innovations.



PricewaterhouseCoopers 2014

## 2.4 BANK INNOVATIONS AND CUSTOMER DEPOSITS

According to Domeher et al., (2014), „the ease with which customers can use the innovation, the compatibility of the innovation with customers“ needs, the perceived usefulness thereof, the amount of information provided on the innovation and the level of customers“ education all have a significant positive impact on the adoption of e-banking innovations in the Ghanaian banking industry“. The inauguration of national electronic payment system or platform popularly called E-zwich, by the Bank of Ghana, has the objective of extending the coverage of

financial services and transactions to a large segment of the population, who stand to benefit because the system is safe, secure and very efficient to users. The e-zwich which is a biometrics smart card works both on-line and off-line and is meant to ensure cashless transaction and rope in the large untapped informal sector. It would promote access to deposited funds and ease the transfer of funds from one account to another, and also eliminate the burdensome and insecure physical cash transactions. Some of the challenges faced by bank innovation is the difficulty of changing the Ghanaians' perceptions about technology and their wait-to-see attitude. Therefore, all users including the small micro business enterprises as well as the larger populace must be motivated to take advantage of the platform and be linked up to the larger financial system.

## **2.5 TYPES OF BANK INNOVATION PRODUCTS**

### **2.5.1 INTERNET BANKING**

Internet banking involves the conduct of conventional banking activities on the Internet, that is, the global network of computer which does not depend on any "brick and mortar" office building; it offers financial services that are accessed through the Internet's World Wide Web (W.W.W.). By reducing the overhead expenses of traditional banks, Internet banks in theory can offer clients better interest rates on deposits than that of traditional banking average rate. Banks often rely on the Internet to convey information about financial products to the general public, replace business conducted at the branch offices, which do away with the need to put up new branches, and to serve clients more efficiently. Internet banking sites present the prospect of more suitable means to manage customer finances, and such activities as paying bills on-line, searching for mortgage or auto loans, applying for credit cards, and finding the nearest ATM or branch office. Several Internet banks also offer 24-hour telephone support, so clients can discuss their needs with bank service representatives directly. Internet Banking has the disadvantage of exposure to internet fraud, frequent network breakdown and virus infection.

### **2.5.2 E-ZWICH**

The national switch, otherwise known as E-zwich, which is a banking arrangement that make available a common electronic platform linking the payment systems of all license banks and non-bank financial organizations in Ghana, is a project undertaken by the Bank of Ghana, in association with other banks to bring the payment systems in Ghana to the best global standards. The Ghana interbank payment and settlement systems (GIPS) Limited, is the company responsible for managing the national electronic banking switch. customers of ezwich can load money onto a „smartcards“, which function in a like manner of bank debit or credit cards, except that they require biometric (fingerprint) identification instead of pin numbers and the cards can work in e-zwich Point of Sale (POS) machines that are „off-line“, or do not require an active connection to the bank.

The benefits of the e-zwich card includes: improved revenue from a rising smartcard customer base; reduced cash holdings, bank charges, communications costs, reconciliation problems and reduction of risks linked with fraud; Additionally, the ability of the system to reach the unbanked easily would bring more people outside the banking system into the financial system and increase deposits mobilized by bank to enable them to create more credit; The users will also profit from a more comfortable, less risky and easier means of spending and receiving money through the use of the smart card.

### **2.5.3 TELEPHONE BANKING**

Telephone banking is a bank innovation that enables the clients of a bank to undertake banking activities through the telephone. It can be considered as a form of remote or virtual banking, which is basically the performance of bank financial activities through telecommunication devices whereby bank clients can undertake retail banking business by calling on the telephone

or mobile communication unit which is connected to a system of the bank by Automated Voice Response (ABR) technology, Balachandher et al, (2001).

For the assurance of the system's security, the client must be first authenticated via a numeric or verbal password or by means of security questions being asked by a live representative at a centre or branch. With a clear exception of cash dispensing in the form of deposits and withdrawals, it offers almost all the functions of account balance information, standing orders, ordering of cheque books and change of address. In addition to the self-service activities listed earlier, telephone banking operatives are usually trained to do what was conventionally obtainable exclusively at the branches. According to Leow (1999), „Telephone banking, has numerous benefits for both customer and banks. It increases convenience expand access and significant time saving. On the other hand, from the banks perspective, the costs are substantially lower than those of branch based services“. Telephone banking has nearly all the effects on performance of ATMs, apart from the ability to produce or dispense cash to the user. As delivery medium that offer retail banking activities to customers even after banking hours (24hours a day), it provides persistent efficiency for the bank. It makes banking at the client's convenience possible both in their homes and offices, the customer can perform banking without visiting the ATMs or the branch office of the bank. These results in saving time spent on banking, it also provides convenience, efficient and higher productivity for both the bank and customers.

#### **2.5.4 AUTOMATIC TELLER MACHINE (ATM)**

ATMs are the most commonly used bank innovation in recent times. Almost all the universal banks in Ghana have this facility available for their customers. On most contemporary ATM, the clients is identified after inserting a plastic ATM card with a magnetic stripe or a plastic smart card with a chip, that contains a unique card number and some security data, such as

cessation date and personal identification number (PIN), join computer terminals accounting records and the cash vault in one unit, allowing clients to go into the bank's record keeping system with a plastic card containing a personal identification number (PIN) or by punching a special code number into the computer terminal linked to the bank's computerized records 24 hours a day. Once entrance is attained, it grants a lot of retail banking services to clients. ATMs are generally situated outside of the banks halls, and could also be located at filling stations, airports mall, supermarkets and places far from the branches of a bank. They were established initially to work as cash generating or dispensing devices. However, because of advancement in technology ATMs are capable of offering a variety of banking services, for example withdrawing cash, cash transfers from one account to another and bill payments, checking account balances, making deposit and printing account statement. Banks use the ATM as well as other innovative products to achieve competitive advantage, because it has the effect of cost reduction and depicts an image of a strong bank.

### **2.5.5 MOBILE BANKING**

This is a wireless internet application of banking generally referred to as m-banking. This involves the working together of the internet and mobile phone communication for banking activities. This innovation offers the customer services such as SMS Banking that provides instant notification about transaction which helps to keep a watch on account with a round the clock services and to-ups of mobile phone credits. The customer is able to perform other services such as account enquiries, request for cheque book.

### **2.5.6 BRANCH NETWORKING**

Networking of bank branches is the computerization and inter-connecting of geographically scattered unconnected bank branches, into one integrated system in the form of a Wide Area Network (WAN) or Enterprise Network (EN) for creating and sharing of consolidated customer

information or records. The advantage is that it present is faster rate of inter–bank dealings as the problem of remoteness and time constrains are removed. Thus, there is extra output per time period. There are a number of networked branches serving the customer at different locations of convenience to the client. There is virtual division of labour between bank branches by means of its connected positive effect on output among the branches. Additionally, as it reduces customer journey distance to their home bank branch, it makes extra time available for the clients’ productive activities.

### **2.5.7 ELECTRONIC FUND TRANSFER AT POINT OF SALE (EFTPOS)**

An EFTPOS is an on-line arrangement that enables clients to transfer funds directly from their bank accounts to a merchant’s accounts after making purchases (at purchase points). An EFTPOS employ a debit card to start an electronic fund transfer process, (Chorafas, 1988), improved banking efficiency resulting from the use of EFTPOS to service clients shopping payment conditions as an alternative to the bookkeeping duties in handling cheques and cash withdrawals for purchases. Also, the system remained operational even after regular banking hours; therefore, the bank continues to achieve efficiency even after normal banking hours. It also saves clients time and energy in travelling to branches or ATMs for cash withdrawals which can be exploited into other productive services.

### **2.5.8 CASH SMART CARDS**

Smart cards are implanted with micro chip that enables data to be stored on the card. These cards are referred to as Stored Value Cards. Its application is to store the customer’s account information, identification and value of his account and electronically transfer the customers account. It has the advantage of carrying cash without the risk of having the cash lost or stolen. The smart card gives the customer the convenience to cash money even after normal banking hours and can be spent and loaded easily. It also gives the bank, the ability to control the secure

communication or transaction information between itself and its customer. However, if a criminal manages to find the pass code of a customer, he can access his account hence putting both the bank and the customer at risk. It is expected that multifunction smart cards will replace the credit card, debit card and potentially the medical insurance card. While widely used in the developed countries, smart cards are just starting to appear in some developing countries.

### **2.5.9 THE ELECTRONIC FUNDS TRANSFER SYSTEM (EFTS)**

EFTS is an application of advanced computer and communication technology in effecting payment. It is a communication network which allows the faster movement of information from one location to another without any personal contact. Bank deposit balances can be transferred to any area by electronic impulses. This system reduces the use of cheque payments. With this system, the need for currency reduces and minimizes the production and destruction costs in the use of coin, notes and cheque payments. With this system, the problem of dud cheque risk on the part of both the bank and the customer is eliminated since the adequacy of a customer's checking account balances are made known to the payee prior to the transaction. It also benefits both the bank and customer by reducing float, quicker availability of credits to accounts. Fierce, competition for consumer credits impersonalized banking service for individuals, greater velocity, and smaller necessary volume of demand deposits and centralization of account data. The use of EFTS has come about as a result of different kinds of problem associated with the payment mechanism. The transfer of money in particular has become increasingly expensive to operate especially as the tendency has been for transaction service to be pared at minimum. The cheque is very costly to handle because of its legality and the banks have therefore developed more economic methods of payment in keeping with modern requirement by using this system.

## **2.6 CRITIQUE OF EXISTING LITERATURE**

The Ghanaian universal banks stand to benefit from the various positive effects of bank innovations on their operations in terms of influences on total revenue, return on asset, profitability and patronage of bank services or customer adoption, as reviewed from the relevant literature and writers such as: Mawutor, (2014); Domeher et al., (2013); Agboola (2003); Merton (1992); Zikmund et al, (2010); Chorafas, (1988); Leow (1999); Frimpong (2010); Balachandher et al, (2001); PricewaterhouseCoopers, (2014). There is concentration of the effect of bank innovation on profitability studied but these are mostly in developed economies and other developing countries like Kenya and India, but the same cannot be said much of Ghana. Ghana recent banking industry reforms have instituted the much needed payments system facilities for the progress of efficient and effective financial markets. The central bank is pursuing structural changes that will help to maintain the health and stability of the financial market and improve the transmission mechanism of monetary policy. The relevance of this study is derived from the fact that the relationship between investment in innovations and the performance of universal banks has not been adequately researched into in Ghana and this survey is an attempt to highlight the impact of innovations on performance of universal banks in Ghana.

### **CHAPTER TREE**

#### **RESEARCH METHODOLOGY**

### **3.0 INTRODUCTION**

This chapter deals with the methodology employed in carrying out this study. The chapter carefully examined the data sources and techniques used for data analysis. It also focuses on the methodology by which information was collected, analyzed and interpreted. The research was based on intuitive, authoritative knowledge, reasoning from findings and empirical

evidence from demonstrable facts through observation and or experimentation data collection and analysis. The methodology covers the research design, population and sample size, sampling techniques, data collection and analysis, reliability and validity of data and ethical consideration.

### **3.1 RESEARCH DESIGN**

According to Polit et al (2003), „a research design is the overall plan for obtaining answers to the questions being studied and for handling some of the difficulties encountered during the research process“. In effect, the research design is the plan or process that collects data to answer the research questions posed.

The research design involves specific data analyzing methods the researcher wishes to rely on. A lot of strategies can be adopted such as descriptive, survey or case study, and quantitative or qualitative. According to Creswell, (2003), „the research problem, personal experience of the researcher“s and the audience for whom the report will be written are the criteria for selecting an approach“. This study used the survey methodology. According to Nesbary, (2000), a survey research is a „process of collecting representative sample data from a larger population and using the sample to infer attributes of the population“. The justification for using this design is that it allows for the generalization of results from sample perspective for the whole population. The time frame for data collection is short as compared with other methodologies; it also has a high level of reliability which facilitates the generalization from a sample population. Leedy, (2001), argued that „a survey has the advantage of wider application because it allows data to be collected on a large population within a short space of time“.

### **3.2 POPULATION OF THE STUDY**

The population for a study can be defined as the total number of the units for which the researcher requires information. The population can be a finite or infinite collection of

individual elements. According to Kumekpor, (2002), „population is the total number of all units of the phenomenon to be investigated that exists in the area of investigation“. The target population for this study is management, senior staff and heads of sections or departments of selected universal banks in Ghana. The reason for concentrating on these staff is that they are responsible for the formulation and implementation of policies that affect the performance of their respective universal banks. They also have greater understanding of the consequence of innovations on financial operations after evaluation of these innovations.

### **3.3 SAMPLE SIZE AND SAMPLING TECHNIQUE**

A sample can be described as a subset of a population or a selected representative of a larger population. Kombo & Tromp (2009), defined population sample as „a set of respondents selected from a larger population for the purpose of a survey“. To collect information on the entire population will amount to waste of resources such as time and money. On the other hand, if the selected sample does not sufficiently reflect the features of the population, the findings or outcomes of the study may be misleading. There are various sampling techniques available for selecting samples for a study, and include simple random sampling, purposive sampling, cluster sampling, stratified sampling and quota sampling. The purposive or judgmental sampling technique was adopted to select the sample units. The reason for using this technique is that it will select a logically assumed sample that can be a representative of the larger population; it is also useful in situations where expert knowledge is required in selecting a sample from the population or the researcher is bias towards a specific subject that will produce the most extensive information of a population. Samples of 124 staff of the fifteen (15) universal banks were purposively selected, and structured questionnaires were administered to find out their views and knowledge of the consequence of bank innovations on the performance these universal banks.

**Table 3.1 Distribution of Population and Sample Size**

<b>Bank</b>	<b>Estimated Population</b>	<b>Sample Size</b>
Bank A	115	4
Bank B	120	9
Bank C	220	14
Bank D	190	12
Bank E	109	11
Bank F	80	9
Bank G	60	6
Bank H	30	5
Bank I	180	12
Bank J	75	8
Bank K	130	9
Bank L	68	4
Bank M	92	6
Bank N	50	5
Bank O	87	10
<b>Total</b>	<b>1,606</b>	<b>124</b>

Source: Field data, 2015

### **3.4 DATA COLLECTION**

The sources of information gathered for this research were primary. Structured questionnaires were the main tool employed. Close-ended questions were used considering the topic studied and the characteristics of the sample, close-ended statements were made requiring „agreement,,or „not agreed“ answers. It should be noted that it is suitable for the type of issues raised which were clear-cut and the use of this made handling and analysis easily and less cumbersome.

Questionnaires were administered directly by the researcher and assistances that were trained by the researcher. Respondents gave information on gender, age, department and period of work.

In the preparation of the questionnaire, a number of vital factors were taken into consideration. These factors were mainly the nature of the respondents as well as the issue of time among others. To this end, simple statement with optional responses were designed, this will ensure the elimination of misunderstanding of questions asked that could impair the validity of the research. It was also realized that respondents may not have enough time to respond to too many questions. Hence, statements made, were streamlined to bring out the most effective answers necessary for the purposes of the research.

### **3.5 DATA ANALYSIS**

The responses were analyzed and presented in the form of tables. Figures calculate in percentages and inferences subsequently made. Quantitative methods are used for the data analysis. The quantitative method was appropriate for this study because it is relatively an unexplored topic of financial research in Ghana.

### **3.6 RELIABILITY AND VALIDITY OF DATA**

Kombo and Tromp, (2009), defined reliability as the „degree of consistency that the instrument or procedure demonstrate“. Validity refers to the congruent or “goodness of fit” between an operational definition and the theory it is supposed to measure. Validity is used to review and test the conformity of the various opinions whether the information received measured what they are planned to measure.

### **3.7 ETHICAL ISSUES**

The motivation and course of action of the study were made clear to the respondents before data was collect; nonetheless, there were four ethical or sensitive issues that the study took into account which may influence the outcome of the study. Firstly, in the banking industry confidentiality is cardinal principle and this may affect the responses the staff gave. Despite the fact that respondents“ privacy and anonymity was guaranteed some respondents found it

difficult to make decisive commentary. Secondary that the distribution of questionnaire may not be fairly across the banks and also the selection of participants may suffer from equity. Thirdly, the study was restricted to participants located in Accra and Kumasi and thereby ignoring the eight other regions in Ghana which could have material impact on the result of the findings. Fourthly, Perceptions, attitudes and time constraints of the staff would have influenced their responses. Some respondents were reluctant to give out information or deliberately gave wrong information which led to the difficulty in obtaining valid data and therefore, measurement error may have occurred.

## **CHAPTER FOUR**

### **DATA PRESENTATION AND ANALYSIS**

#### **4.0 INTRODUCTION**

The study examined the effect of bank innovations on financial performance of universal banks in Ghana. Questionnaire was used to assemble the primary data. Out of the one hundred and twenty-four (124) questionnaires issued out to the respondents, 110 were returned, representing a favorable response rate of about 89%. This chapter deals with the data presentation and analysis in relation to the purpose of the study, which was to find out the impact of various innovations on revenue, profitability, return on assets and the general public's patronage of banking services.

#### **4.1 DEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS**

##### **4.1.1 SEX OF RESPONDENT**

The study collected information on demographic characteristics. Gender was considered to be relevant because it has influences on the development, implementation and patronage of innovation as confirmed by earlier studies (Rogers, 1995). The comprehensive outcome of each of the demographic features is presented in the table below:

**Table 4.1.1 Sex of participants**

Sex	Number	Per cent (%)
Man	69	63
Woman	47	37
Total	110	100

Source: Field data, 2015

The above computation revealed that the majority of the participants were men. Particularly, the statistics demonstrated that 63 of the respondents were men constituting 63% and 47 were women representing 47%, as exhibited in the table above. This statistics confirmed some belief that most or majority of bank executives in Ghana are men.

#### **4.1.2 AGE OF PARTICIPANTS**

The next demographic variable of the participants was their age bracket the researcher wanted to find out the age characteristics of bank executives in Ghana. The following table shows the age distribution.

**Table 4.1.2 Ages of Respondents**

Age Bracket	Number	Percent (%)
10 – 20	0	0
21 - 30	2	2
31 – 40	21	19
41 – 50	44	40
Over 50	43	39
Total	110	100

Source: Field Data, 2015

The age variable of the participants examined showed that, the greater amount of the participants were in the age bracket of 41 – 50 years representing 40%. This was followed by participants aged over 50 years who accounted for 39% of the sampled size, the next age bracket is 31 – 40 with 19 percentage point, interestingly the age bracket of 21 – 30 had 2 percentage point with age bracket of 10 – 20 having 0 percent. This study showed that majority of universal bank executives in Ghana are aged over forty years. According to AbuShanab et

al. (2007). „Age is a significant factor that positively influences the adoption of e-banking innovations“. This generalization leads to the belief that younger people to easily adopt innovations as compared with the adults.

#### 4.1.3 DEPARTMENTAL DISTRIBUTION OF RESPONDENTS

**Table 4.1.3 Department of Respondents**

Department	Number	Percent (%)
Executive	4	4
Finance	46	42
ICT	9	8
Audit	3	3
Credit	27	25
Liabilities	7	6
HR	2	2
Others	12	10
<b>Total</b>	<b>110</b>	<b>100</b>

The departmental distributions of the participants examined showed that, the greater amount of the participants were in Finance department representing 42%. This was followed by participants in Credit department who accounted for 25% of the sampled size, the next is those who did not associate with any department with 10 percentage point, ICT department had 8% of the sample size. Liabilities follows with a 6 percent, Executive 4 percent, Audit 3 percent and HR had 2 percentages. The finance department recorded the highest response because of the nature of the research, as the topic under study seeks to find out the effect of bank innovations on bank performance.

#### 4.1.4 BANKING SECTOR EXPERIENCE OF RESPONDENTS

The following were the result obtained from the study with regard to experiences of respondents in the banking industry.

**Table 4.1.4 Experience of Participants**

Period	Number	Percent (%)
Less than 1 year	2	2
Between 1 – 5 years	20	18

Between 5 – 10 years	32	29
Over 10 years	56	51
<b>Total</b>	<b>110</b>	<b>100</b>

Source: Field Data, 2015

The experiences of the participants examined showed that, the greater amount of the participants were in the year's bracket of over 50 years representing 51%. This was followed by participants between 5 - 10 years who accounted for 29% of the sampled size; the next bracket is 1 – 5 with 18 percentage point, with the least percentage point participants with less than 1 year. Most of the bank executives have being working for more than five years which shows that staff retention in the banking sector is significant as it is generally assumed that, the more the worker stays on a job for a long time, the more efficient and effective he/she becomes in terms of performance of output and the ultimate ripple effect on the banking sector in general.

## **4.2 DATA ANALYSIS OF BANK INNOVATIONS**

### **4.2.1 EFFECT OF BANK INNOVATIONS ON TOTAL REVENUE**

The aim of this section is to find out the effect or influence of bank innovations on revenue of universal banks in Ghana. The questionnaire was flamed in the form of a statement been made for the respondents to confirm the degree of their agreement or otherwise. The likert scale was used to assign values to the responses.

#### **4.2.1.1 AUTOMATED TELLER MACHINES (ATMS)**

Analysis of data collected on the effect of ATMs on increasing commission, interest income and the potential for generating income for the banks are presented in table 4.2.1.1. Which shows that 83% representing about 91 of the respondents agreed in total that ATMs have positively affected fee based income, 15% were neutral and 2% are in disagreement. In the same vein, when asked about ATMs influence on interest based income 23% of respondents totally agreed, 4% were indifferent and 73% totally disagreed that ATMs affect interest income. 72% of the respondents totally agreed that ATMs have the potential to expand income

generating capabilities of the banks, 5% were undecided and while 23% disagreed with the statement.

These results confirmed a similar study done by Ngumi (2013) which concluded that commercial banks in Kenya had the believe that investment in ATMs will continue to yield more incomes in the forms of commission, interest and has the potential for expanding the operation of the banking industry. Banks should continue to invest more in ATMs for improved returns or earnings.

**Table 4.2.1 Automated Teller Machines (ATMs) and Bank Revenue**

Statement	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
ATMs have had constructive impact of rising commission fee based revenue	25	58	15	2	
ATMs have had constructive impact of raising interest based revenue	5	18	4	38	35
ATMs have raise the revenue creation prospect of the bank	27	45	5	18	5

Source: Field Data, 2015

#### 4.2.1.2 E-ZWICH PAYMENT SYSTEMS AND BANK REVENUE

Data on Table 4.6 show the respondents have rejected the assertion that E-Zwich influences the revenue of universal banks in Ghana. The findings of this research shows that 94% of the respondents were in disagreed in total with the accession that E-Zwich had a constructive impact on commission based revenue, 6% were neutral and none of the respondents agreeing to the statement. With regard to the influence of E-Zwich on increment in interest based income all the respondents (100%) totally disagreed with the statement. Again all the respondents disagreed that E-Zwich has expanded the revenue generating prospects of the banks. These results proved that the banks executives survey believe that the introduction of E-Zwich do not any direct consequence on income in the form commission, interest or the potential for future expansion.

The effect is that managers would be reluctant in giving their maximum support for such a national platforms that has little benefit as exhibited in the table below. Therefore, the bank of Ghana in coming out these products must have broad consultation especially with the universal banks for a successful implementation.

**Table 4.2.2.2 E-Zwich Payment Systems**

Statement	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
E-Zwich have had a constructive impact of raising commission fee related revenue			6	43	51
E-Zwich have had constructive impact of raising interest related revenue				58	42
E-Zwich have raised the revenue creation prospect of the bank				28	72

Source: Field Data, 2015

#### 4.2.1.3 MOBILE/INTERNET BANKING AND BANK REVENUE

Data collected on table 4.2.1.3 revealed that 79% in total of the sampled population believes that mobile banking and internet banking have positive effect of increasing commission based income of the banks. 15% was indifferent and a total of 6% disagreed with the statement. On the influence of internet banking on interest based income, a total of 39% agreed with the assertion, and as much as 55% of the respondents were indifferent, and 6% disagreed. The study further shows a positive relationship between internet banking innovation and the potential for the banks to expand their income generating potential, with 94% of the respondents agreeing, and only 6% of the respondents remained neutral.

The result for mobile/internet banking received an overwhelming agreement that it have influence on income, bank executives will be confident investing more of the resources in these products which believe will in more revenue.

**Table 4.2.1.3 Mobile/Internet Banking**

Statement	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
Mobile/internet banking have had constructive impact of raising commission fee related revenue	12	67	15	5	1
Mobile banking have had constructive impact of raising interest related revenue	5	34	55	6	
Mobile banking have raised the revenue creation prospect of the bank	40	54	6		

Source: Field Data, 2015

#### **4.2.2 INFLUENCE OF BANK INNOVATIONS ON RETURN ON ASSETS**

The researcher in this part was to find out the impact of bank innovations on returns on assets of the banks.

##### **4.2.2.1 AUTOMATED TELLER MACHINES (ATMS)**

Table 4.8 reveal the answers on the effect of ATMs on return on assets, 71% of the respondents agreed that ATMs have high rate of return on assets, 19% of the respondents were neutral and 9% disagreed. 25% of the respondents confirm that investment in ATMs have payback period of less 4 years, 14% were indifferent, and the majority of the respondents representing 61% disagreed that ATMs have period of payback is less than 4 years. On revenue generation ability, 59% were in agreement ATMs have effect on income mark-ups, 9% disagreed, whilst 32% were in disagreement.

The imply that ATMs are a good source of operational cost reduction, a period for payback that is less than 4 years and greater mark-ups on income. Banks should therefore, invest in these products to improve upon shareholders returns on equity.

**Table 4.2.2.1 Automated Teller Machines (ATMs)**

<b>Statement</b>	<b>Strongly Agree %</b>	<b>Agree %</b>	<b>Neutral %</b>	<b>Disagree %</b>	<b>Strongly Disagree %</b>
ATMs leads to a decrease in cost of banking, and therefore, have higher rate of returns on assets of the bank	23	48	19	5	4
Cost of ATMs have payback years that is less than four (4) years and therefore, better return on assets	1	24	14	41	20
Revenue generated through ATMs have had greater effect on income mark-ups	10	49	9	4	28

Source: Field Data, 2015

#### **4.2.2.2 E-ZWICH PAYMENT SYSTEMS**

Data in table 4.9 shows how the respondents perceived the effect of E-Zwich on the rate of return on assets of the universal banks. Only 6% of the sampled units agreed that E-Zwich has enhanced return on assets, 4% were indifferent and 90% disagreed. None of the respondents agreed that E-Zwich has payback of less than 4 years, 2% were neutral while 98% disagreed. On revenue generation from ATMs and its mark-ups all respondents disagreed.

In effect, the bank executives have rejected E-zwich as having contributed to the banks' rate of return on assets. This means that the universal banks do not benefit directly from the national payment platform introduced by the Ghana Integrated Payments and Systems (GhIPSS).

**Table****4.2.2.2 E-Zwich Payment systems**

Statement	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
E-Zwich has lead to a decrease in cost of banking, and therefore, have higher rate of returns on assets of the bank		6	4	75	15
Cost of E-zwich has payback years that is less than four (4) years and therefore, better return on assets			2	89	9
Revenue generated through E-Zwich has had greater effect on income mark-ups				96	4

Source: Field Data, 2015

**4.2.2.3 MOBILE/INTERNET BANKING**

As shown in table 4.10, 93% of the respondents were in agreement that mobile and internet banking influences cost reduction and hence increase return on asset, 4% cannot decide and 3% Disagreed. On statement on payback, 68% agreed that mobile banking has a payback less than 4 years, 11% of those sampled were indifferent while 21% disagreed. 81% of participants believed that revenue generation of internet/mobile banking have greater impact on bank income mark-ups and therefore increases return on asset, 10% remained neutral and 9% disagreed with the statement.

The imply that Mobile/Internet are a good source of operational cost reduction, a period for payback that is less than 4 years and greater mark-ups on income. Banks should therefore, embark on investment in these products to improve upon shareholders returns on equity.

**4.2.2.3 Mobile/Internet Banking**

Statement	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
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**Table**

Mobile/Internet banking have lead to a decrease in cost of banking, and therefore, have higher rate of returns on assets of the bank	28	65	4	3	
Cost of Mobile/Internet banking have payback years that is less than four (4) years and therefore, better return on assets	4	64	11	14	7
Revenue generated through Mobile/Internet banking have had greater effect on income mark-ups	8	73	10	5	4

Source: Field Data, 2015

### **4.2.3 CONSEQUENCE OF BANK INNOVATIONS ON BANK PROFITABILITY**

The forth aim of this work was to find out the impact of bank innovations on universal banks' annual profits, and following results were obtained and analyzed in tables below.

#### **4.2.3.1 AUTOMATED TELLER MACHINES (ATMS)**

As shown in Table 4.11 the analysis of the result in respect of the consequences of ATMs on the profitability of the universal banks. 93% of the respondents agreed as having contributing to annual profits of the banks, whilst 4% were indifferent and 3% disagreed. On whether ATMs have low maintenance costs, 33% of the respondents strongly agreed, 52% agreed, 7% were indifferent, 3% disagreed and 5% strongly disagreed. On whether investments in ATMs are mostly motivated by profit 70% of the respondents confirmed that, 18% were undecided while 12% were in disagreement.

The effect of the above analysis is that the bank officials accepted the fact that ATMs contributes immensely to towards the profitability of the banks.

**Table**

**4.2.3.1 Automated Teller Machines (ATMs)**

Statement	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
Revenue from ATMs have high mark-ups and therefore, leading to more profits for the bank annually.	41	52	4	3	
Operating costs of ATMs are low leading to increase profitability levels of the bank	33	52	7	3	5
The motive for investing in ATMs is basically making profits to the bank	13	57	18	8	4

Source: Field Data, 2015

**4.2.3.2 E-ZWICH PAYMENT SYSTEMS**

Table 4.12 shows the outcome attributable to the respondents relating to the consequence of E-Zwich on the profitability of universal banks in Ghana. Only 6% agreed that E-Zwich have revenue that have high mark-ups and therefore, contributing to profit of the financial institutions, 2% were neutral, and 70% disagreed while 12% strongly disagreed. As to whether E-Zwich has low maintenance cost, 6% agreed, 3% neutral, 70% disagreed and 12% strongly disagreed. 1% was neutral that investment in E-Zwich is motivated by profits, 82% disagreed 12% strongly disagreed.

Again the above is an indication that the executives of the universal banks rejected the profitability of the E-zwich to the banks.

**4.2.3.2 E-Zwich Payment systems**

Statement	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
Revenue from E-zwich have high mark-ups and therefore, leading to more profits for the bank annually.		6	2	70	12

**Table**

Operating costs of E-zwich are low leading to increase profitability levels of the bank		6	5	84	5
The motive for investing in E-zwich is basically making profits to the bank			2	81	17

Source: Field Data, 2015

#### 4.2.3.3 MOBILE/INTERNET BANKING

The impact that mobile and internet banking currently have on the profit levels of the universal banks in Ghana, are presented in table 4.13. Sixty four percent strongly agreed that revenue from internet banking has a high mark-up and therefore, contributes to the annual profits of universal banks, 27% agreed, 2% were indifferent, 4% disagreed while 3% strongly disagreed. Regarding whether mobile banking have low operating costs and leading to increase profit levels, 19% strongly agreed, 49% agreed, 28% were neutral and four percent were in disagreement. Twenty nine percent strongly agreed that investment in mobile banking is profit motivated, 61% agreed 1% was indifferent, 7% disagreed and 2% strongly disagreed.

The result for mobile/internet banking received an overwhelming agreement that it have influence on profitability, bank executives will be confident investing more of the resources at their disposal in these products which they believe will improve profitability.

#### 4.2.3.3 Mobile/Internet Banking

Statement	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
Revenue from Internet Banking have high mark-ups and therefore, leading to more profits for the bank annually.	64	27	2	4	3

**Table**

Operating costs of Mobile banking are low leading to increase profitability levels of the bank	19	49	28	4	
The motive for investing in ATMs is basically making profits to the bank	29	61	1	7	2

Source: Field Data, 2015

#### **4.2.4 IMPACT OF BANK INNOVATIONS ON PATRONAGE OF BANKING**

##### **SERVICES**

The above objective was aimed at finding out the impact of bank innovations on patronage of banking services.

##### **4.2.4.1 AUTOMATED TELLER MACHINES (ATMS)**

The following table 4.14 displays the outcomes from respondents in respect of the impact of ATMs on the level of deposit on the universal banks in Ghana. Asked whether ATMs have brought more retail savers to the bank, 82 agreed, 9% were neutral, and 9% disagreed. With regard to whether ATMs have enabled customer access to their deposits, 96% agreed, 4% were neutral. On whether corporate savers could be attracted through ATMs, 2% was neutral and 98% disagreed.

It was generally, accepted that ATMs attracts retail savers to the universal banks, and grants the customer a greater access to saved funds. The bank executives were of the opinion that ATMs is not good source for attracting corporate savers.

##### **4.2.4.1 Automated Teller Machines (ATMs)**

<b>Statement</b>	<b>Strongly Agree %</b>	<b>Agree %</b>	<b>Neutral %</b>	<b>Disagree %</b>	<b>Strongly Disagree %</b>
ATM services have brought more retail savers to the bank	23	59	9	6	3

**Table**

With ATMs bank customers are able to access their deposits all the 24 hours in a day for withdrawal	55	41	4		
Corporate savers could be attracted through ATMs			2	63	35

Source: Field Data, 2015

#### 4.2.4.2 E-ZWICH PAYMENT SYSTEMS

Table 4.15 below exhibits the outcome of the study on the impact of E-Zwich on customer deposits in commercial banks in Ghana. On whether E-Zwich payment systems have attracted more retail depositors, 21% of the respondents were indifferent, 59% disagreed and 20% strongly disagreed. On whether with E-Zwich customers are able to access their deposits all the 24 hours in a day for withdrawal, 36% strongly agreed, 61% agreed, 2% neutral and 1% disagreed. On whether E-Zwich has attracted more corporate depositors and deposits, 67% of the respondents disagreed and 33% strongly disagreed.

The impact of E-Zwich on savings has not been favorable as the bank executives totally reject it as a tool for deposit mobilization in Ghana. However, on accessibility to deposits, the product has been very effective in this regard.

#### 4.2.4.2 E-Zwich Payment systems

Statement	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
E-Zwich have brought more retail savers to the bank			21	59	20
With E-Zwich bank customers are able to access their deposits all the 24 hours in a day for withdrawal	36	61	2	1	
Corporate savers could be attracted through E-Zwich				67	33

Source: Field Data, 2015

## Table

### 4.2.4.3 MOBILE/INTERNET BANKING

Table 4.16 below exhibits the outcome of the study on the impact of internet/mobile banking on customers' deposit habit in the Ghanaian universal banks. On whether mobile/internet banking has attracted more retail depositors for the bank, 78% agreed in total, 6% were neutral, 16% disagreed in total. As to whether mobile banking has enabled customer to access their deposits, 72% agreed in total, 8% were indifferent, and 18% also disagreed in total. On the attracting corporate savers, 4% agreed, 1% was neutral and a total of 95% disagreed with the statement.

The result showed that, though mobile/internet banking is very effective in promoting the patronage of banking services in Ghana, it is only exclusive to retail customers but not applicable to corporate or institutional customers.

#### 4.2.4.3 Mobile/Internet Banking

Statement	Strongly Agree %	Agree %	Neutral %	Disagree %	Strongly Disagree %
Mobile/Internet banking have brought more retail savers to the bank	31	47	6	10	6
With Mobile/Internet banking customers are able to access their deposits all the 24 hours in a day for withdrawal	22	50	8	12	8
Corporate savers could be attracted through Mobile/Internet banking		4	1	71	24

Source: Field Data, 2015

## CHAPTER FIVE

### SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

#### 5.0 INTRODUCTION

This study sought to find out the effect of bank innovations on the financial performance of universal banks in Ghana. There are so many innovations in the financial sector, but this investigation was limited to Automated Teller Machines (ATMs), E-Zwich Payment systems and Mobile/Internet Banking. The study throw light on the consequences of these innovations that the banks are coming up with on total income, return on assets, patronage of bank services in Ghana and profitability of the banks. This chapter is a composition of the summary, conclusion drawn on all that have been discovered out of the study, the finding thereof and the relevant recommendation made that would lead to clear understanding of the impact of bank innovations on performance of universal banks in Ghana.

#### 5.2 SUMMARY OF FINDINGS

The arrival of the Internet and the proliferation of mobile telecommunication companies in the Ghanaian economy have offered both an opportunity and a test for the Ghanaian banking sector. For years, banks in Ghana have used strong computer networks to mechanize million of daily transactions, but in recent times, frequently the only paper record is the customer's receipt at the ATMs or point of sale. Now that bank customers can be linked to the internet through personal computers and mobile phones, banks foresee related economic benefits by adapting new and innovative electronic processes for their operations. Various findings were made with respect to the four stated objective as follows:

The first objective was to ascertain the impact of bank innovations on revenue of universal banks in Ghana. It was discovered that most of the innovations have positive effect on income. For example,

83% of the bank executives interviewed agreed that ATMs have great influence on income, again 79% of interviewers agreed that mobile banking will increase incomes of the banks, this is indicative for the fact that management will easily be convinced investing in these products. Conversely, as much as 94% of the respondents were in disagreement with the accession that E-Zwich had a direct constructive effect on revenue generation of the banks.

The second objective was to find out the impact of bank innovations on return on assets of the universal banks. It was discovered that most of the bank executives agreed that the introduction of ATMs and Internet/mobile banking have a favorable consequences on return on assets, on the other hand, majority of the sampled bank executives rejected the statement that e-zwich has direct impact on return on assets, in effect these bank executives were of the opinion e-zwich does not have direct effect on returns on assets.

The third objective was to establish the effect that innovations on profits of the universal banks in Ghana. The findings discovered that some of the bank innovations have a constructive influence on profitability of the universal banks in Ghana. According to the respondents innovations such as ATMs and Mobile banking have influence on profitability. The respondents rejected E-zwich innovation as having direct influence on the profit levels of the universal banks in Ghana.

The fourth objective sought to find out the effect of innovative products on patronage of banking services in Ghana. It was revealed that innovation have been helpful in attracting customers to the banks. The respondents agreed that online banking is a influential "value added" instrument to attract and maintain new customers while helping to remove costly paper handling and teller interactions in an ever more competitive banking environment.

Over 82% of the respondents agreed to the assertion that ATMs have brought more depositors to the banks.

The bank executives also confirmed that the innovation products have made it easier for bank customers to

have access their deposits and can withdraw with ease. The E-zwich machine in particular, despite its many benefits like convenience, transaction speed, effectiveness in terms of security and easy access to cash did not receive a favorable response from the bank executives.

### **5.3 CONCLUSION**

The purpose of this work was to identify the effect of bank innovations on the financial performance of universal banks in terms of income generation, liquidity, efficiency, profitability and the general patronage of banking services by Ghanaians. This work is a survey of bank executives from fifteen (15) universal banks in Ghana by the use of questionnaires that were administered to find out opinions of bank executives on the effect of bank innovations on financial performance. From this study it was found that the performance of banks in Ghana in the near future would greatly be based on factors such as the introduction of efficient and effective innovative products such as ATMs and Mobile/Internet banking to attract customers, who are seeking for ease of banking, “presence everywhere banking”, better customer service, and a convincing image of a strong bank. These innovative products have the potential to improve upon the revenue generation and profitability of the universal banks. The arrival of the Internet and the proliferation of mobile telecommunication companies in Ghana present both an opportunity and a challenge to banks in Ghana. The test for the banking sector has been how to formulate a new service delivery means in such a way that its clients will enthusiastically learn to use and rely on. After all, banks have spent many years to achieve customer’s trust, and they are not prepared to risk that on an internet site that is wearisome, confusing and less secure. Most of the universal banks now present completely secure and functional online banking for free or for a small fee to the customers. The opportunities presented could be seen in the area of operational cost reduction that could be achieved through these innovative products, increase in customer base or patronage of banking services.

## **5.4 RECOMMENDATIONS**

From this study it has become clear that by embarking on bank innovation universal Banks in Ghana will consolidate their gains and assets base by becoming more efficient in service delivery and profitable to their shareholders. The following suggestions are made to the universal banks and the entire financial market to enhance their customer base and improve upon their profitability.

It is recommended that corporate banks must make it a policy to establish an efficient and effective marketing department to oversee the publicity of all bank innovative products.

The Government through Bank of Ghana must continue to invest in researching into innovations in the financial sector. The universal banks whose operations are affected by any national innovative products or platforms such as E-zwich should be consulted and their concerns factored in the product before implementation.

The pricing of innovative products should be reasonable in order not to further drive or scare the prospective customers or users.

The problem of psychological dissatisfaction as a result of lack of trust in an innovative products' security, that most customers are likely to complain of, should be addressed.

## **5.5 AREAS FOR FURTHER STUDIES**

This research did not cover the satisfaction level of customers on bank innovations which could be found as crucial for the success of these innovative products in Ghana. Research should be conducted into the problems faced by users as they make attempt to adopt the financial innovative products.

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APPENDICES

Appendix A Letter of Introduction

Date.....

To

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Kumasi

Dear Sir,

**THESIS DATA ON ‘EFFECT OF BANK INNOVATIONS ON FINANCIAL PERFORMANCE OF UNIVERSAL BANKS IN GHANA**

I am a student of Kwame Nkrumah University of Science and Technology, Kumasi, and pursuing my Masters of Business Administration Degree, Banking & Finance option, I am conducting a research on the topic, „Effect of Bank Innovation on Financial Performance of Universal Banks in Ghana“. I am in the process of assembly important data for this work. You have been recognized as one of the respondents in this study. I wish to guarantee that your answers will be handled with utmost good faith and in the greatest confidentiality; the responses will be used exclusively for the reason of this study.

You are kindly requested for your help which will go a long way in making the study successful.

I thank you for your immeasurable contribution in terms of time and responses. It will be appreciated if you can complete the form within the next 7 days to facilitate early completion of the study.

Yours Sincerely

William Yeboah Sampong Student

No. 20288141

## Appendix B Questionnaire

### SECTION 1: GENERAL INFORMATION

This questionnaire is intended to gather data concerning the impact of bank innovations on financial performance of universal banks in Ghana.

#### 1. Bank Information

Bank Name (Voluntary) .....

#### 2. Participant Information

Sex: Man

Woman

Age range (tick as suitable)

No.	Age range	Mark as suitable
a	20 – 29	
b	30 – 39	
c	40 – 49	
d	50 – 59	
e	60 & Over	

Section (tick as suitable)

No.	Section	Mark as suitable
a	Chief Executive	
b	Accounting	
c	ICT	
d	Audit & Assurance	
e	Credit Management	
f	Liabilities	
g	Human Resource	
i	Others	

Period of you have been working this Bank (Mark as suitable)

No.	Period	(Mark as suitable)
a	Less than 1 year	
b	Between 1 – 10 years	
c	Between 11 – 20 years	
d	More than 21 years	

### SECTION 2: EFFECT OF BANK INNOVATIONS ON TOTAL REVENUE

Under this part a statement concerning the effect of bank innovations on revenue generation of the bank is made. Please answer with a response that fit your judgment. Kindly mark as suitable in the boxes a mark (√)

No	Statement	Strongly disagree	Disagree	Neither agree not disagree	Agree	Strongly agree
		1	2	3	4	5
<b>Automated Teller Machines (ATMs)</b>						
1	ATMs have had constructive impact of rising commission fee based revenue					
2	ATMs have had constructive impact of raising interest based revenue					
3	ATMs have raise the revenue creation prospect of the bank					
<b>E-Zwich Payment systems</b>						
4	E-Zwich have had a constructive impact of raising commission fee related revenue					
5	E-Zwich have had constructive impact of raising interest related revenue					
6	E-Zwich have raised the revenue creation prospect of the bank					
<b>Mobile/Internet Banking</b>						
7	Mobile/internet banking have had constructive impact of raising commission fee related revenue					
8	Mobile banking have had constructive impact of raising interest related revenue					
9	Mobile banking have raised the revenue creation prospect of the bank					

### SECTION 3: EFFECT OF BANK INNOVATIONS ON RETURN ON ASSETS

Under this part a statement concerning the effect of bank innovations on returns on assets of the bank is made. Please answer with a response that fit your judgment. Kindly mark as suitable in the boxes a mark (√)

No	Statement	Strongly disagree	Disagree	Neither agree not disagree	Agree	Strongly agree
		1	2	3	4	5
<b>Automated Teller Machines (ATM)</b>						
10	ATMs leads to a decrease in cost of banking, and therefore, have higher rate of returns on assets of the bank					
11	Cost of ATMs have payback years that is less than four (4) years and therefore, better return on assets					
12	Revenue generated through ATMs have had greater effect on income mark-ups					
<b>E-Zwich Payment systems</b>						
13	E-Zwich has lead to a decrease in cost of banking, and therefore, have higher rate of returns on assets of the bank					
14	Cost of E-zwich has payback years that is less than four (4) years and therefore, better return on assets					
15	Revenue generated through EZwich has had greater effect on income mark-ups					
<b>Mobile/Internet Banking</b>						
16	Mobile/Internet banking have lead to a decrease in cost of banking, and therefore, have higher rate of returns on assets of the bank					
17	Cost of Mobile/Internet banking have payback years that is less than four (4) years and therefore, better return on assets					
18	Revenue generated through Mobile/Internet banking have had greater effect on income mark-ups					

#### SECTION 4: EFFECT OF BANK INNOVATIONS ON BANK PROFITABILITY

Under this part a statement relating to the effect of bank innovations on profitability of the bank is made. Please answer with a response that fit your judgment. Kindly mark as suitable in the boxes a mark (√)

No	Statement	Strongly disagree	Disagree	Neither agree not disagree	Agree	Strongly agree
		1	2	3	4	5
<b>Automated Teller Machines (ATMs)</b>						
19	Revenue from ATMs have high markups and therefore, leading to more profits for the bank annually.					
20	Operating costs of ATMs are low leading to increase profitability levels of the bank					
21	The motive for investing in ATMs is basically making profits to the bank					
<b>E-Zwich Payment systems</b>						
22	Revenue from E-zwich have high mark-ups and therefore, leading to more profits for the bank annually.					
23	Operating costs of E-zwich are low leading to increase profitability levels of the bank					
24	The motive for investing in E-zwich is basically making profits to the bank					
<b>Mobile/Internet Banking</b>						
25	Revenue from Internet Banking have high mark-ups and therefore, leading to more profits for the bank annually.					
26	Operating costs of Mobile banking are low leading to increase profitability levels of the bank					
27	The motive for investing in ATMs is basically making profits to the bank					

## SECTION 5: EFFECT OF BANK INNOVATIONS ON PATRONAGE OF BANKING SERVICES

Under this part a statement concerning the effect of bank innovations on patronage of banking services. Please answer with a response that fit your judgment. Kindly mark as suitable in the boxes a mark (√)

No	Statement	Strongly disagree	Disagree	Neither agree not disagree	Agree	Strongly agree
		1	2	3	4	5
<b>Automated Teller Machines (ATMs)</b>						
28	ATM services have brought more retail savers to the bank					
29	With ATMs bank customers are able to access their deposits all the 24 hours in a day for withdrawal					
30	Corporate savers could be attracted through ATMs					
<b>E-Zwich Payment systems</b>						
31	E-Zwich have brought more retail savers to the bank					
32	With E-Zwich bank customers are able to access their deposits all the 24 hours in a day for withdrawal					
33	Corporate savers could be attracted through E-Zwich					
<b>Mobile/Internet Banking</b>						
34	Mobile/Internet banking have brought more retail savers to the bank					
35	With Mobile/Internet banking customers are able to access their deposits all the 24 hours in a day for withdrawal					
36	Corporate savers could be attracted through Mobile/Internet banking					