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THE EFFECT OF FINANCIAL INNOVATION ON CUSTOMER SATISFACTION: A STUDY ON BANKS IN GHANA.

BY

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DECLARATION

I hereby declare that this is my own work and that, to the best of my knowledge, it does not contain 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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ABSTRACT

Every service provider aim at promoting customer satisfaction because of benefits that comes with it. In the banking sector where competition is very keen, the issue of customer satisfaction cannot be left out. The main aim of the study was to find the relationship between financial innovation and customer satisfaction. The two main products used as a measure of financial innovation were ATM and internet banking. Three hundred and eighty customers of all the major banks with branches in Kumasi were asked some questions on their expectation before using these products and their experience during and after using the service. Questionnaires were developed based on five service quality dimensions: Tangibility, responsiveness, reliability, privacy and ease of use. The service quality gap model was used to analysis the service quality gap among the five dimensions and it was revealed that, banks were unable to meet customers' expected level of service but were able to provide more than 80% which is quiet remarkable. Results from the study also revealed that, among the five dimensions, customers are more concerned with reliability of service banks provide.

Also Principal Component Analysis (PCA) using Varimax was adopted to extract factors used for running the regression to find the relationship between financial innovation and customer station. PCA produced four (4) and three (3) factors for ATM and internet banking respectively. The regression results revealed that, there is a positive relationship between financial innovation and customer satisfaction but there is no significant relationship between usage and satisfaction. It is recommended that, banks should conduct surveys periodically to know what customers expect from banks so that based on this information, they will be able to meet their needs. Also banks should concentrate more on the reliability of their services since that is the most important dimension.

DEDICATION

I dedicate this work to God almighty for his protection and guidance and George Darko Kuffour for supporting me from day one of starting this programme, words alone cannot express how grateful I am for all that you have done, God richly bless you.

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CHAPTER ONE

INTRODUCTION

1.1BACKGROUND

The banking sector's contribution to the development of economies is worth mentioning. Banks offer sound and effective payment system that promote trade and businesses in almost all economies in the world. For some decades now, the banking sector globally has experienced major reforms and transformations. These reforms can be seen in areas such as infrastructure, regulations and service delivery. The traditional banking business of accepting deposits and giving out loans among others have been extended to other new activities to increase profit and reduce risk and most of these innovations are powered and driven by advancement in technology.

History of financial innovation is believed to have started during 9000 BC with an introduction of Barter system as a medium of exchange and since then, the financial sector have experienced several transformations. In 1913, the US Federal Reserve Act was signed in and this paved way for a central bank to be established and was later emulated by other countries (World Economic Forum 2012). Also the introduction of credit card by Bank of America in 1958 and the advent of the Automated Teller Machine in the 1960s among others are major transformations in finance and banking. The subject of innovation is of significant importance to the various sectors of the economy because of its positive outcome and benefits hence innovation is viewed as an alternative method to enhance a firm's output because of the problem of non-availability of resources experienced by firms (Lumpkin and Dess, 1996).

The Ghanaian banking sector has had its own share in the area of transformation and reforms.

The number of banks and bank branches has increased significantly over the years and according to Bank of Ghana Annual Report (2014), there are a total of 28 deposit money banks (DMB) out

of this number, 13 are Ghanaian-owned and 15 foreign-owned. According to Marfo-Yiadom and Ansong (2012), a major transformation in the Ghanaian banking sector was the liberalization of the banking sector that paved way for private banks to take part in the banking business, the creation of new branches and the creation and adoption of new and innovative ways of banking. Branchless banking has also become a major feature in the business of banking. Quiet a large number of bank transactions are carried outside the traditional banking hall transaction with the help of improved and efficient technologies such as visa cards or internet. (CGAP 2009).

In 2008, Bank of Ghana introduced a new payment platform called E-ZWICH. With the use of a smart card, the E-zwitch was to link all financial institutions in the country which will then help improve upon the payment system in the country as well as promote financial inclusion (Nimako et al., 2013). In that same year, the Central Bank of Ghana came out with a document which outlined how e-banking can be carried out in Ghana and this paved the way for the introduction of other forms of banking which are, internet banking, mobile banking, etc. Electronic banking is when bank transactions are carried outside the traditional banking hall transaction with the help of improved and efficient technologies. Most banks have adopted internet and mobile banking to enable their customers have access to their bank account to perform most transactions without them necessarily going to the banking hall. Checking of balances, transfer of funds payment of items etc. can be done at their own convenience with the use of internet.

According to Pyun et al (2002), the quest to please customers, cost reduction and the ability to get new customers explains the reasons why banks invest in innovation but new innovations that occur in the banking sector are easily copied by others. For example, after the introduction of the

Automated Teller machine in 1995 by Guarantee Trust bank in Ghana, all banks currently provide ATM services therefore business willing to maintain customer trust need to aim at creative ways that meet their customers' demand/expectation (Kumar, 2011). Customer satisfaction cannot be left out in banks' drive to stay highly innovative as possible. In this era of stiff completion and increase in technology, the survival of a bank largely depends on how it utilizes these innovations to maintain high levels of customer satisfaction (Titko and Lace 2010).

Customer satisfaction measures how customers' needs and expectations are met by the goods and services supplied by a firm (Oliver1997). Customers have varieties to choose from when it comes to service providers hence there is the need for banks to provide high quality services that will meet the needs of the customers to ensure high level of loyalty and retention. Customers are rational beings who will always want to maximize satisfaction hence they will always demand value for money they may drop a service or product that does not meet their expectations for another provider whom they believe can perform better.

High level of customer satisfaction has been identified to have a positive impact on the institution. For instance, research has shown that, customer satisfaction enhances banks profitability (Anderson et al., 1993). Secondly, customer satisfaction has the potential to impact or influence the customer base of an institution either positively or negatively. A satisfied customer will always recommend the institution or products to others while unsatisfied customer will also speak ill about a company or a product or discourage others from using a particular product or service (IFAD, 2007). Also studies have established a relationship between customer satisfaction and loyalty. Satisfied customers are mostly loyal and the longer they stay with a company, the more value they

provide because it cost less to provide service to an already existing customer than searching for a new client (Anton, 2003).

The rising importance of the subject of customer satisfaction in the banking industry and the increasing rate of innovation in this sector has generated a research interest in financial innovation and it effect on customer satisfaction. The study therefore seeks to reveal the relationship between innovation and the satisfaction of customers.

1.2 PROBLEM STATEMENT

The banking sector plays a major role in economic development in most economies as they assist in safe keeping of funds, transfer of funds among others. According to most studies and reports, sub Saharan economies are rapidly expanding especially in the banking sector. This is can be seen in the number banks emerging increase in the number of foreign banks in various countries, merging of smaller banks to form one big bank as well as the increase in bank branches.

In Ghana, the banking environment consists of both foreign and local banks and this have resulted in stiff competition for customers. Some years back, the banking environment has been characterized by long queues at the banking halls which made it unattractive for people transact business with banks. Banks in Ghana therefore started to look for other possibilities to reduce the number of customers who transact business at the various banking hall. In 1995, the first ATM machine was installed in Ghana by Guarantee Trust Bank. This initiative has been adopted by all the major banks in Ghana to create convenience for customers as well as reduce the number of customers in the banking halls.

In 2008, banks in Ghana started providing internet banking to customers to further enhance accessibility and convenience. Both the internet banking and ATM allows customers to access their account even outside the banking hours. Customers can transfer money, pay utility bills and do other things with their account no matter where they are and the time as long as they have internet connection. Other advancement in banking industry includes the introduction of SMS banking, mobile money services etc.

Despite the huge effort by banks to make banking easier and comfortable for their clients, it appears that, adoption rate is quite low. According to a KPMG report in 2013 on customer satisfaction of the banking sector in Africa, it was revealed that, 85% of customers still use the banking to transact all forms of business. Also the huge investments in banking sector in terms of ATM and internet banking have not been able to attract the large number of unbanked in the country. A joint report by the IMF and World bank in 2012 revealed that, about 70% of Ghanaians remains unbanked, that is, they do not have a bank account or perform regular transactions using the formal banking system (BFT 2013). This means that, majority of the populace are resorting to unsafe and informal means of handling money and this comes with so many challenges and disadvantages to the individuals and to the state. Money kept in a room can easily be stolen or lost in the event of disasters such as floods and fire.

The main question which remains unanswered is why are these innovations not promoting usage among existing customers? Do customers finding it difficult to use these innovations, or the kind of services provided? Is it that the service is not of good quality hence customers still prefer to use the old method and hence are not able to tell others to join? Are customers really satisfied with the

service? The quest to find answers to these questions is the reasons why this study was conducted and what is the extent of gap that exist between the levels of quality service that customers want and what is actually provided by banks?

In Ghana there have been some studies on internet banking and ATM (see table 1.1). Some targeted on the adoption rate while others also looked at customers perception about these innovative products. Though some studies have tried to examine the effect of these innovations on customer satisfaction, most of them did so using case study banks hence cannot be used for generalization. Also majority of the studies were conducted in Accra and Wa. Hence this study seeks to add a different dimension on the subject by conducting a study including responses from all the major banks in Ghana to obtain different opinions and experiences with the products to present well informed results. Also the study being carried out in the Kumasi Metropolis will help increase existing information of financial innovation in Ghana. The study will also go further to identify the extent of service quality gap.

Table 1.1: Research Work on Financial Innovation in Ghana.

AUTHORS	TOPICS	THEME OF THE STUDY
Anthony Adu-Asare Idun and Anthony Q. Q. Aboagye (2014)	**Bank Competition, Financial Innovations and Economic Growth in Ghana**	Relationship between bank competition, financial innovations and economic growth.
Daniel Domeher, Joseph M. Frimpong and Thomas Appiah (2014)	**Adoption of Financial Innovation in the Ghanaian Banking Industry**	The factors influencing the adoption of financial innovation in Ghana's banking industry
Edward Marfo-Yiadomand Abraham Ansong (2012)	**Customers' Perception of Innovative Banking Products in Cape Coast Metropolis, Ghana**	The study explores how innovative banking products are perceived by consumers

Joshua Abor (2004)	**Technological Innovations and Banking in Ghana: An Evaluation of Customers' Perceptions**	The perceptions of banking customers regarding the effect of technological innovations on banking services in Ghana.

Richard Selassie Bebli (2012)	**The Impact of internet banking service quality on customer satisfaction in the banking sector of Ghana**	The study looks at customer satisfaction in the area of service quality dimension
Simon GyasiNimako, Nana Kwame Gyamfi and AbdilMumuni Moro Wandaogou.(2013)	**Customer Satisfaction With Internet Banking Service Quality In The Ghanaian Banking Industry**	Customer satisfaction and internet banking service quality.
Robert Kwame Dzogbenuku (2013)	**Banking Innovation in Ghana: Insight of Students' Adoption and Diffusion**	Attributes that influence the adoption of mobile banking innovation among university students in Ghana
Gabriel Asante Gyabaah, Eugene Ofori-Appiah Danquah and Daniel Kojo Tetteh-Wayoe (2015)	**Assessing the Impact of ATM in Delivering Service in the Ghanaian Banking Industry. A case of GCB Bank Ltd**	The study focused on factors that influence usage, the frequency of usage and problems faced by ATM customers of GCB as well as the level of satisfaction of internet banking
Yazeed Abdul Mumin, Paul Kwame Nkegbe and Nasegnibe Kuunibe (2012)	**An analysis of Customer loyalty to Banks in Ghana**	The study centered on how banks' customers are satisfied and how levels on satisfaction transcend into loyalty. It also look at some other factors that influence customer satisfaction
Yazeed Abdul Mumin, Yazidu Ustarz and Ibrahim Yakubu (2014)	**Automated Teller Machine (ATM) Operation Features and Usage in Ghana: Implications for Managerial Decisions**	Features of ATM services and its relationship with Usage

Nana Yaw Asabre, Richard Opoku Baah and Andrew Adekunle Odediyah (2012)	**Measuring Standards and Service Quality of Automated Teller Machines (ATMs) in the Banking Industry of Ghana**	Standards, service quality, usage and challenges associated with the use of ATM.
David Asamoah, John Akoto Inkum and John Frimpong Manson (2014)	**The Effects of Automated Services on Customer Satisfaction in Ghana.**	The study examined the kind of automated service that most customers have subscribed to and the level of satisfaction of automated services.
Edward Kwame Ayimeh, Dadson Awunyo-Vitor and Richard Oduro Somuah (2012)	**Are Customers Satisfied with Automated Teller Machines Services in Ghana? A case study of A Universal Bank.**	Customer satisfaction of ATM
Bismark Addai, Bismark Ameyaw, Eric Ashalley and Isaac Quaye (2015)	**Electronic Banking and Customer Satisfaction: Empirical Evidence from Ghana**	The study analysed the satisfaction level of electronic banking based on availability, convenience and reliability.
George Anane Takyi and Julia Opoku (2015)	**The Adoption and Impact of Internet Banking on The Ghanaian Economy (A Case Study of Zenith Bank Ghana Ltd)**	It looks at the adoption rate, the kind of internet banking services provided by banks, the problems customers face.
Ebenezer Ankrah (2013)	**Customer Satisfaction of Electronic Product and Services in Ghanaian Banks.**	the level of satisfaction of bank customers using electronic products and services provided by the banks
Mohammed-Aminu Sanda and Eric Arhin (2011)	**Using ATM as Workload Relievers for Ghanaian Bank Tellers: The Customer Behavioral Challenges**	Customers behavior towards the use of ATM.

1.3 OBJECTIVES OF THE STUDY

The main objective of the study is to find out the effect of financial innovation on customer satisfaction but the specific objectives are;

1. To assess the relation between financial innovation and customer satisfaction.
2. To investigate the effect of satisfaction on usage
3. To find out the level of service quality gap in the Ghanaian Banking Industry.

1.3 SIGNIFICANCE OF THE STUDY

The study is significant to the banking industry in terms of it contribution to understanding the relationship between financial innovation and customer satisfaction. It will help inform decision makers in the banking sector the justification to either invest in a particular innovation. Also it will help them to access how the implementations of certain innovations are viewed by their customers. Also findings and recommendations that will come out of the study will help banks to assess their services as well as help in future planning, evaluation and implementation process in developing new strategies to enhance customer satisfaction. Also the study will add to knowledge in the sense that, although a lot of study have been carried out on financial innovation , little have been done in Ghana in the area of its impact on customer satisfaction hence the study will fill some gap in existing literature

1.4 METHODOLOGY

1.4.1 Population, sampling technique and size

The targeted population for this study was customers of Banks in Kumasi Metropolis who have subscribed to ATM and internet banking. A convenient sample size of three hundred and eighty (380) respondents was chosen for the study. The respondents were purposively selected to fit the criteria of having used internet banking, SMS banking and ATM for a minimum of one year.

1.4.2 Data collection Technique/Tools

The main tool for conducting the study was questionnaire. The questionnaire was administered at the KNUST commercial area, Adum harper road cluster of bank, Kejetia, Ahodwo, Asafo, Amakom, Krofrom. Respondents selected for the study were customers who willing to answer the questionnaire.

1.4.3Data Analysis

Statistical package for Social Scientist will be used to code and analyze the data obtained. After coding and entering of data into the software, factor analysis was adopted to extract the factors used for the regression. Spearman correlation was used to test the correlation between financial innovation and customer satisfaction. SERVQUAL method of measuring customer satisfaction was used to measure the service quality level of banks based on the five dimensions adopted for the study. The results were presented in form of tables, charts and diagrams.

1.5 SCOPE OF THE STUDY

For the basis of the study, financial innovation will mean internet banking and ATM. Service quality will be measured based on the gaps between the expectations and perceptions of customers while customer satisfaction will be measured by customers' assessment of their overall satisfaction with a particular product. The study was confined to Kumasi Metropolis only.

1.6 ORGANISATION OF THE STUDY

The study is in five chapters. Chapter one, as an introductory chapter, provide a brief background on financial innovation and customer satisfaction, problem statement, the objectives of the study,

methodology, scope and limitation of the study, significance and justification of the study. Chapter two also reviews literature on financial innovations and customer satisfaction in the areas of theories on innovation and customer satisfaction, types of financial innovations, measuring customer satisfaction etc. Chapter three, deals with the methodology of the study with respect to the population, sources of data, etc. Chapter four presents analysis and discussions of results while chapter five captures summary, findings and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter looks at previous studies that have explored theories and empirical works relevant to the study. The study goes further to touch on some already existing relevant works on customer satisfaction and service quality within the framework of financial innovation and customer satisfaction. The explanation of the key terms served as a framework within which this study was conducted.

2.1 DEFINITIONS OF TERMS

2.1.1Financial Innovation

Financial innovation is one the core feature of the study but before making the effort to explain what it is, it will be of importance to explain what innovation is about. The concept of innovation exists in various disciplines and has been defined by various authors in different sectors of economy. Therefore it is not surprising to come across words like scientific innovation, technological innovation, financial innovation etc.

Innovation may be defined as generating, accepting, and implementing new ideas, processes, products, or services (Thompson, 1970). Most often there is a controversy as to whether innovation is the same as invention but according to Afuah (1998) made a distinction between the two by saying that, a commercialized invention becomes an innovation. Mansfield (1968) also defined innovation as the effective application of an invention (Bassa 2013).A

Schumpeter, often credited as one of the leading fathers in the study of innovation defines innovation as a change in the production function (Schumpeter, 1939). He also went further to categorized innovations into two types: **process and product**. Product innovations are the introduction of new products or services that were previously unavailable and are mostly created to meet customer needs (Flood, 1992*).* Process innovation refers to new method in production that involves the use of new or old products and services to be provided more efficiently and at a relatively lower cost. Aside Schumpeter's two broad categories of innovation, Kimberly (1981) provide other categories when he explained innovation as a **process, products, service and as an attribute of organizations.**

One major concern of the concept of innovation is how it can be measured. The measurement of innovation is likely to be difficult both in concept and in practice (OECD 1997) but one method generally used to assess the level of innovation is to create a difference between what constitute the inputs and the outputs of innovative activities (Rogers,1998). Output measures includes firm performance, intellectual property and introduction of products whiles input measures include research and development, acquisition of new technology and equipment, expenditure on marketing, training, assets etc. The use of these indicators as a measure of innovation has suffered

some criticisms. For instance, the profitability of a business may not be as a result of innovation but other factors (Rogers 1998).

After exploring what innovation is, the next question to answer is what is financial innovation? And according to Bassa (2013), the answer to this particular question remains partly unanswered despite the significant impact of financial innovation on the world economy. Lawrence (2010) defined financial Innovation as 'the process of designing, developing and implementing

innovative financial tools and methods, and the formulation of brilliant answers to challenges in the financial system'. The European Central Bank (ECB 2003) has also defined financial innovation as a product and organizational innovation, which allows the reduction of cost or risk for banks and/or an improvement in service for the financial industry as a whole. Tufano (2002) has also argued that, financial innovation is the act of creating and making it known to others new financial tools as well as new financial technologies, institutions, and markets.

Frame and White (2002) gave a quite a comprehensive definition of financial innovation. According to them, financial innovation is a new thing that reduces costs and risks or provides an improved product or service or instrument that satisfies demand within a financial system. This means that, financial innovation should be able to satisfy the demands of the players within the financial system. For the purpose of this study, financial innovation is a product or service that adds value to a firm as well as satisfying the needs of customer

2.1.2 Sources of Financial Innovation

There exist in literature the reasons underlying the existence of financial innovation because several studies have come out with the reasons why a financial entity may decide to be innovative. According to Horne (1985), there are six underlying factors that drive financial innovation; transparency, risk management, information technology, customers and capital adequacy and these factors have been conceptualized as the TRICK model. The transparency obligations imposed on banks by Central banks compels them to structure their activities to reduce obligation. Secondly, the need to reduce and manage risk drives financial institutions to venture into innovative forms of trading and activities. Also, the continuous change in technology, the need to satisfy customers' needs and the regulatory requirement of capital adequacy are according to Hornes, the driven force of financial innovation. Macroeconomic conditions, taxes, regulation and technology have also been identified by Campbell (1998) as the reasons for financial innovation.

The need to reduce transactional cost and the problem of information asymmetry has also been identified as some of the reasons for financial innovation (Lerner and Tufano 1993, Ross 1989). According to Muiruri and Ngari (2014), the competitive nature of the banking industry, coupled with the volatility of interest rate has compelled most banking institutions to adopt, create and implement decisions that promote financial innovation. But Frame and White (2004) has argued that, the absence of property rights and patent may impede financial innovation with the reason that, it will deprive the originator of the idea, the expected returns on his investment especially in the era of free market.

2.2CLASSIFICATION OF FINANCIAL INNOVATION

Evidence from existing literature reveals that, there are various types of financial innovation since different authors have tried to come out with various categories of innovation. This section tries to identify some of the classifications outlined some authors. Also according to Llewellyn 2009, financial innovation can be classified according to the **type, motive and the functions** they perform. Based on motive he differentiated between an **aggressive** (innovations that firms believe is marketable), **defensive** (to meet changes in regulations), **protective** (to protect firm's interest in terms of profit, reputation, etc) and **responsive** (to meet the customer demands) forms of innovation Based on the types, Frame ad White (2004) outlines the classification of financial innovation as new product, new service, new processes and new organizational structure.

Economic Council of Canada classifies financial innovation into three(3) groups based on their roles: (1) market-broadening instruments, (2) risk management tools and (3) arbitraging tools and processes (Fabozzi and Modigliani, 2003 cited in Blach, 2001). The market-broadening instruments enhance the availability of funds to deficit units derived from units with excess funds. The second category enables firms to reallocate financial risk to manage their risk properly. The last category of creates opportunity for the market players to make some gains from the disparity between costs and returns in the markets (Blach, 2011). The table below gives a detailed classification of financial innovation.

Table 1.2: Classification of Financial Innovation

Criteria	Types of financial innovations
Sources of innovations	Supply-driven innovations Demand-driven innovations
Factors of innovations	External factors driven innovations Internal factors driven innovations

Motives of innovations	Adaptive innovations Aggressive innovations Defensive innovations Protective innovations Responsive innovations
Elements of the financial system	Financial market innovations Financial institutions innovations Financial instruments innovations Financial regulations innovations
Types of innovations	Product innovations Process innovations Risk-shifting innovations
Effect of innovations	Sustainable innovations Harmful innovations

Source: Blach, 2001

2.3FORMS OF FINANCIAL INNOVATION

2.3.1Automated Teller Machines (ATMs)

Rose (199) defined ATM as a machine that act as a computer terminal, record-keeping system and cash vault in one unit. It allows entry into a bank's system with a card which is mostly plastic containing a personal identification number (PIN). They were initially built to serve as cash dispensers but now as a result advance in technology, it can now offer variety of services including accepting deposits. Transactions that can be performed by the ATM include withdrawals, checking of balance, funds travel, checking of bank statement etc. They are can be found both within and outside the premises of the banks.

ATMs allow banks to extend banking services to customers outside the banking hours hence it enhances productivity, it has also helped to reduce the number of people who transact business in the banking halls. Most customers no longer have to join longer queues to withdraw monies and transact some other banking business when they can do so in the comfort of their homes.. ATMs

provide a cost-efficient way of achieving higher productivity. The average transactions per month for ATMs are of about 6,400 compared to 4,300 for human tellers (Rose, 1999).

2.3.2Internet Banking

Internet banking is a facility that is provided by financial institutions to enable their customers perform bank related transactions through the Internet without having to visit the banking premises (Al-Abed, 2003). It nature gives convenience to customers to have control over their bank account. Customers can transact banking business anytime anywhere provided they have access to internet. Payment of bills, checking of balance, funds transfer etc. can all be done using internet banking. Several studies have been conducted on its adoption especially in Africa where the use of the internet is still not very popular among certain groups. According to Akoh (2001), the most critical barrier to the adoption of internet banking can be attributed to the inadequate information and communication infrastructure available in most countries, especially in Africa.

Ofori-Dwumfour and Darkwa (2013) conducted a study on the adoption of internet banking in Ghana and the study revealed that, factors such as frequent power outages, illiteracy and fear are some of the reasons why adoption of internet banking is still low in Ghana. Lack of basic ICT skills may hinder a customer from using the service. Also, the fear of insecurity surrounding the use of the internet has become a barrier to most customers.

2.3.3Telephone/SMS Banking

Balachandher *et al*, (2001) defined telephone banking as 'a form of remote or virtual banking, which is essentially the delivery of branch financial services via telecommunication devices where the bank customers can perform retail banking transactions by dialing a touch-tone telephone or

mobile communication unit, which is connected to an automated system of the bank by utilizing Automated Voice Response (AVR) technology'. SMS banking allows customers to receive notifications of transactions on their phones in the form of text messages. This service mostly comes with a charge where customers are charged monthly.

According to Leow (1999), 'telephone banking has numerous benefits for both customers and banks. As far as the customers are concerned, it provides increased convenience, expanded access and significant time saving. On the other hand, from the banks' perspective, the costs of delivering telephone-based services are substantially lower than those of branch based services'.

2.3.4Networking of Branches

'Networking of branches is when banks there spread across a geographical space are connected unto one platform with the help of information technology equipment and software to enhance effective and rapid information sharing on customers (Asiamah 2011). Networking of branches enables easy interbank transactions. For instance, customers can perform bank transactions at any branch.

2.3.5Electronic Transfer

An Electronic Funds Transfer at the Point of Sale (PoS) is an on-line system that allows customers to make rapid transfer of cash from their bank personal accounts to the accounts of sellers and business owners when buying items (at purchase points). A PoS uses a debit card to activate an Electronic Fund Transfer Process, (Chorafas (1988) cited in Agyapong 2011). Instead of using physical cash or cheques to buy things, the electronic transfer system gives the opportunity to use a debit to do that. This provides a safe system of transacting business. It also saves customers time

and energy in getting to bank branches or ATMs for cash withdrawals which can be used for other productive activities (Agyapong 2011)

2.4Theories of Financial Innovation

2.4.1Constrain-Induced Financial Innovation Theory

The theory was advanced by Silber (1975) and has provided the framework for discussions on innovation. According to the theory, financial institutions are profit maximizers who operate within a certain environment and are constrained by both internal and external regulations and regulations and these constraints reduce the efficiency of financial institutions. The external regulations include taxation, technology and knowledge. The theory proposes that, when the firm's utility diminishes, there is an incentive to innovate. If the costs of adhering to an internal constraint increases, the firm can re assess their mechanisms and even remove the constraint but if the constraint is from an external one, the firm has an incentive to innovate in order to reduce cost. Hence external constraint is the main reason why firms innovate.

Horne (1985) expanded the theory further by saying that, it is not the presence of a constraint that motives innovation but rather a change in the constraint or a change in the environment within which a firm operates. Tightening of capital requirement, volatilities in interest rates and inflation and advancements in technology have the potential to drive innovation among financial institutions. The constraint-induced theory has been criticized for emphasizing excessively on "innovation in adversity" hencecan'texpress the concept of financial innovation increasing in the trend of liberal finance.

2.4.2Circumventation Innovation

Kane (1981) has been credited as the pioneer of the circumventation theory. According to him, innovation occurs due to a conflict between regulations and the profitability of a firm. Government regulations such as taxation increase the cost of firms and hence reduce their profitability. Therefore, financial innovation is mostly induced by the drive to maximize profit and circumventing government regulations. This theory has been described as the source of innovation and also offers explanation to the means of regulating innovation and its ever changing relationships.

2.4.3Innovation diffusion theory

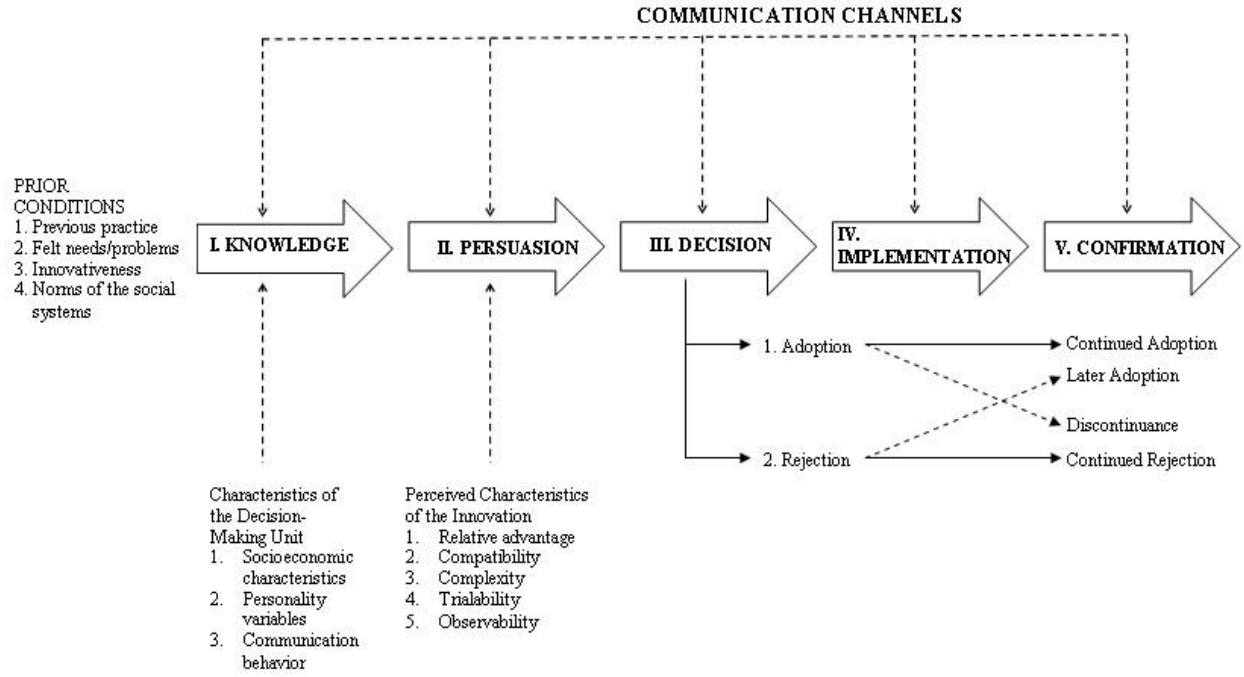
How a particular idea, good, service or process is adopted by a particular person or group of persons and their characteristics have been studied by several authors but Rogers (1962) have been credited for promoting this literature. Rogers' innovations diffusion theory has been described as the most suitable among other innovation theories in terms of probing into the acceptance and use of technology in higher education (Medlin, 2001; Parisot, 1995).

"An *innovation* is an idea, practice, or project that is perceived as new by an individual or other unit of adoption" (Rogers, 2003). What this means is that, a particular innovation may have existed for some time but becomes an innovation to someone when experience the person experience it or come into contact with it for the first time. He also defined innovation diffusion as 'a process through which innovation is communicated through certain channels over time among members of social system' (Rogers 1995). According to him, the innovation decision process involves five

main stages which are; (1) knowledge, (2) persuasion, (3) decision, (4) implementation, and (5) confirmation and these stages follow each other in a time-ordered manner (Rogers 2005).

The knowledge stage is when an individual gets to know of the existence of the innovation and how it works. The persuasion stage is when the individual has a negative or positive idea about the innovation. During this stage, interactions and discussions with close relatives and friends can influence the persuasion process. The individual chooses to adopt or reject the innovation at the decision stage while the individual actually uses the innovation at the implementation stage. During the confirmation stage, the individual decides whether to continue using the innovation or discontinue based on his user experience. If the innovation does not satisfy his needs or do contrary to what was expected, discontinuance may occur.

Figure 2.1: Five Stages in the Innovation-Decision Process (Rogers2003)



Source: Sahin (2006)

Rogers after explaining the communication channels involved in the diffusion process, went further to explain the categories of members of the social system thus in other words the categories of people involved in the diffusion process. He categorized members into five main groups based on their level of innovativeness and he defined innovativeness as the extent to which a person or other unit of adoption is relatively earlier in adopting new ideas than other members of a system'(Rogers 2003). The five groups are **innovators, early adopters, early majority, late majority and the laggards.**

Innovators: These are category of people who are high risk takers and are ever ready to experience new or cause a change in the society. They are the bearers or the carriers of innovations from one society to the other (Rogers, 2003).

Early Adopters: This category consists of people in high offices, opinion leaders and highly influential people. They act as role models and decision makers in a society hence their choice of goods or service has influence on others in the society. According to Rogers (2003) adoption by this group symbolizes the approval of the good and helps to reduce doubt and uncertainty about a particular innovation.

Early majority: They do not have leadership role in the society but by virtue of their good communication with other members of the society, mostly the leaders, they are able to adopt the innovation earlier than the rest of the majority.

Late majority: They are people who are uncertain about a particular innovation but later adopt it after others have done so. Peer pressure, word of mouth and the desire to do what others are doing influence them to adopt a particular innovation.

Laggards: They are less responsive to changes in the society and often interact among themselves. Laggards hold a more skeptical view about a particular innovation and will always want to see the outcome of a particular innovation before accepting it. They are the last group of people to adopt an innovation.

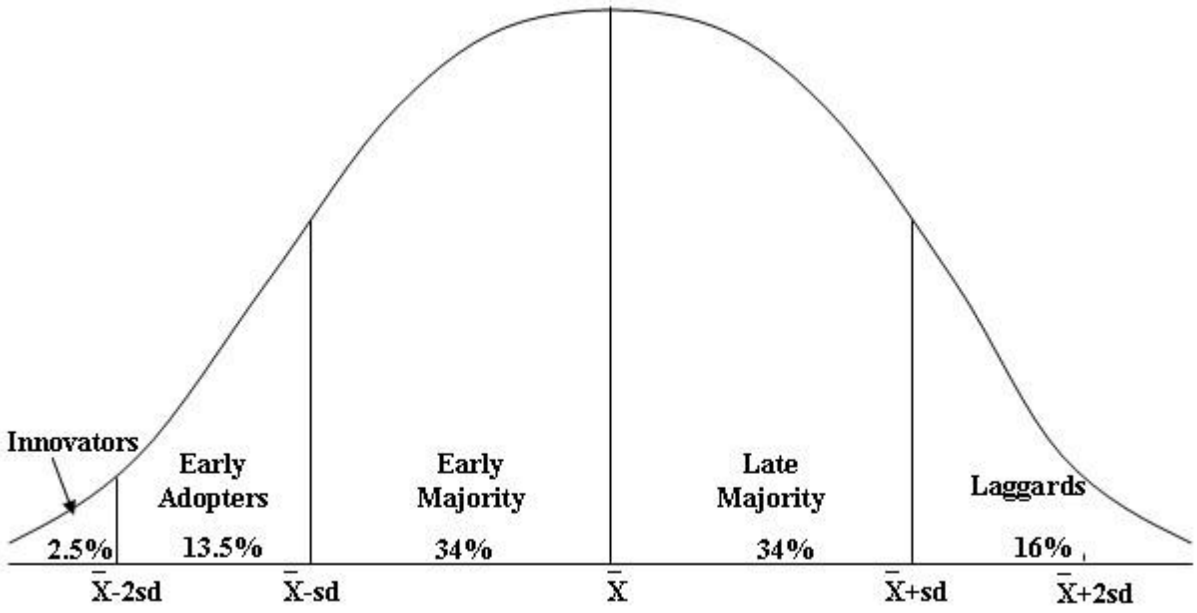


Fig 2.2: Categorization of adopters
Source: (Rogers 2003)

From the figure 2.2, innovators constitute the least majority with just 2.5%, early adopters constitute 13.5%, early majority 34%, late majority 34% and laggards constitute 16%.

2.5 THE CONCEPT OF CUSTOMER SATISFACTION

Customer satisfaction is an important term in marketing because it measures how a particular good or service produced or provided by a company meets the demands and expectations of the customer or the consumer. A firm that wants to increase its customer base and profit has to make sure that, its clients are satisfied. Many authors have defined customer satisfaction in various ways and according to Yi (1991) there exists some inconsistency in defining customer satisfaction. One of

the acceptable and popular definitions is that of (Oliver 1997), he defined customer satisfaction as ' …..the judgment that, a product or service feature or the product or service itself provided (or is providing) a pleasurable consumption-related fulfillment including level of under or over-fulfillment….'(Grigorous and Siskos 2009). This means that for a customer to be satisfied with a particular service or product, it should have the ability to give some level of pleasure but what remain unanswered about this definition is what level constitute satisfaction?

Another dimension to this definition is the aspect of 'consumption-related fulfillment', what it implies is that, satisfaction can only be measured among consumers. That is people who actually use the product and not those who purchased it. Therefore some authors have argued that, consumption satisfaction should be measured instead of consumer satisfaction.

According to Yi (1991), customer satisfaction can be defined either as an outcome (Howard and Seth 1969, Westbrook and Reiley 1983, Churchil and Suprenant 1982) or a process (Hunt 1997, Engel and Blackwell 1982). The outcome definition defines customer satisfaction as the end state after consuming a product while the process definition emphasizes the process that leads to satisfaction (Vavra 1997).

Also there are two general dimensions of customer satisfaction namely, transaction and overall cumulative approach (Boulding et al 1993). From a based on transaction, customer satisfaction is defined as the assessment judgment of a specific purchase occasion while cumulative customer relation is the overall assessment based on total consumption experience (Anderson et al 2006). For the purpose of the study, a cumulative approach will be used to assess the effect of financial innovation on customer satisfaction.

Some authors have identified some of the underlying factors that influence customer satisfaction. Perceived quality have been identified by several studies as one of the factors influencing customer

satisfaction (Bolton and Drew 1991: Fornell 1992; Oliver and DeSarbo 1988; Churchchill and Suprenant 1982). Quality is defined as having two dimensions, that is whether the product or service meets the needs of the customer and also how free the product or service is from deficiencies (Garvin 1988). Therefore how a customer measures the quality level of a particular product will determine whether he/she is satisfied with a particular product or not. Secondly, the price and the value of the product or service influence the satisfaction of customers. The amount of money customers pay in relation to the quality or the value of service they receive have a major effect on satisfaction. When they believe that, the price paid is higher the value or quality of the service or product, dissatisfaction will occur but when the price is equal to or even less than the value, then satisfaction may occur(Anderson and Sullivan 1993). Also, expectations about the quality of the good or service should have a positive effect on customer satisfaction. Expectation is not about past consumption experience but rather what the information gathered from outside sources which include the media, word of mouth from previous or existing customers of the firm (Bateson 1989, Gronross 1980).

2.6 BENEFITS OF CUSTOMER SATISFACTION TO A FIRM

Customer loyalty: Customer loyalty has been identified as one of the positive outcomes of customer satisfaction. loyalty can be explained as a customer's decision to continually purchase goods or services from the same organization (Edvardsson et al., 2000) and this is as a result of the conviction that the value received from the seller or firm is exceed that of other alternatives (Hallowell, 1996). Strong customer loyalty reflects in firm's revenue because loyalty ensures consistent future profit (Reichheld and Sasser, 1990). Customer satisfaction/ loyalty reduce price

elasticity because current customers are likely to tolerate price increase than new customers (Garvin 1988).

Lower Transaction Cost: Firms that consistently provides customer satisfaction may have to devote less resource in handling customer complaints and other satisfaction related issues. Also, firms do don't have to spend huge resources to attract customers periodically because they are assured of adequate customer base as a result of customer loyalty (Reichheld and Sasser, 1990, Crosby 1979).

Word of Mouth: Word of mouth is any type of informal communication between private parties concerning the evaluation of goods and services (Dichter, 1966). It has been considered to be one of the most powerful forces in the market place due to its ability to facilitate the sale of products and services (Bansal and Voyer, 2000). There is a higher probability for satisfied customers to spread positive information about a product or service than spreading negative information (Anderson 1994). Information from current consumers greatly influences the ability of a firm to attract new customers. Prospective customers rely heavily on word of mouth because it is often regarded as more reliable than other sources of information (Kozinets, 2002).

Therefore customer satisfaction makes advertisement more effective and reliable.

Enhances Firm's Reputation: Customer satisfaction has the capacity to enhance the overall reputation of a firm as well as the ability to maintain good relationships with customers and other partners (Montgomery 1975). When customers are assured of their satisfaction, they are always ever ready to spread the good news to others and this creates a positive image of the firm to the rest of the society.

2.7THEORIES OF CUSTOMER SATISFACTION

2.7.1 Disconfirmation theory

The theory measures the difference between the desires/ expectations and actual performance. The disconfirmation theory is expressed as Σ(Pi-Si) where Pi and Si denote actual and expected performance respectively (Rusu and Isac 2014). The desired performance is measured before the product or service is used while the actual performance is measured after usage. Based on this theory, satisfaction is obtained if there is no gap between the desired performance and actual performance of the product or service. That is the product should be able to fulfill the need of the consumer. According to Berry (1994), the disconfirmation theory has an advantage of being efficient as each attribute can be measured by only two scales.

Although the theory is one of the most popular among satisfaction theories, it has some criticisms. The disconfirmation theory has been criticized as not measured directly but rather calculated from other measurement (Halstead and Page, 1992). Also the theory fails to take into consideration the process and methods used to deliver the product or service. Delays and cost can also affect satisfaction but theory was silent on it

2.6.2Assimilation Theory

Assimilation theory derives its bases from the Festinger's (1957) dissonance theory. Dissonance theory states that consumers make some comparison between expectations of the product and the user experience. If there is a difference between the expected and what was actually experienced, dissonance will occur. The view of the after usage evaluation by the customer was added to literature of satisfaction as assimilation theory. (Anderson, 1973).

Assimilation theory postulates that, customers avoid dissonance through the alteration of their experience of a particular good, in to ensure consistency between expectation and perception (Anderson 1973). Also, consumers can minimize the friction arising from the discrepancy between expectations and the product's performance, by one, altering the expectations so that they could be in conformity with the perceived performance of the good, and secondly by raising satisfaction level through minimization of experimental disconfirmation relative importance (Olson and Dover, 1979). Assimilation theory has been criticized by Peyton et al. (2003). According to them, the theory establishes a relationship between expectation and perceived service quality but it does not show how dissonance can result in satisfaction or dis-satisfaction. Also, the theory states that, consumers can adjust their perceived expectation to make it more inclined towards the performance. Research has proved that, altering it will result in positive relationship between satisfaction and expectation implying dissatisfaction will never exist unless the process of evaluation starts with a negative perception (Rusu and Isac 2014).

2.6.3 Contrast Theory

The theory was developed by Hovland et al. (1957) and offers another dimension to the study of after-usage process in customer satisfaction. The contrast theory postulated that, there is a probability on the part of consumers to increase the distortion between one's own judgment and the judgment of others (Dawes et al., 1972). According to Vavra (1997), consumers will always increase their expectation which will result in discrepancy.

2.6.4 Assimilation-Contrast Theory

This theory combines both the assimilation and the contrast theory. According to the theory, satisfaction is a function of the magnitude of the discrepancy between expected and perceived performance. The Assimilation-Contrast theory shows that both the assimilation and the contrast theories are applicable in the study of satisfaction behavior of customers. That is, based on perceptions customers always move within rejection and acceptance areas. o

As postulated by assimilation theory, consumers can adjust the discrepancy in product performance perception only if the difference is quiet small (Peyton et al., 2003). A large difference between expectation and perceived performance results in contrast effects and consumer's tendency would be one of increasing the perceived difference. The AssimilationContrast theory attempt in combining two theories has been criticized for yielding mixed results (Anderson, 1973).

2.7 MODELS OF CUSTOMER SATISFACTION MEASUREMENT

The two most popular models used in measuring customer satisfaction in the banking sector are the SERVQUAL and the SERVPERF. The SERVPERF was born out of the SERVQUAL model.

2.7.1SERVQUAL Model

Developed in 1985 and later modified in 1988 by Parasuraman, Zeithamal and Berry, the SERVQUAL measuring the quality of service from customers' point of view (Asubonteng et al). According to the SERVQUAL model, service quality can be measured by identifying the gaps between expectation and perceptions of the actual performance of service. The authors, in their 1995 paper outlined ten dimensions measuring service quality and the dimensions are; tangibility, reliability, responsiveness, competence, courtesy, communication, security, credibility, access and understanding the customer but these dimensions were later reduced to five; tangibles,

accessibility, reliability, responsiveness and empathy. Tangibility refers to the physical environment of the service. It includes the building, the king of equipment used, the personnel etc. (Olu Ojo, 2008). Reliability is the service provider's ability to provide accurate and dependable services (Olu Ojo, 2008). Responsiveness is the willingness to help customers and provide prompt service. Service providers must be willing to respond to the needs and complaints of clients. Assurance is the knowledge and courtesy of employees and their ability to inspire trust and confidence and empathy is about Caring and individualized attention the firm provides its customers.

Twenty-two questionnaires are then developed out of these dimensions. The questions can be grouped into two parts, one part consists of the expectations of the customer and the other part consists of the perception of the customers after usage and the difference between the two constitute a gap. According to Parasuraman (2004), there are five types of gaps;

Gap one: The difference between customers' expectations and management perception of customers' expectation. The gap arises as a result management inability to undertake intensive studies on customers' expectation, poor internal communication and poor management structures (Donnelly et al 1995)

Gap two: The difference between management perception and service quality specifications. This is referred to as the standard gap.

Gap three: The difference between service quality specifications and the actual service quality delivered.

Lack of commitment and inadequate management controls have been identified by Donnelly 1995 as some of the reasons that account of this type of gap.

Gap four: The difference service delivery and external communication and external communication include media advertisement and word of mouth.

Gap five: The difference between expectations of service quality and what is actually received.

Aside its high reliability and consistent factor structures across diverse independent samples, the SERVQUAL model have receive some level of criticisms. One main criticism of the model is lack of universal applicability of all the five dimensions in all service industries (Robbinson 1999). For instance, a study on an electric and gas company conducted by Babakus and Boller (1992) suggest there was only one dimension and not five. Also the five dimensions have been criticized as being highly related to each other. Lam (1997) has argued that, there is no clear cut difference among empathy, assurance and responsiveness. Moreover there is also no evidence to show that, customers always assess service quality by finding the difference between expectations and perceptions.

2.7.2 SERVPERF Model

Citing limitations of operationalization, conceptualization, measurement and applications of SERVQUAL's scale the SERVPERF model was developed in 1992 by Cronin and Taylor. According to them, service quality can only be measured using perceptions because it is believed that, perception is enough for the measurement. They argued that SERVPERF was a better method

of assessing the service quality construct and their study was later repeated and results suggest that there is little or if any theoretical or empirical evidence to supports the importance of the (P-E=Q), quality gap as the basis for measuring service quality (Adil et al 2013).

Cronin and Taylor (1992) provided empirical evidences across four industries viz. fast food, pest control, dry cleaning and banking to support the superiority of their 'performance only' scale over SERVQUAL scale retaining the same items as had been proposed by the Parasuraman, Zeithaml and Berry(1988). They expressed the SERVPERF model in an equation form as

$$SQ_i = \sum_{j=1}^{k} P_{ij}$$

Where

SQ_i = perceived service quality of individual 'i'.
k = Number of attributes / items
P = Perception of individual 'i' with respect to performance of a service firm on attribute 'j'.

Some studies have tested the SERVPERF scale has described it as a better way of quantifying service quality (Cronin and Taylor, 1992; Brown, Churchill and Peter, 1993) and perform better in assessing service quality in banking industry in developing countries (Jain Gupta, 2004; Adil, 2012; Adil & Ansari, 2012; Adil, 2013a; Adil, 2013b; Adil et 2013). The model has been criticized for lack of consistency and structure (McMullan, 2009).

2.8 EMPERICAL REVIEW

The impact of financial innovations on banking services has been studied by different authors for decades now. The early works of scholars such as that of Schumpeter (1934) has revealed that, innovations can lead to competitive advantage that can be exploited by innovative firms. Majority

of studies on financial innovation has centered on perception, usage adoption, financial performance and customer satisfaction.

In Nigeria, to Odusina (2014) investigated the level of ATM usage and customers satisfaction in among three banks in Ogun State Metropolis, results of the study showed that there is a positive relationship between ATM usage and customers' satisfaction.

In Ghana, the concept of financial innovation in the banking industry is not new as some studies have been carried out on this subject matter. Some of the studies already done in Ghana include the following;

Asante-Gyabaah et al (2015), in their study assessed the impact of the ATM in delivering service in the banking industry. A case of GCB Bank Ltd and out of a total of 282 sample size selected for the study, the results revealed that, 30% of respondents use the ATM services once a week while 26.4 % and 22.8 % use the ATM on alternate days and once a month respectively. The study further revealed that, debiting of account without disbursing the amount, citing of machine at obscured places and the inability of machine to disburse the amount expected were according to the respondents the three main problems associated with ATM services. Lastly, the study revealed that majority of the respondents was satisfied with the ATM services provided by Ghana Commercial Bank.

In 2014, Mumin et al conducted a study to find out the operational features and ATM usage in Ghana. Primary data was collected from one hundred and eighty respondents within the Wa Municipality of Ghana. The authors then used a probit model to identify the factors influencing ATM usage and the results showed that. Higher education, number of ATMs, convenience and efficiency are among some of the factors that affect ATM usage. Also within an hour, an average

number of six customers are likely to use Stanbic bank ATM in Wa municipality and five customers for ADB.

Mumin et al 2012 conducted a study conducted in Wa Municipality in Ghana to analyse the extent of customer loyalty to Ghanaian banks. Based on the results obtained, the authors concluded that, the availability of ATM facilities has a positive effect on customers' loyalty to their banks but the number of hours spent in transacting business in the banking hall has a negative relationship with customer loyalty.

In 2012, Asabre et al sought to measure the standard and the service quality of Automated Teller Machines in Ghana. A total of 120 questionnaires were distributed to both ATM users and non ATM users bank customers. Unavailability of machine to print receipt, long queues at the ATM premises and reliability issues were the three main problems identified by ATM users.

Asamoah et al (2014) found out the effect of automated services on customer satisfaction in Ghana. The study revealed that, ATM was the most popular and often used automated service. Also, service quality dimensions such as reliability, price and security all have significant effect on customer satisfaction. Ayimeh et al (2012) also conducted a similar study in Ghana and it was revealed that, about 70% of the respondents were satisfied with ATM services. The study also revealed that, the more people acquire knowledge about ATM services, the less frequent they use the service.

A recent study conducted by Addai et al., (2015) among three major banks in Ghana namely: Ecobank, GT bank and Barclays bank revealed that, there exist a positive relationship between

ebanking availability, reliability and convenience and therefore improved e-banking services can promote customer satisfaction (Addai et al 2015).

Ankrah (2013), in his study on customer satisfaction of electronic products in Ghana found out that, males in general use more of banks products than women and this the author explained was due to the fact that, men have more banking cultures than women. In all, majority of the respondents were satisfied with the products offered by banks.

Takyi and Poku (2015), in their paper titled 'The Adoption and Impact of Internet Banking on the Ghanaian Economy (A Case Study OF Zenith Bank Ltd)' published in innovative journal of business and management stated that, most customers prefer ATM to internet banking because of the extra cost involved in paying for internet charges. They also discovered that, delay in updating transactions on account, high charges and inadequate information from the bank are the major problems faced by internet banking users.

2.9 INNOVATION IN THE GHANAIAN BANKING SECTOR

Over the years, several transformations have occurred in the banking sector in Ghana. These transformations can be seen in the area of expansion, networking, payment system, regulations etc. A country that use to have only two foreign banks in the past can now boast of about 28 banks (Bank of Ghana Annual Report 2014). Transformations that have occurred in the service delivery have been as a result of improvement in the use of ICT.

The earliest forms innovations, driven by information technology were basically office automation devices. Equipment such as telephones and fax machines were used to speed up and make more

efficient, the process of servicing clients. For decades, they remained the main information and communication technologies used for transacting bank business, Abor (2005). Later in the 1980s, an increase in bank competition made the use of computer, a popular means of transacting banking business. Banks begun to use them in back-office operations and was later used by tellers to serve customers. Also, advancements in computer technology lead to the banks networking their branches and operations .Abor, (2005).

The Trust Bank Ghana, in 1995 installed the first ATM in Ghana and this has been argued by many as the most transformative change to ever occur in the banking environment in Ghana (Abor, 2005). Banks with ATM has networked them to increase accessibility and usage and today, all banks operating in Ghana have ATMs installed mostly at their premises and other public places such as shopping malls, supermarket, schools etc. the introduction of ATMs to a larger extent have caused a major improvement in the banking system as the number hours spent in the banking hall to withdraw money have reduced.

Currently most banks have implemented some measures to encourage higher usage of ATMs. For example at Ghana Commercial Bank, withdrawals below GHC 800 and checking of balance at the banking hall attract a fee. The flexibility and convienienced of the ATMs have been enhanced with the introduction of the Gh-link system in 2008. The system allows customers of a particular bank to use ATMs of other banks.

In 1997, the Soceite Generale Bank, formerly Social Security Bank introduced the first ever electronic payment card in Ghana (Abor, 2005). Their card, 'Sika Card' is a value card, onto which a cash amount is electronically loaded to pay for goods and services. Then in 2001 Standard Chartered Bank launched the first ever debit card in this country. Its functions have recently been integrated with the customers' ATM cards, which have increased its availability to the public since

a separate application process is not needed to access it (Agyapong 2001) With the aim of migrating Ghana to a cashless society and to improve payment system, the Bank of Ghana in 2008 introduced the E-zwich payment system. In that same year, the Bank of Ghana came out with rules on how electronic banking can be carried out in Ghana and this paved the way for the introduction of internet banking, mobile banking etc. internet banking services provided by banks differ from one bank to the other. Various banks have adopted internet for various reasons. For some, it has offered customers the opportunity to check their balance and perform other transactions such as fund transfer, utility payment etc. Others also use it as a medim to send bank statements of customers into their private mails and others combine the two (Abor 2004).

2.10 CHAPTER SUMMARY

The chapter reviewed literature on related topics. It started with the meaning of financial innovation. This was followed by the forms and types, theories of financial innovation, and the reasons why banks innovate. The chapter also reviewed literature on who a customer satisfaction, meaning and models, forms of measurement and financial innovation in Ghana.

Also, empirical studies that relate innovation to customer satisfaction were also reviewed.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter covers the type of research and the kind of methodology used to collect and analysis data to the effect of financial innovation on customer satisfaction. It throws more light on the

sample size, the research design, data collection tool and model specification etc. Lastly it explains how the data obtained was analyzed.

3.2 RESEARCH APPROACH

There are basically two main types of approaches to research and they are; qualitative and quantitative. Qualitative research uses words to describe/explain situations and events but quantitative research uses numbers and statistical methods to explain and analyze events as well as presenting results using tables, diagrams and other statistical tools. For the purpose of this study, a quantitative approach was adopted; therefore data obtained was quantified, analyzed and displayed using some statistical methods.

3.3 SAMPLE SIZE AND SAMPLING TECHNIQUE

It is almost impossible and very tedious to conduct a research on the entire population due to time, financial and some other constraints. Therefore in most cases, a sample size is selected out of the total population. The method for selecting a sample size differs from one research to the other, in some instance, the sample size is calculated using methods such as the deVaus proportion approach (deVaus, 2002) or in some circumstances, the sample size is conveniently chosen. A convenient sample size of three hundred and eighty (380) was selected for the study.

A convenient sample size was selected because it is very easy to use, it does not involve any mathematical calculation and also involves relative less cost and time to perform.

3.4 SOURCES OF DATA

The main source of data used for this study was primary data. Other vital information relevant to the study was obtained from research papers, published and unpublished thesis, books, journals

etc. This data was helpul in reviewing literature, explaining some terms, etc. and also used in discussing the findings obtained from the study. The primary was obtained from selected respondents with the help of questionnaires.

3.5 DATA COLLECTION TOOLS AND PROCEDURE

The main tool for conducting the research was the questionnaire. The questionnaire was divided into three main sections, the first section asked questions on the demographic characteristics of the respondents. Questions on age, education, salary, number of years of transacting business with the bank, etc. was asked. The second section asked questions on service quality of the financial innovation, the service quality section was sub-divided into five sub-sections. These sub-sections are; reliability, security and privacy, ease of use, assurance, responsiveness. The five Sub-sections used a five point Likert Scale to measure service quality. Respondents were asked to indicate the extent to which they agree/disagree with various statements. The Five-Point
Likert's scale having the ratings of 'strongly disagree' (1), 'disagree' (2), 'neutral' (3), 'agree' (4) and 'strongly agree' (5) were used. The last section asked questions on overall customer satisfaction and how customer satisfaction affects usage.

Self- administered questionnaire was used for the study. Customers of the various banks who were leaving the bank premises after bank transactions and those entering the banking halls formed part of the people that were approached for the study. Also individuals who were found around ATMs were also contacted to administer the questionnaire. After a brief introduction on the purpose of the study, and giving assurance of confidentiality, customers who were willing to fill the questionnaire were allowed to fill and returned the questionnaire immediately after completion.

The study was conducted at Adum, Asafo, KNUST commercial area, Ahodwo, Krofrom, Suame Magazine and Krofrom. These areas were conveniently selected because these are areas where most banks in Kumasi are located. For instance at Adum, it possible to find branches of almost all the major banks in Ghana and this made it easier to get access to the targeted respondents for the study.

3.6 MODEL

The main aim of the study is to examine the effect of financial innovation on customer satisfaction. In order to achieve this objective, two main methods were used for the study: the service quality model (SERVQUAL) model and the multiple linear regression models.

3.7 SERVQUAL

Parasuraman et al (1988) developed this model to assess if there are gaps between what customers expect from their service provider and what the service providers actually offers. According to this model, there is a gap Q, between expectation (what customers believes a service should offer) and perception (the kind of service customers actually experience)

(Q= P-E, where P is perception and E is the expectations of customers).

The SERQUAL model was used to measure the level of service quality and based on the results obtained, conclusion was drawn as to whether customers are generally satisfied with the services or not. The SERVQUAL model helped to assess what customers expected level of service quality and what they believe service providers are providing. Based on these results, the difference between the two will determine whether customers are satisfied or not. According to the SERVQUAL model, a positive gap value means customers are satisfied but negative value means dissatisfaction.

The study using the SERVQUAL model calculated the service quality gap of the five service quality dimensions used for the study: tangibility, reliability, responsiveness, privacy and ease of use. These variables have been explained in details in the subsequent paragraphs.

3.8 LINERAR REGRESSION MODELS

Table 3.1: List of Dependent and Independent variables

Variables	Measure	Notation
Dependent		
Customer satisfaction	Likert scale	cs
Independent Variables		
Tangibility	Likert scale	tan
Reliability	Likert scale	rel
Responsiveness	Likert scale	res
Privacy	Likert scale	priv
Ease of Use	Likert scale	ease

Based on the table above, two regression models can be derived.

1. *servicequality* □ □□ □ □ □ □ □$_0$ $_1$tan□ $_2$*rel* □ $_3$*res*□ $_4$*pri*□ $_5$*ease*□□
2. *customersatisfaction* □ □□ □$_0$ $_1$*sevicequality*□□
3. *customersatisfaction* □ □□ □$_0$ $_1$*usage*□□

According to the first model, service quality is explained by five main variables: tangibility, reliability, responsiveness, privacy and ease of use.

3.8.1Independent Variables

Reliability: is the ability of the service provider to provide the kind of service that is viewed as consistent and free from errors. Reliability means honoring the commitments in areas such as billing accuracy, proper record maintenance and delivering the service within acceptable time limit

(Saha and Zhao, 2005). Many authors including Van (1990) have stated that reliability is the most critical dimension that most customers look out for in the assessing of service quality of a particular good or service hence it is not of place to include it in the model.

Responsiveness: Is the willingness to help and respond to customer need. The pace and the willingness to help and respond to the needs of customer affect the service quality of clients. When customers feel that staff is ever ready to respond to their needs, the probability of becoming satisfied is high but in a case where they don't expect that from staff, dissatisfaction may occur.

Assurance: Ability of the bank to inspire confidence and trust. When customers have trust in the bank they transact business with and also have some level of confidence in, there is a high probability that they will be satisfied with their activities.

Privacy/Security: It is the assurance that, information or data on individual transaction is not known to a third party. Several studies have shown that, most customers have refused to use most innovative products introduced by banks due to security reasons. When customers believe that their banks will protect their information and provide good security, they will have high confidence in them and this will improve their level of satisfaction (Roboff and Charles, 1998).

Ease of use: According to Langeard et al. (1981) also indicated that in choosing between different options of service delivery, customers take into account the effort involved in using the service. Most individuals are concern with the kind of effort they have to put in in order to use a product or service. In a situation where they find the process to be too tedious or rigorous, they might drop it for a simpler one. Therefore ease of use/convenience seems to be an important factor in service quality as well as customer satisfaction.

The second model also explains that, customer satisfaction of financial innovation is explained by service quality dimensions and the dimensions are the five variables which have been explained in the first model.

The third model also seeks to examine the relationship between usage of financial innovation (ATM and Internet banking) and customer satisfaction. That is, whether how often a particular service is used or the number of years of experience with a service has any correlation with customer satisfaction.

3.8.2 Dependent variable

The dependent variable for the study was overall customer satisfaction. Customers of the various banks were asked to rate their perception on customer satisfaction and choose between five options; very dissatisfied, dissatisfied, neutral. Satisfied and very satisfied. The data obtained from this question was used as the dependent variable to run the regression.

3.9FACTOR ANALYSIS

Factor analysis is a tool used to classify and reduce the number of variables to be used for further analysis. Factor analysis helps the researcher to group questions into groups which make data easier to handle. The tool groups the questions under a number of factors and each question is assigned a value known as factor loadings. The loadings help the researcher to identify which questions to be included in a particular factor and those that ought to be deleted. The study adopted the Principal Component Analysis method to reduce the nineteen questions to four main factors which made it easier to work with. The Kaiser-Meyer-Olkin test and the Bartlet test were conducted to determine the sample adequacy and the correlation among the items respectively.

3.10 RELIABILITY TEST

The reliability analysis is done to test the consistency among the various variables used for regression analysis. It guides the researcher in making a decision on which variables qualifies to be included in the regression analysis. The study used Cronbach's alpha to test the reliability of all the items and based on their respective alpha values, variables that obtained alpha values below 0.7 were not included in the regression analysis.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 INTRODUCTION

This chapter presents results and discussions from the data collected for the study. Questionnaires were administered to a number of respondents within the Kumasi Metropolis, specific areas were KNUST commercial Area, Ahodwo, Suame Magazine, Adum cluster of Banks, Kumasi Polytechnic campus and Krofrom. The data collected was entered into SPSS software various test was run to produce results for this chapter. The results are represented on tables, charts and

diagrams for easy reading and interpretation as well as results are discussed in relation to existing literature on financial innovation (FI) and customer satisfaction (CS).

4.1 Demographics

Out of the 380 respondents, 213 were males while 167 were females, representing 56.1% and 43.9% respectively this is illustrated on table 4.1. This confirms an earlier study by Tasmin et al (2013b), that male use online banking more than females. On the same table, out of 380 respondents, 52.1% fall between the ages of 18-29, 37.4% are between the ages of 30-49, 9.7% are within the ages of 50-69 and only 0.8% is above 69 years (Table 4.1). This means that, majority of bank customers who use ATM and internet banking fall within the ages 18-49 years. The marital status of respondents shows that, 56.6% have never married before, 35.5% are married, 4.5% are either separated or divorced and 3.4% are widowed.

The educational levels of respondents range from no formal education to tertiary education. 1.8% of the respondent has no formal education, 8.2% has primary education, 15.5% has acquired secondary education and 74.5% has obtained tertiary education. This shows that majority of ATM and internet banking users have tertiary education and this confirms an earlier study conducted in Nigeria by Danlami and Mayowa (2014). According to the authors, individuals with lower formal education tend to use less ATM services than the well-educated customers.

In terms employment status, a total of 119(31.3%) of the respondents are students, 5.5% are unemployed, which means 36.8% of the respondents are not engaged in any economic activity. 41.6% working in the formal sector and the remaining 21.6% are working in the informal sector.

With respect to income, 26.1% receives less than GHC 500 a month, 33.2% receives between GHC 50-100 in a month, 18.7% receives GHC 1001-1500, and the remaining 22% receives GHC 1500 and above. But though 26.1% receives less than GHC 500, in terms of monthly expenditure, a total of 40.5% spends an average of less than GHC 500 in a month, 40.8% spend between GHC500-GHC 1000 and the remaining 18.7% spend above GHC 1000. Lastly, the number of people who depend on the respondents varies between non to above ten. 52.9% have no dependent, 39.5% have between 1-4 people who depend on them for financial needs, 6.8% have five to ten people depending on them and 0.8% has over ten people they take care of.

TABLE 4.1: Demography of Respondents

Variables		
AGE	18-29	198(52.1%)
	30-49	142(37.4%)
	50-69	37(9.7%)
	Above 69	3(0.8%)
	Total	**380(100%)**
GENDER	Male	213(56.1%)
	Female	167(43.9%)
	Total	**380(100%)**
MARITAL STATUS	Never Married	215(56.6%)
	Married	135(35.5%)
	Separated/Divorced	17(4.5%)
	Widowed	13(3.4%)
	Total	**380(100%)**
EUCATIONAL LEVEL	No formal education	7(1.8%)
	Primary	31(8.2%)
	Secondary education	59(15.5%)
	Tertiary	283(74.5%)
	Total	**380(100%)**
EMPLOYMENT STATUS	Student	119(31.3%)
	Unemployed	21(5.5%)
	Formal employment	158(41.6%)
	Informal employment	82(21.6%)
	Total	**380(100%)**

AVERAGE MONTHLY INCOME	Less than GHC 500	99(26.1%)
	GHC 500-1000	126(33.2%)
	GHC 1001-1500	71(18.7%)
	GHC1501-2000	45(11.8%)
	Above GHC2000	37(9.7%)
	Total	**378(100%)**
AVERAGE MONTHLY EXPENDITURE	Less than GHC 500	154(40.5%)
	GHC 500-1000	155(40.8%)
	GHC 1001-1500	44(11.6%)
	GHC 1501-2000	20(5.3%)
	Above GHC 2000	7(1.8%)
	Total	**380(100%)**
NUMBER OF DDEPENDENTS	None	201(52.9%)
	1-4	150(39.5%)
	5-10	26(6.8%)
	Above 10	3(0.8%)
	Total	**380(100%)**

4.2 Frequency of Usage of innovative products

The study sought to find out how often customers use ATMs and for how long they have been using the service. Results from table… shows that on the average, more than 50% of the respondent use the ATM once in a week, 26.8% use it twice in a week, 9.5% use it thrice in a week while the remaining 8.4% either use it four times or more in a week

Table 4.2: Frequency of usage of ATM

How often ATM users use the service in a week	frequency	percentage
Once in a week	209	55.0
Twice in a week	102	26.8
Thrice in a week	36	9.5

Four times in a week	14	3.7
More than four times	18	4.7
No response	1	0.3
Total	380	100

Table 4.3: Years of ATM Usage

Number of years of experience with ATM usage	Frequency	Percentage
1-2years	86	22.6
3-4 years	149	39.2
5years and more	144	37.9
No response	1	0.3
Total	380	100

T table 4.3 above revealed that, out of the 380 respondents sampled for this work, 22.6% have had only a year experience with ATM usage, 39.2% have had 3-4 years of experience, 37.9% percent have had 5years or more experience with ATM usage. This results clearly shows that although the concept of ATM has been in the Ghanaian banking sector for more than a decade, it appears that the level of adoption is still low considering the fact that more than 60% of the respondents have had less than 5years experience with ATM usage.

4.3 ATM SERVICE QUALITY

In order to find out if there are any gaps in the kind of service delivered by banks to their customers, questionnaires were developed based on a 5-point weighted likert scale with 1= strongly disagree, 2=disagree, 3=neutral, 4=agree, 5= strongly agree. In all, 38 questions were developed based on four dimensions namely; **tangibility**, **reliability**, **responsiveness**, **ease of use** and **privacy**. Questions were asked to find out customers' expectation about the product and their perception during or after usage, the service quality gap was measured based on the difference between expectation (E) and perception (P) (Q= P-E). A positive value for Q means that banks are providing

more than what customers expects from them while a negative value also means that, banks are providing up to expectation. In a case where Q=0, it means that, banks are providing exactly what is expected from them by the customers.

4.3.1 TANGIBLITY

Castleberry and Resurrection (1989), tangibility has the ability to influence customers' assessment on banks quality of service. It includes the physical conditions or surroundings of the bank. Examples of tangibles include the general atmosphere in the banking hall, how workers are dressed, the sanitary conditions etc. for the purpose of this study, four questions under tangibility were asked and the mean value of both expectations and perceptions were calculated. The mean value of each question was used to calculate the service quality gap. Details of the calculations have been illustrated on table 4.4

Table 4.4: Service Quality Statistics of Tangibility Dimension

Expectation(E)		**Perception(P)**		**Gap(P-E)**
Items	Mean	Items	Mean	
The bank should have Modern ATM	4.1689	The bank has modern ATM	3.9367	-0.2322
There should be appreciable level of security to ensure safety	4.3668	There is an appreciable level of security to ensure safety	3.8707	-0.4961
Cards and receipt should be physically appealing	3.7335	Cards and receipt are physically appealing	3.6464	-0.0871

The surroundings of the machine should be clean and tidy	4.1141	The surroundings of the machine is always clean and tidy	3.6280	-0.4861
Average Mean	**4.095825**		**3.77045**	**-0.325375**

Results from table 4.4 shows that, among the four questions asked, customers were more concerned about their safety while assessing the ATM machine hence it had a mean score of 4.37. Customers expected 4.3668 but 3.8707 was delivered thereby creating a deficiency of 0.4961. Also, customers were concerned about the introduction of modern or up to date machines to will suit their needs. Though they expected a mean value of 4.1689, 3.9387 thereby creating a gap of 0.2322.

The third most important aspect was cleanliness since customers expect the surroundings of the ATM machine to be free from filth and papers. In Ghana is very common to see the surroundings of most ATM machines full of receipts and papers and the situation is even worse off when the machines are unable to disperse cash within that period. Although some banks provide dustbins for customers to drop papers in, some customers simply decides to put the papers on the floor therefore there are times dustbins are barely full but one can find papers all over. In other cases too, banks do not provide dustbins therefore most customers decides to put the papers on the bare floor. Since this issue has come up as one of the things customers look out for, banks should hire cleaners to ensure that surroundings of the machines are also kept clean.

In all, the average mean of customers' expectations on tangibility was 4.095825 but perception mean was **3.77045(92.05%),** this means that, in terms of tangibility, there is a service gap of **0.325375(7.94%).**

Figure 4.1: Disparity between Expectation and Perception of Tangibility Dimension

Perception

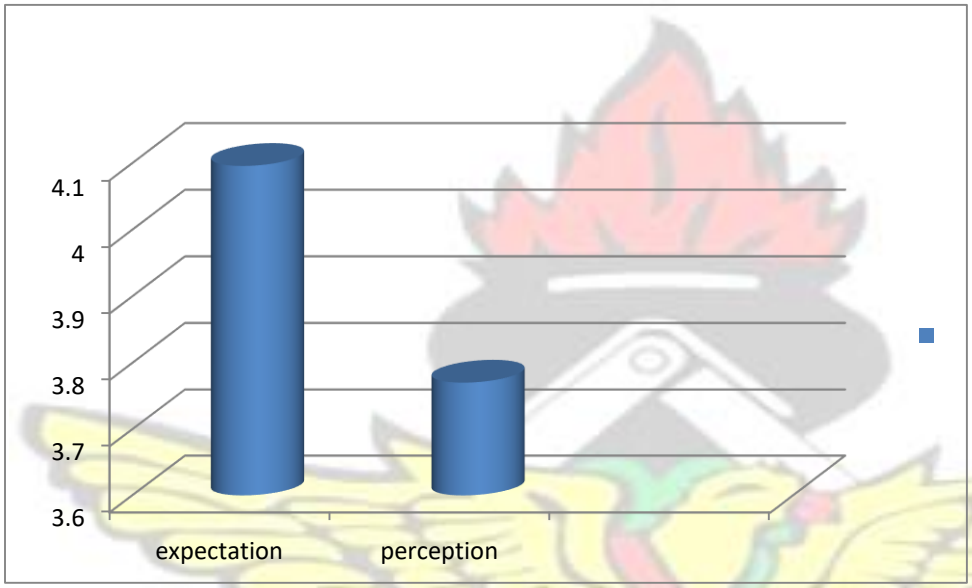


Fig 4.1: Tangibility Service Quality Gap of ATM

4.3.2 Reliability

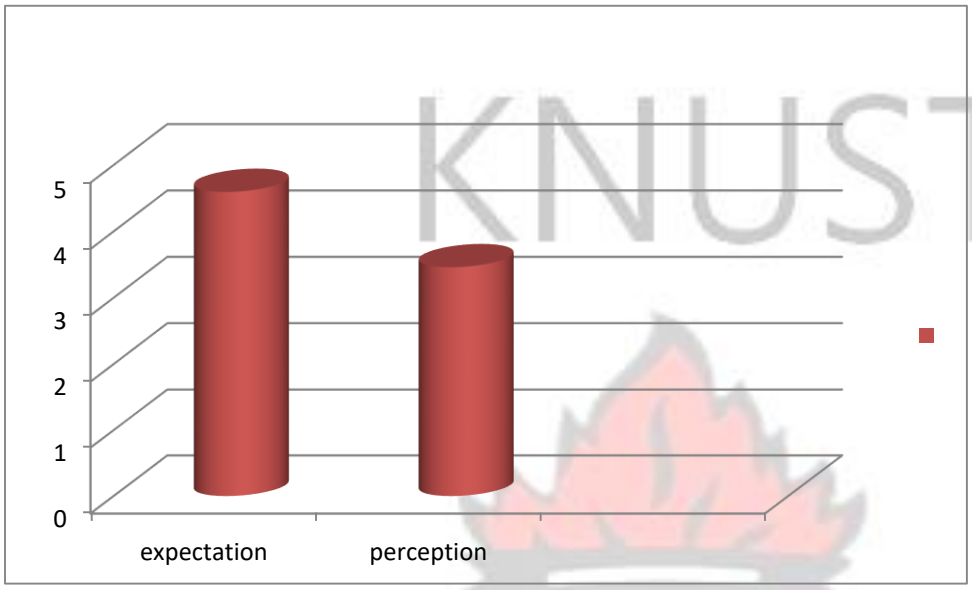
Table 4.5: Service Quality Statistics of Reliability Dimension

Expectations(E)		Perception(P)		Gap(P-E)
Items	mean	items	mean	
The ATM should be available for use	4.5884	The ATM is always available for use	3.4749	-1.1135
The ATM should not be affected by power outages	4.6069	The ATM is not affected by power outages	3.3931	-1.2138

The ATM should be able to deliver all of its services at all times	4.6807	The ATM should is able to deliver all of its services at all times	3.3536	-1.3271
The ATM should be able to deliver its service without delay	4.5026	The ATM should is able to deliver its service without delay	3.6174	-0.8852
AVERAGE	**4.59465**		**3.45975**	**-1.1349**

The reliability dimension has the highest mean value of expectation which means that, customers expects more of this dimension than the other four and this confirms an earlier study by Berry et al (1994), according to the authors, reliability is the most important dimension of service quality. The reliability dimension also shows some amount of service quality gap, though customers expected a mean value of 4.59465, a mean value of **3.45975 (75.29)** was experienced meaning there was a shortage of **1.1349(24.7%).** Comparing this to that of tangibility, it appears that, banks performed better with tangibility dimension than that of reliability. Also comparing reliability with other four dimensions, it appears that, reliability has the highest gap of 24% and this confirms a study a similar study conducted by Wong et al (2008) in Australia. Results from their study also revealed that reliability have the highest service quality gap and base on this results concluded that, banks are performing poorly in terms of reliability of the service they provide.

Figure 4.2: Reliability Service Quality Gap of ATM



4.3.3 Responsiveness

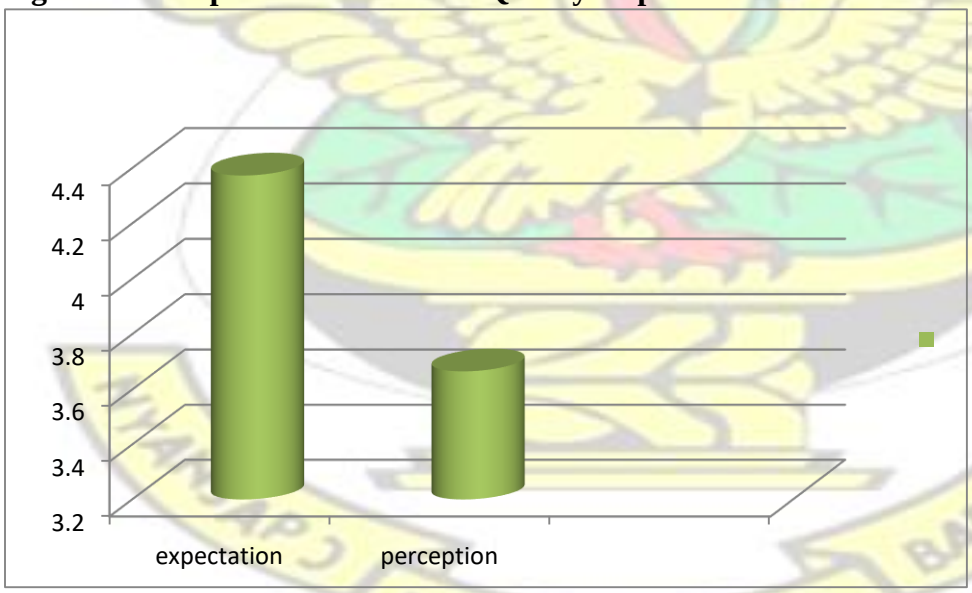
Table 4.6: Service Quality Statistics of Responsiveness Dimension

Expectation(E)		Perception(P)		Gap(P-E)
Item	Mean	Item	Mean	
The should be a dedicated desk with personnel to attend to the need of customers	4.0950	There is a dedicated desk with personnel to attend to the need of customers	3.3140	-0.781
Bank staff should be knowledgeable enough to address all customer concerns	4.4021	Bank staff are knowledgeable enough to address all customer concerns	3.7836	-0.6185
Staff should always be ready to respond to the needs of the customers	4.4960	Staff are always ready to respond to the needs of the customers	3.7546	-0.7414

Staff should provide prompt response to customers' inquiries and needs	4.4987	Staff provides prompt response to customers' inquiries and needs	3.8100	-0.6887
Average	**4.37295**		**3.66555**	**-0.7074**

Responsive dimension includes how bank staff respond to the needs of customers in times of needs, inquires, etc. the willingness of staff, the ability to provide quick response and the urgency the attach to customers' needs all form part of the responsive dimension. Results from table 4.5 shows that, customers expected a responsiveness level of 4.37295 but banks were able to provide **3.66555(83.82**). This means that, banks also failed to meet customers' needs in the times of responsiveness thereby creating a service quality gap of 16.7%.

Figure 4.3: Responsiveness Service Quality Gap of ATM



Yavas et al (1997) have stated that, the manner at which bank staff communicate with customers or address their clients affect how customer rate quality of service provided by banks. What this

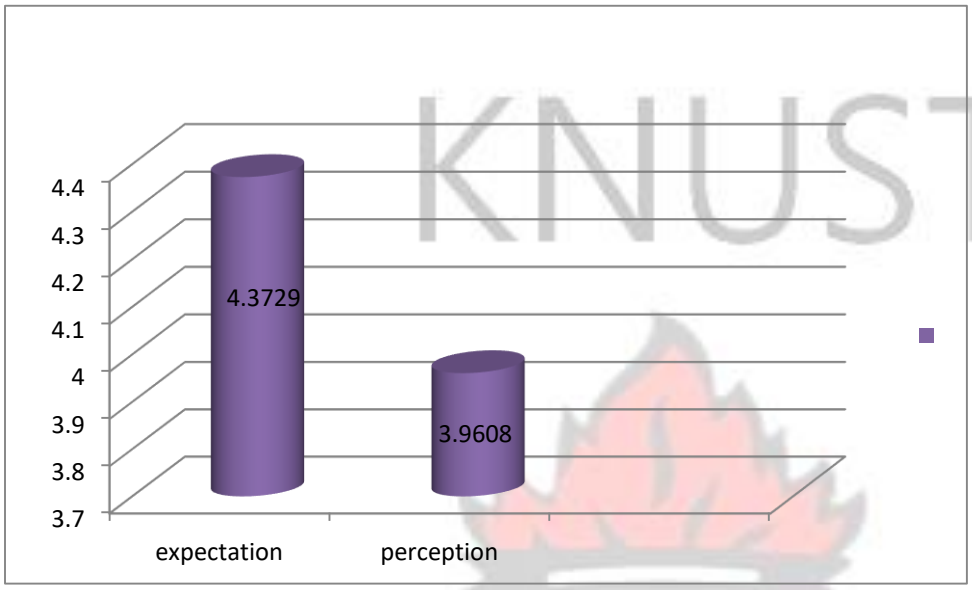
implies is that, banks are supposed to take a critical look at the way they handle clients in the aspect of feedback, addressing their problems and challenges etc because they have the capacity to promote their business by rating it high in terms of quality .

4.3.4 Privacy/control

Table 4.7: Service Quality Statistics of Privacy Dimension

Expectation		perception		Gap
The use of the ATM should have strict security mechanism in place	4.6332	The use of the ATM have strict security mechanism in place	4.3958	-0.2374
It should be difficult for someone to see the pin entered into the machine	4.3984	It is difficult for someone to see the pin entered into the machine	3.3783	-1.0201
The ATM should give me some level of control	4.0871	The ATM gives me some level of control	4.1082	0.0211
Average	**4.3729**		**3.9608**	**-0.4121**

Figure 4.4: Privacy Service Quality Gap of ATM



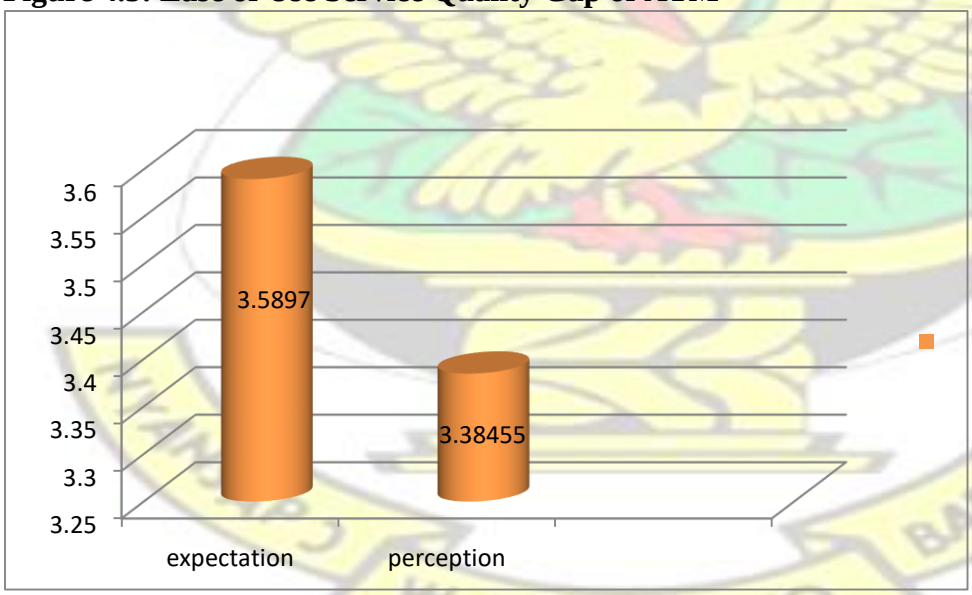
Privacy is the assurance that customers' information on transactions will not be made known to a third party. The increasing rate of technology base crimes and fraudulent activities is a major concern to majority of individuals who do money tractions using technology. There have been various incidences where people hack into other peoples' account from the ATM machines hence banks need to assure their customers that there is enough security to protect their information and transaction details from unwanted parties. Customers want to feel safe anytime they make a transaction with the ATM, therefore they expected a privacy level of 4.3729 but banks were unable to provide the expected level but rather offered **3.9608(90%),** thereby creating a service quality gap of **0.4121(9.42%).**

4.3.5 Ease of use

Table 4.8: Service Quality Statistics of Ease of Use Dimension

expectation		perception		Gap
I should be able to access my account without my pin	2.3351	I am able to access my account without my pin	2.2401	-0.095
It should not require lot of effort and time	3.9947	It does not require lot of effort and time	3.9182	-0.0765
it should not require special computer skills to use	3.9947	it does not require special computer skills to use	3.9815	-0.0132
It should be user friendly to the visually impaired	4.0343	It is user friendly to the visually impaired	3.3984	-0.6359
Average	**3.5897**		**3.38455**	**-0.20515**

Figure 4.5: Ease of Use Service Quality Gap of ATM



Ease of use involves the kind of effort customers have to put in in order to use a particular product or service. According to Langeard et al. (1981) also indicated that in choosing between different

options of service delivery, customers take into account the effort involved in using the service. Results from table 4.8 and figure 4.5 show that banks performed very well in this dimension. The expected level was 3.5897 but customers' received **3.384559(94.5%),** this means that, there was service quality gap of **0.20515(5.7%).** Comparing this result to the other dimensions, it is evident that banks performed much better with ease of use.

4.4 Overall service quality of ATM

Results from the various dimensions analyzed so far depicts that, banks were able to provide some satisfactory service to their customers. This is because they were able to provide above 80% of the expected level of service in all the five dimensions with the exception of reliability. Hence banks should consider implementing policies that will enhance reliability of their services. In general, banks failed to perform up to expectation in all the five dimensions and this constitutes the reason behind the negative gap values. Also, they performed better in some aspect than the others. For example, service quality gap with respect to privacy and tangibility were quiet low as compared to that of Reliability. Also the mean score of the expected reliability was found to be the highest among the five dimensions (**4.59465)**. What this means is that, customers are more concern with the **Reliability** aspect than the others dimension. On the other hand, **ease of use** had the least expected average mean score of (**3.5897)** meaning that, customers are not much concern about this dimension.

Table 4.9: Ranking order of ATM service quality dimensions based on average scores

	Expectation		Perception	
Rank		**Mean**	**Perception**	**Mean**
1	Reliability	4.59465	Privacy	3.9608
2	Responsiveness	4.37295	Tangibility	3.77045
3	Privacy	4.3729	Responsiveness	3.66555
4	Tangibility	4.095825	Reliability	3.45975
5	Ease of use	3.38455	Ease of use	3.8455

Results from table 4.9 shows that, customers have their expectation on Reliability, responsiveness, privacy, tangibility and ease of use in ranking order. This result is in conformity with Parasuraman et al (1988) who argued that, no matter the kind of service studied, customers will place more importance on reliability, followed by responsiveness. What this means is that, customers, regardless of the kind of goods or service they purchased are more concern about the reliability of the product and how responsive service providers are with respect to their needs and concerns. According to Mwatsika (2014), reliability has to be complemented by responsiveness and staff who are efficient and have the required skills to handle ATM issues. On the other hand, the results also contradicts with that of Mwatsika (2014) who argued that, tangibility is the dimension with the least importance to service customers. This is because results from this study have shown that, ease of use is the dimension with the least importance.

Results from Perception side shows a different picture as banks are rather providing privacy, tangibility, responsiveness, reliability and ease of use in ranking order as against the customers' expectation ranking of reliability, responsiveness, privacy, tangibility and ease of use. The only dimension that is consistent in both expectation and perception is ease of use. This implies that, both customers and banks attach less importance to the ease of use dimension. Reliability, which was judged by customers as the most important dimension ranked third in the perception ranking

and privacy was rather ranked first. This results shows that, banks are very keen to protect the information of ATM users from third party to prevent fraud and other criminal activities that might cause harm to their clients. This shows that banks have the security of their customers at heart and are taking keen advice from previous studies that have advocated that, banks should tighten their security measures to reduce fraudulence and ensure customer confidence (Chinedu et al 2012).

The nonconforming results shows banks have not studied their customers to know what they actually want but rather providing services which they think are of importance to their customers but Hasan et al (2013) have advised that, since the ATM industry is expanding at a rapid rate, bank management needs to understand customers' demand on the features of ATM service. This may go a long way to improve customer satisfaction and retention. Also knowing what customers want will influence decisions on ATM service quality to ensure and maintain efficiency and increase profit.

4.5 INTERNET BANKING SERVICE QUALITY

4.5.1Tangibility

Table 4.10: Service Quality statistics on Tangibility Dimension of Internet Banking

Expectation(E)	Mean	Perception(P)	mean	Gap (P-E)
The bank should have neat and tidy web design	4.1892	The bank is neat and tidy web design	4.0091	-0.1801
The design should be user friendly	4.4364	The design is user friendly	4.1091	-0.3273
The graphics and images on the site should be nice and attractive to use	4.3182	The graphics and images on the site is nice and attractive to use	3.8727	-0.4455
Average	**4.3146**		**3.9969**	**-0.3177**

The tangibility dimension results shows that, customers using internet banking are more concern about the friendliness nature of the web page/design and the various banks were able to understand their demand by providing service that almost met their expectation. According to Hernández-Ortega et al., (2007) most banks fail in the area of internet banking because of the unfriendliness of the web design. Hence banks are supposed to take the web design seriously. From the table, results from the perception side shows that, use friendliness also obtained the highest mean score. The second most important aspect expected by customers was the attractiveness of graphics and images with the mean score of 4.3182 but banks were able to provide **3.8727(89.68%)** Overall results show that, banks almost performed up to expectation with a mean of 3.9969 as against the expected level of 4.3146. Also they performed better with the first two variables than the last one.

4.5.2 Reliability

Table 4.11: Service Quality statistics on Reliability Dimension of Internet Banking

Expectation	Mean	Perception	Mean	Gap
I should be able to check my account balance and transfer funds with ease	4.6182	I am able to check my account balance and transfer funds with ease	3.800	-0.8182
I should be able to access my account at anytime	4.6727	I am able to access my account at anytime	3.9455	-0.7272
I should be able to perform all my transactions without delays	4.5727	I am able to perform all my transactions without delays	3.6636	-0.9091
The website contain up to date information	4.5273	The website contain up to date information	3.6909	-0.8364
Average	**4.5977**		**3.775**	**-0.8227**

Source: Field work 2015

Akinmayola and Ogbeide (2014) have argued that, reliability affects the overall service quality of a product. The results from the reliability dimension is quiet similar to that of ATM, it means that customers place much emphasis on the reliability of goods and services in general. From table 4.11 out of the expected 4.5977 reliability level, an average of **3.775(82.10%)** was provided meaning there was a shortage of 0.8227.Therefore banks were unable to provide a very reliable service the meets the expectation of clients.

Earlier studies have stated that one major cause of dissatisfaction among customers is unreliability of service and this has caused most banks to lose customers due to the competitive nature of the banking business (Howcroft, 1991). In a country like Ghana where majority of the populace do not use bank service it will be in the best interest of banks to provide uninterrupted services to existing customers in order not to push them into informal means of handling money.

4.5.3 Responsiveness

Table 4.12: Service Quality statistics on Responsiveness Dimension of Internet Banking

Expectation(E)		**Perception(P)**		**Gap(P-E)**
Item	Mean	Item	Mean	
The should be a dedicated desk with personnel to attend to the need of customers	4.0090	There is a dedicated desk with personnel to attend to the need of customers	3.3818	-0.6272
Bank staff should be knowledgeable enough to address all customer concerns	4.8288	Bank staff are knowledgeable enough to address all customer concerns	4.1455	-0.6833

Staff should always be ready to respond to the needs of the customers	4.3727	Staff are always ready to respond to the needs of the customers	3.4909	-0.8818
Staff should provide prompt response to customers' inquiries and needs	4.3514	Staff provides prompt response to customers' inquiries and needs	3.4818	-0.8696
Average	**4.3905**		**3.625**	**-0.7655**

Source : Field study 2015

Existing literature has proved that, responsiveness is the second most important dimension in service quality. That is customers attach a higher level of importance to responsiveness. Results from this study have also proved otherwise that, aside reliability and privacy being the first and the second most important dimension respectively, the third dimension in terms of level of importance is reliability. From table 4.12, customers expect responsive level of 4.3905 but in reality, banks provided **3.625(82.56%)** meaning that, customers experience a shortage of 0.7655. Therefore based on this study, it can be said that, in terms of internet banking, the level of service offered in the area of responsiveness did not meet customers' expectation.

4.5.4 PRIVACY/CONTROL

Table 4.13: Service Quality Statistics on Privacy Dimension of Internet Banking

Perception	Mean	Expectation	Mean	Gap
The use of internet banking should give me control over my transaction	4.4685	The use of internet banking gives me control over my transaction	4.0364	-0.4321
There should be strict security measures in place	4.6455	There is strict security measures in place	3.9909	-0.6546
I should feel safe to use internet banking	4.6727	I feel safe when using internet banking	3.9182	-0.7545

Average	**4.5956**		**3.9818**	**-0.6138**

Source: Field work 2015

The results from table 4.13 Shows that privacy is the second most important dimension expected by customers. This means that, customers aside reliability of service are very much concern about their privacy and security when using internet banking. in this era of cyber fraud, account hacking, etc. it is very necessary for banks to put in place tight security measures to ensure the safety of it clients because clients feel safe, they will be willing to do more banking transactions using internet banking which go a long way to reduce the number of customers who flood the banking halls on the daily basis. Table 4.13 Shows that, although customers expected a privacy level of 4.5956, banks were able to provide **3.9818(88.6%)** which is very encouraging although it did not meeting the exact demand.

4.5.5 EASE OF USE

Table 4.14: Table 4.13: Service Quality Statistics on Ease of Use Dimension of Internet Banking

Expectation (E)	Mean	Perception(P)	Mean	Gap(P-E)
Internet banking should be convenient to use	4.4273	Internet banking is convenient to use	4.1364	-0.2909
It should not involve rigorous processes	4.3182	It does not involve rigorous processes	3.8636	-0.4546
It should involve any advanced knowledge in ICT before accessing it	4.2273	It involves any advanced knowledge in ICT before accessing it	3.6364	-0.5909

The use of internet banking should enable me to cut down on my visit to the banking hall.	4.5909	The use of internet banking enables me to cut down on my visit to the banking hall.	4.0818	-0.5091
Average	**4.3909**		**3.9296**	**-0.4613**

Source: Field Study (2015)

Ease of use dimension covers how convenient the process of using internet banking is, whether it involves rigorous process, demands advanced knowledge in ICT and whether internet banking has reduced the number of banking hall visits. According to Mousaev and Yousoof (2015), ease of use remains one of the factors that will influence someone to use internet banking. Individuals who find the process very tedious will stop using the service and this can also affect how they will rate the overall service quality of the product.

Results from the study indicates that in the aspect of ease of use, customers expected a total level of 4.3909 but banks were able to offer 3.9296 which constitute about **89.49%.** This means that, although banks did not meet the expected target by falling short of **10.51%** there were able to provide more than 80% of the expected level. Banks have a lot of work to make sure that customers feel comfortable to use the service with ease

4.6 INTERNET BANKING SERVICE QUALITY ASSESSMENT

Results from internet banking service quality does not deviate in a larger extent from that of ATM. Almost all the perceived service quality value was 80% indicating an appreciable level of performance though they failed to meet the 100% target. This means that banks in Ghana are performing well in their service delivery of financial innovation (ATM and internet banking) but there is more room for improvement in order to meet customers' specific demand. Existing

literature have shown a positive relationship between service quality and customer satisfaction. For instance, authors including Cronin and Taylor (1992), Yavas et al 1997 have concluded that service quality precedes satisfaction. Goode et al (1996), has also indicated that, banks can use service quality to achieve satisfaction.

The profitability and the continuous existence of banks lie in the hands of customers (Assael, 1995), hence banks must put in their best to maintain their customers. Human beings are rational and will always demand value for their money, satisfied customers who have a good perception about the kind of service a bank offer will not easily switch to other banks. Several studies have linked customer satisfaction with high service quality hence there is the need for banks to put in various measures to improve their service delivery. Results from the study showed that banks provided a little above 80% of almost all the dimensions which very impressive and may encourage customers to stay but they should continue to work harder to meet the expected level of service.

The importance of service quality has been well outline in various books and publications. A lot of studies have been carried out in different sectors of the economy to assess the impact of the quality of service on a firm. Some studies have shown that, providing quality of service have positive impact on the price of shares, increase in a firm market value and the overall profitability of the firm. It also has the potential of promoting customer loyalty and retention and increasing the number of customers of the firm. Therefore banks should make all necessary effort to ensure that there is no gaps in the kind of service they provide. Results from the study have shown that banks in Ghana fall short in all the dimensions for both ATM and Internet banking analyzed which means that there is a lot to be done to fully tap the benefits that comes with quality service

4.7 ATM AND CUSTOMER SATISFACTION

One of the objectives of this study was to find the relationship between financial innovation and customer relation. The study used the performance data to do the regression in order to ascertain the relationship between financial innovation and customer satisfaction. The study adopted the Principal Component Analysis (PCA) and also analyzed the alpha values of the questionnaires to ensure the validity of the scale. The PCA was conducted on nineteen (19) items using Varimax rotation. The sampling adequacy of the data was verified by running the Kaiser-Meyer-Olkin test which produced a value of 0.872 which is termed as good according to Field (2009). The Bartlett's sphericity test also indicated that that the correlation among the items is significant. ($p<0.005$).The factor loadings after rotation results produced five factors, sixteen variables loaded strongly on five factors and the results can be read from table 4.15. Items loaded strongly on factor one was named reliability, factor two was named tangibility, the third and fourth factors are privacy and ease of use respectively. The last factor had only one item hence the researcher conveniently omitted it.

According to Garver & Mentzer, (1999), it is a basic necessity to confirm the validity of a construct before other validation processes follows. The reliability test shows the level of consistency of the scale. The overall chronbach alpha value was 0.8531(85.3%) which is above the accepted minimum of 0.7. Alpha values of the individual items ranges from 0.804 to 0.870 hence it was statistically unacceptable to include them in any further regression analysis.

Table 4.15 Results Derived from Rotated Component Matrix

Variables		Component				
		1	2	3	4	5
Reliability	**the ATM is able to deliver all of its services at all times**	.792				
	the ATM is always available for use	.773				
		.7				

the ATM is able to deliver its services without delay	.766			
The ATM is not affected by power outages	.749			
staff are always ready to respond to the needs of the customer	.740			
staff provides prompt response to customers' inquiries and needs	.630			
bank staff are knowledgeable enough to address all customer concerns	.672			
There is dedicated desk with personnel to attend to the needs of customers relating to the use of ATM	.704			
it is difficult for someone to see my pin entered into the machine	.459			
Tangibility **there is an appreciable level of security to ensure the safety of users**		.771		
cards and receipt are physically appealing		.757		
the bank has modern ATM		.635		
the surroundings of the machine is always clean and tidy		.492		
Privacy **ATM gives me some level of control over my transaction**			.759	
ATM have strict security mechanism in place			.544	
it does not require special computer skill or high level of education			.424	
Ease of use **it is user friendly to the visually impaired and uneducated**				.816
I am able to access my account without the pin code				.546
Other factor **it does not require lot of time and effort**				.7

	38
Extraction Method: Principal Component Analysis. **Rotation Method: Varimax with Kaiser Normalization.**	
a. Rotation converged in 11 iterations.	

Table 4.16: Reliability Statistics on ATM

Cronbach's Alpha	N of Items
.853	18

Table: 4.17: Regression Results Showing the Relationship between Financial Innovation and Customer Satisfaction

Model	Standardized coefficient B	t	Sig.
Constant		69.727	.000
ATM Reliability	.328	6.690	.000
ATM Tangibility	.238	4.797	.000
ATM privacy	.132	2.712	.007
ATM ease of use	.094	1.947	.052
F value	20.051		
R value	.434		
R Square	.189		
Significance	0.00		

Dependent variable = Customer satisfaction

N= 330 p<0.05

Regression results from table 4.16 above shows that there is a significant positive relationship between two dimensions of service quality and customer satisfaction. From the table, one unit of change in reliability will cause 32.98% change in customers' satisfaction as well as a unit of change

in tangibility will cause 23.68% change in customer satisfaction. The other two variables, privacy and ease of use have significant value greater than 0.005 hence it is not statistically appropriate to use them in further analysis. This result confirms an earlier study conducted by Hasan et al (2013) among Pakistani banks. After obtaining an R value of .439and $p<0.05$, the researchers concluded that, although there is a positive relationship between service quality of ATM and customer satisfaction, the relationship is not very strong. Jamal et al (2009) also confirmed that reliability and tangibility correlate positively with customer satisfaction. This result has confirmed how important the reliability dimension is in terms of customer satisfaction. The previous analysis made using service quality showed that, reliability was the most important factor customers look out for in measuring service. Hence banks should take a critical look at the accuracy and effective delivery of their service to ensure a higher level of reliability at all times

4.8 THE RELATIONSHIP BETWEEN ATM SATISFACTION AND USAGE

The second objective of the study was to find out the relationship between satisfaction and usage. Moutinho (1992) have argued that, there is a negative relationship between ATM usage and customer satisfaction but regression results from table 4.17 shows that there is a positive relationship between the numbers of years a customer have used the service and satisfaction but the relationship is not significant. Frequency of usage has a coefficient of .14 which poorly significant to make generalization out of it. Also numbers of years of usage has a coefficient of 0.46 which is quiet significant but the significance value is greater than 0.05. Therefore based on the results obtained it can be concluded that, there is no significant relationship between satisfaction and ATM usage and this is in contrast with a study conducted by Odusina (2014) who argued that there is a positive and significant relationship between ATM usage and customer satisfaction.

Table 4.18: Regression Results showing the Relationship between ATM Usage and Customer Satisfaction

Model	Standardized coefficients	t	Sig.
constant		18.369	0.000
How often ATM users use the service	.14	.260	.795
How long customers have subscribed to ATM service	.046	.861	.390
R value	.50		
R square	.002		

Dependent variable= customer satisfaction

4.9 THE RELATIONSHIP BETWEEN INTERNET BANKING AND CUSTOMER SATISFACTION

The PCA using Varimax rotation method derived four components which was then used for the regression analysis and the components are Reliability, Responsiveness and Ease of use. Component one combined questions on both tangibility and reliability but the researcher decided to name it reliability because questions on reliability had higher scores than that of tangibility. In the same manner, component two also added some aspect of privacy to responsiveness to form one component but since the responsiveness variables had higher factor scores, it was justifiable to name it responsiveness. The last component, ease of use, confirmed the scale by grouping only variables of ease of use to form one component. The reliability of the scale was tested by running a test to find the Cronbach alpha value. The scale scored an alpha value of .818 (81.8) which means that the scale is very reliable. The individual alpha values ranges from .797 to .914 showing that each item included in the analysis was also statistically reliable.

Table 4.19: Internet Banking Results derived from Rotated Component Matrix[a]

Variables	Component		
	1	2	3
Reliability			
the web design is user friendly			
the graphics and images are beautiful and attractive			
i am able to check balance and transfer funds with ease	.763		
i have access to my account at anytime	.696 .699 .757 .806 .706		
i can perform all my transaction without delay			
the website have up to date information			
Responsiveness			
staff are always ready to respond to the needs of the customer		.757	
staff provide prompt response to customers' inquiries and needs	.	.746	
there is a dedicated desk with personnel to attend to the		.724	
needs of customers relating to the use of IB			
bank staff are knowledgeable enough to address all customer concerns		.549	
the use of IB gives me control over my transaction		.411	
there is strict security measures		.609	
i feel safe to use the service		.491	
Ease of Use			
IB is convenient to use			.782
IB does not involve rigorous processes			.817
IB does not involve advanced knowledge in ICT before using			.718
it has reduced the number of times i visit the banking hall			.638
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			

Table 4.20: Reliability Statistics on Internet Banking

Cronbach's Alpha	No. of Items
.818	17

Table 4.21: Regression Result of the Relationship between Internet Banking and customer satisfaction

Model	Standardized Coefficients	t	Sig.
	Beta		
(Constant)		4.354	.000
Reliability	.367	40.625	.000
Responsiveness	.244	2.895	.005
Ease of use	.244	2.895	.005

Dependent Variable: customer satisfaction

F value= 11.921 P< 0.00 R value = 0.504 Squared= 0.254

The table above shows the kind of relationship that exists between internet banking and customer satisfaction. The independent variables were reliability, responsiveness and ease of use. The overall significance P, is less than 0.00(P<0.00) which means the model is statistically significant. Table 4.19 shows that there is a positive relationship between internet banking reliability and customer satisfaction. According to Arasli et al (2005), reliability has the highest impact on customer satisfaction and the results from this study confirms this assertion., With a coefficient of 0.367, a unit change in reliability will cause a 36.7% increase in customer satisfaction.

Responsiveness also has a positive relationship with satisfaction as a unit change in responsiveness will cause 24.4% increase in customer satisfaction when all other factors are held constant. The

last variable, ease of use also have the same coefficient value as that of responsiveness that means a unit change in ease of use will cause 24.4% change in customer satisfaction with internet banking. The results therefore show that all the three dimensions namely; reliability, responsiveness and ease of use have a positive effect on the overall satisfaction of internet banking and according to Kumbhar (2011), responsiveness and ease of use are among the factors that influence customer satisfaction of online/internet banking. This result confirms earlier studies conducted by Ogunlowore and Oladele (2014) and Alabar (2012) who found out that, there is positive relationship between electronic/internet banking and customer satisfaction.

4.10 INTERNET BANKING USAGE AND CUSTOMER SATISFACTION

Results from table 4.20 shows that, there is no significant relationship between internet banking usage. All the two independent variables have P>0.05 which renders their relationship with the dependent variable insignificant. Based on the results obtained, it can be concluded that, there is no significant relationship between usage and internet banking satisfaction. That means that, the number of times a customer uses internet banking and the number of years of experience with internet banking does not affect his or her customer satisfaction.

Table 4.22 Regression Results showing the relationship between internet banking usage and satisfaction

Model	Standardized Coefficients	t	Sig.
	Beta		
(Constant)		15.204	.000
how often internet users use the service	.077	.744	.458

For how long have you subscribed to the service(IB)	-.166	-1.610	.110

Dependent variable: Satisfaction with internet banking

R Square=0.025, P>0.05

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CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

The main aim of the study was to assess the relationship between financial innovation and customer satisfaction. After analyzing the data gathered for the study, the following are the major findings:

- Majority (55%) of the respondents use ATM once a week while 37.9% have used the ATM for more than five years

- Reliability of service provided by banks was the most important dimension customers of both ATM and internet banking look out for or expects from banking institutions.
- Among the five service quality dimensions examined, it was revealed that, banks offered better services in the area of privacy than the other four dimensions which are: reliability, responsiveness, ease of use and tangibility.
- Though results from the study also revealed that, banks were unable to meet the expected level of service quality of all the dimensions studied hence, with the exception of reliability of ATM descriptive statistics revealed that, banks were able to provide more than 80% of the expected service quality of customers
- There is a positive relationship between ATM and satisfaction which means that, an increase in ATM service quality will also positively influence the over satisfaction of customers.
- There is also a positive relationship between internet banking and customer faction.
- The analysis of the data however revealed that, there is no significant relationship between usage and customer satisfaction among both ATM and internet banking users.

5.2 CONCLUSIONS

This study has made some level of contribution to the study of customer satisfaction and financial innovation as well as the banking industry as a whole. It has helped banks to identify what banks expect from them and how customers rate their level of performance based on the kind of service they provide to their customers. Based on the data collected and the analysis made, the study has identified that there is a positive relationship between financial innovation and customer satisfaction. This is not to conclude that financial innovation is the only variable that affects

customer satisfaction of ATM and internet banking users. Other factors such proximity of the bank to customers, number of branches may also influence customer satisfaction if tested.

5.3 RECOMMENDATIONS

Based on the data gathered, the analysis, results and discussions, the following are some of the recommendations drawn from the study:

- Banks should conduct periodic surveys to know what customers really want from them in order to make informed decisions on ways to provide what customers actually needs. Such surveys will also help banks to know their performance level and areas where they fall short. This I believe will help them to be more efficient and also promote customer satisfaction.
- Secondly, banks should pay particular attention to the reliability of their product and services. Frequent breakdown of machines and website, non-availability of cash in ATMs, and other factors that affect the reliability of services should be seriously looked at. Since reliability is the most important factor customers look out for in assessing service quality, it is important for banks to put in measures that will enhance the reliability of their service in order to satisfy and maintain their customers.
- Also banks should make the necessary effort to continually improve their service quality until it get to a point where it totally meets the expectation of their clients. Human beings are rational and will always pay for services that they fell meet their expectations and hence all things being equal may switch to banks which they believe provide better services.

- Future researchers should include other innovative products of the banks such as sms banking, to assess its impact on customer satisfaction. Also, the study can be extended to non-bank financial institutions such as savings and loans companies, microfinance institutions and Rural Banks.

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APPENDICE

Research Questionnaire

I am an MSC Economics student from Kwame Nkrumah University of Science and Technology. As part of my studies, I am carrying out a research on the effect of financial innovation on customer satisfaction in Ghana. I will be very happy if you will please answer the following questions as candidly as you can. Be assured that the responses you give are for academic purposes only.

Name of financial Institution…….

Section A: **Demographic Data**

1. Age: a. 18-29 ( ) b. 30-49 ( ) c. 50-69 ( ) d. above 69 years ( )
2. Gender a. Male ( ) b. Female ( )
3. Marital Status a. Never Married ( ) b. Married ( ) c. Separated/Divorced ( ) d. Widow (er) ( ) 4. Education Level a. No formal education ( ) b. Basic Education ( ) c. Secondary ( ) d. Tertiary ( )
5. Income Level a. less than GHc100 ( ) b. GHC 101-250 ( ) c. GHC 251-500 ( ) d. GHC 501-GHc 750 ( ) d. GHC 751-GHc 1000 ( ) e. above GHC 1000 ( )
6. Number of dependents a. none ( ) b. Two ( ) c. Three ( ) 4. Four ( ) 5. More than Four ( )
7. On the Average, how much do you spend in a week? A. Less than GHC 50 ( ) b. GHC 50-GHC 100 ( ) c. GHC 101- GHC 150 d. More than GHC 150 ( )
8. Employment status a. Student ( ) b. unemployed ( ) c. formal employment ( ) c. Informal ( )

Section B – Usage of innovative products

9. Please indicate how often you use the service

	Once a week	**Twice a week**	**Thrice a week**	**Four times in a week**	**More than four times in a week**

Internet Banking					
ATM					

10. For how long have you subscribed to the service?

Product/Service	**1-2 years**	**3-4 years**	**5 years and more**
Internet banking			
ATM			

11. Please rate the following products according to your preference on a scale of 1to 3, with 1 being most preferred and 3 being less preferred

Products/Service	**1**	**2**	**3**
ATM			
Internet banking			
SMS banking/ Alert			
Banking hall transactions			

Section C- financial innovation and customer satisfaction (ATM USERS ONLY)

Please use the scale of 1- 5 to answer the following questions on your expectations and experience with the innovative products you have subscribed to where 1- Strongly Disagree 2- Disagree 3- Neutral 4- Agree 5- Strongly Agree

12. Expectation before usage of product

	1	**2**	**3**	**4**	**5**
Tangibility					
The bank should have modern ATM					
The ATM should be nice and comfortable to use					
Cards and receipts should be physically appealing					

The surroundings of the Machine should be clean and tidy					
Reliability					
The ATM should always be available for use					
The ATM should not be affected by power outages					
The ATM should be able to deliver all of its services at all times					
The ATM should be able to deliver its service without					
delay					
Responsiveness					
Staff should be always ready to responds to the needs of the customer.					
Staff should provide prompt response to customers' inquiries and needs.					
There should be dedicated desk with personnel to attend to the needs of customers relating to the use of ATM					
Bank staff should be knowledgeable enough to respond to address all customers concerns					
Privacy					
The use of ATM should have a strict security mechanism in place.					
The ATM gives should give me some level of control over my transactions					
Whilst carrying out a given transaction, it should be difficult for someone standing around to see the pin number entered into the machine.					
Ease of Use					
ATM should not be difficult to use					
It should not require lot of effort and time					
It should not require special computer skills to use					

It should be user friendly to the visually impaired and the uneducated					

13. **Perception after use**

	1	2	3	4	5
Tangibility					
The bank have modern ATM					
The ATM is nice and comfortable to use					
Cards and receipts are physically appealing					
The surroundings of the machine is always clean and tidy					
Reliability					
The ATM is always be available for use					
The ATM is not be affected by power outages					
The ATM is able to deliver all of its services at all times					
the ATM is able to deliver its service without delay					
Responsiveness					
Staffs are always ready to responds to the needs of the customer.					
Staff provides prompt response to customers' inquiries and needs.					
There is dedicated desk with personnel to attend to the needs of customers relating to the use of ATM					
Bank staff are knowledgeable enough to respond to address all customers concerns					
Privacy					
ATM should have a strict security mechanism in place.					
The ATM give me some level of control over my transactions					

Whilst carrying out a given transaction, it is difficult for someone standing around to see the pin number entered into the machine					
Ease of use					
ATM is easy to use					
It does not require lot of time and effort					
It does not require special computer skills to use					
It is user friendly to the visually impaired and the uneducated					

14. Would you recommend the service to others? A. Yes ( ) b. No ( )

15. Do you have plans to stop using the service? A. Yes ( ) b. No ( ) **Internet banking users only**

16. **The following set of questions aims at finding the expectation of customers before using internet banking and their perception after usage**

Tangibility					
The bank should have neat and tidy web design					
The design should be user friendly					
The graphics and images on the site should be nice and attractive to use					
Reliability					
I should be able to check my account balance and transfer funds with ease					
I should be able to access my account at anytime					
I should be able to perform all my bank transactions without delays on the online portal					
The website should have up to date information so customers have no problem finding the most recent and required information					
Responsiveness					
Staffs should always ready to responds to the needs of the customer**.**					
Staffs should provide prompt response to customers' inquiries and needs					

There should be a dedicated desk with personnel to attend to the needs of customers					
Bank staffs should be knowledgeable enough to address all customers concerns.					
Privacy					
The use of Internet banking should give me control over my transaction					
There should be strict security measures to protect my account from third party					
I should feel safe to use the service					
Ease of use					
Internet banking should be convenient to use					
It should not involve any rigorous processes					
It should not involve any advanced knowledge in ICT before using it.					
The use of internet banking should enable be cut down on my visit to the banking hall					

17. **Perception of customers after using internet banking**

	1	2	3	4	5
Tangibility					
The bank have neat and tidy web design					
The web design is user friendly					
The graphics and images on the website is beautiful and attractive					
Reliability					
I am able to check my account balance and transfer funds with ease					
I have access to my account at anytime					
I can perform all my bank transactions without delays on the online portal					

The website have up to date information so customers have no problem finding the most recent and required information					
Responsiveness					
Staffs are always ready to responds to the needs of the customer.					
Staffs provide prompt response to customers' inquiries and needs					
There is a dedicated desk with personnel to attend to the needs of customers					
Bank staffs are knowledgeable enough to address all customers concerns.					
Privacy					
The use of Internet banking gives me control over my transaction					
There is strict security measures to protect my account from third party					
I feel safe to use the service					
Ease of use					
Internet banking is convenient to use					
It does not involve any rigorous processes					
It does not involve any advanced knowledge in ICT before using it.					
It has reduced the number times I visit the banking hall					

18. Would you recommend the service to others? A. Yes ( ) b. No ( )

19. Do you have plans to stop using the service? A. Yes ( ) b. No ( )

SECTION C- Overall customer Satisfaction

220. Based on your expectations and your experience with the service, how will you rank your overall level of satisfaction?

Scale: 1- very Dissatisfied, 2- Dissatisfied, 3-Neutral, 4- Satisfied, 5- Very Satisfied

Dimensions	**1**	**2**	**3**	**4**	**5**
Internet banking					
ATM