

**ADOPTION OF E-BANKING SERVICES: PERSPECTIVE OF GHANAIAN
CUSTOMERS FROM SELECTED COMMERCIAL BANKS IN KUMASI**

KNUST

By

GERTRUDE AGYEMAN BOAMAH (BBA Marketing)

A thesis submitted to the Department and Marketing and Corporate Strategy, Kwame Nkrumah
University of Science and Technology in partial fulfillment of the requirement for the award of
Master of Business Administration (Strategic Management & Consulting)

COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

KNUST SCHOOL FOR BUSINESS

NOVEMBER, 2015.

DECLARATION

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

GERTRUDE AGYEMAN BOAMAH (PG9541313).....

(Student Name & ID)

Signature

Date

MR. SAMUEL YAW AKOMEAH

(Supervisor)

Signature

Date

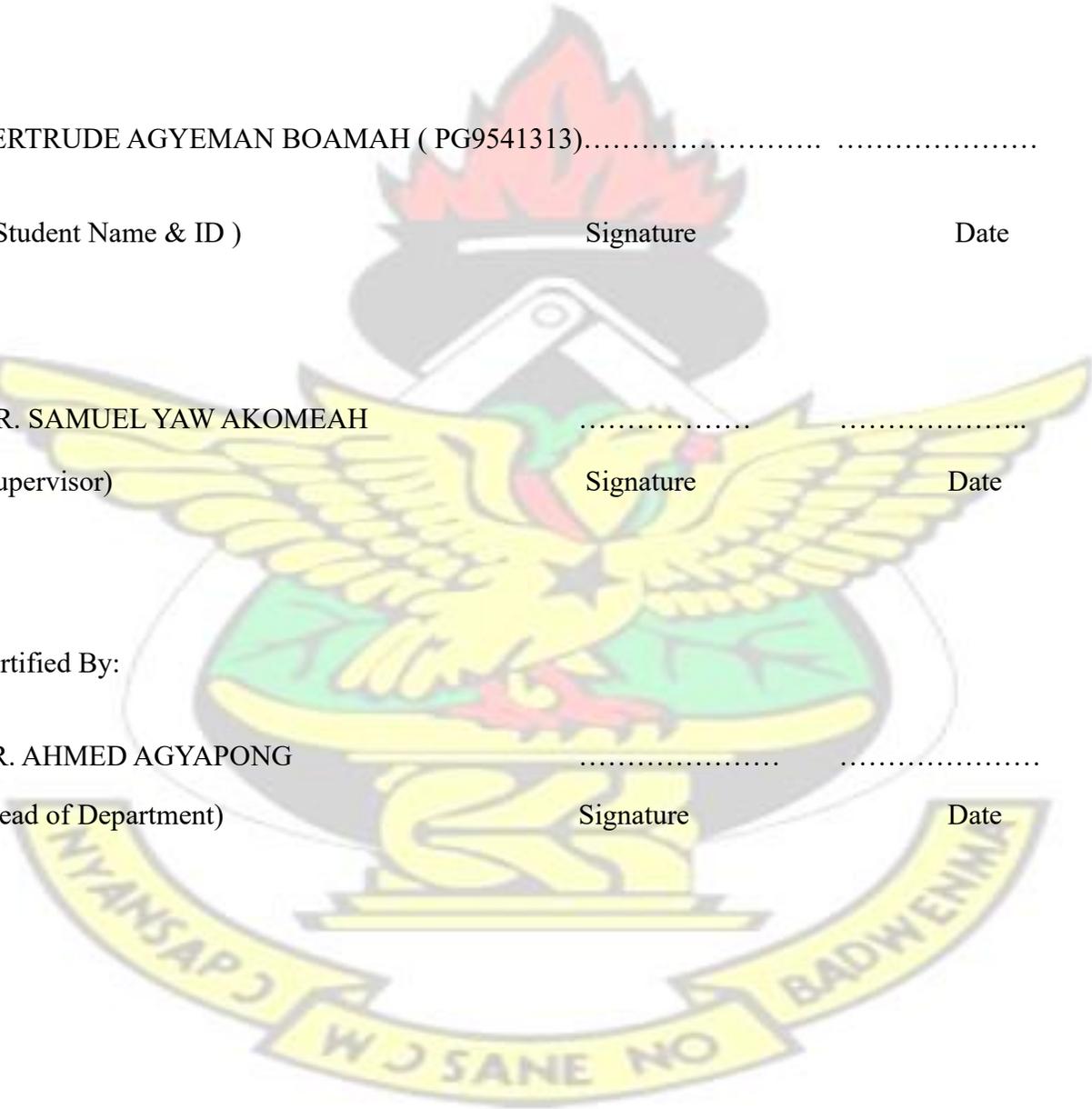
Certified By:

DR. AHMED AGYAPONG

(Head of Department)

Signature

Date



DEDICATION

I dedicate this piece of academic excellence to my parents whose understanding and encouragement has brought me this far. I also wish to dedicate it to my uncle Charles Boamah, for his love and smile during the pursuance of my academic work; to my lovely nephews and nieces as well.



ACKNOWLEDGEMENT

I first and foremost acknowledge, my boss Mr. William Danso-Abeam, Ecobank Kumasi for his encouragement and advice. His wise counsel will forever be cherished. I also acknowledge my supervisor Mr. Samuel Yaw Akomea for the time, great advice both mentally and physically and the patience he had for me throughout the completion of this work. I am highly indebted to him.

Last but not the least, my acknowledgement goes to my sisters, brothers and friends who pushed me harder to complete this work (Captoria Boamah, Amadu Fatima, Emmanuella Boamah, Vivian Tiwaa Adusei, Seth Adusei, Samuel Nii Otoo Kumasi Metropolitan Assembly, Winston Wobil Ecobank Kenyasi branch, Godfred Bonny, Solomon Adjei, Rev. William Opare and many more who have not been mentioned here.

I can only say thank you.



ABSTRACT

Demand for financial services is changing rapidly and customers' behaviour regarding these services is also adapting rapidly. These changes are evident with the revolution of the traditional banking sector to electronic banking, new strategies have become necessary in order to attract and retain existing customers. This study sought to examine the adoption of e-banking and the perspective of Ghanaian customers. The specific objectives include to: assess the adoption of ebanking products among Ghanaian customers; identify factors that contribute to the adoption of e-banking; examine challenges hindering the effective patronage of e-banking products in Ghana and finally analyze customers' perception regarding the quality of e-banking services provided by banks in the country. The study adopted a descriptive research design involving a crosssectional survey of customers of various commercial banks found within the Kumasi Metropolis. Out of an estimated population of over 150,000 retail customers, a sample of 520 was used. The sampling technique used was convenience sampling; whilst data was drawn from both primary and secondary sources. Questionnaire was the main research instrument. At the end, the study found a high correlation between five independent variables (Information, cost/charges, customers' level of education, speed of service, and convenience) and e-banking adoption. The correlation value was 0.915 with R^2 value of 0.838. The study further revealed that information about various e-banking products was likely to increase the adoption rate by approximately 4% whilst users' level of education and speed of service recorded 9 percent and 41 percent respectively. It is therefore recommended that promotional campaigns are geared toward educating customers on how to use e-banking products especially internet banking. Banks must also endeavour to guarantee the safety and security of online transactions. This will go a long way to instill confidence in the adoption of e-banking products.

TABLE OF CONTENTS

DEDICATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	ix
LIST OF TABLES	x
CHAPTER ONE	1
INTRODUCTION.....	1
1.1 Background of the study	1
1.2 Problem statement	2
1.3 Research Objectives	3
1.4 Research Questions	3
1.5 Significance of the study	4
1.6 Scope of the study	4
1.7 Overview of Methodology	5
1.8 Limitations	5
1.9 Organization of the study	6
CHAPTER TWO	7
LITERATURE REVIEW	7
2.1 Introduction	7
2.2 Overview of Electronic Banking Globally	7

2.3 Electronic banking concept	8
2.3.1 Types of Electronic banking	10
2.3.1.1 Internet banking	10
2.3.1.2 Telephone Banking (Telebanking)	11
2.3.1.3 SMS Banking	11
2.4 Theories on E-banking Innovation diffusion	12
2.5 Customer satisfaction with E-banking services	15
2.6 Empirical Review of Electronic Banking Challenges	17
2.7 Quality and Growth Potentials of Electronic Banking in Ghana	21
2.8 Conceptual framework	22
CHAPTER THREE	
26 METHODOLOGY	
26	
3.1 Introduction	26
3.2 Research Design.....	26
3.3 Sources of Data	26
3.5 Unit of Analysis	27
3.5 Population and Sample Frame	27
3.6 Sample size	27
3.7 Sampling technique	29
3.8 Data Collection Instrument	30

3.9 Pilot Testing, Reliability and Validity Tests	30
3.10 Data Analysis	31
3.11 Brief Profile of the Case Study	31
CHAPTER FOUR	33
33 DATA ANALYSIS AND DISCUSSIONS	33
4.1 Introduction	33
4.2 Demographics	33
4.3 Adoption of E-banking Products by Customers	35
4.3.1 Customers' preference of Bank services	37
4.3.2 Motivation for using E-banking products	39
4.4 E-BANKING CHALLENGES	40
4.4.1 Other E-banking challenges	41
4.5 Perception regarding the quality of e-banking services provided by banks in Ghana	42
4.6 Regression Analysis on the Adoption of E-banking Products	44
CHAPTER FIVE	48
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS	48
5.1 Introductio	48
5.2 Summary of Findings	48
5.2.1 Adoption of E-banking Products by Customers	48
5.2.2 E-Banking Challenges	49
5.2.3 Perception regarding the quality of e-banking services provided by banks in Ghana	50
5.2.4 Regression Analysis on the Adoption of E-banking Products	50
5.3 Recommendation	51

5.4 Conclusion	52
REFERENCES	54
QUESTIONNAIRE	63

LIST OF FIGURES

Figure 2.1: Conceptual framework	23
--	----

LIST OF TABLES

Table 4.1: Background information	34
Table 4.2: Age * E-banking-service Crosstabulation	35
Table 4.2.1: Details of E-banking transactions.....	36
Table 4.3: Frequency of E-banking usage	37
Table 4.4: Customers preference of bank services	38
Table 4.5: Motivation for using e-banking services	39
Table 4.6: Customers adaptability level to e-banking products	40
Table 4.7: Other e-banking challenges	41
Table 4.8: Quality of e-banking services	43
Table 4.9: Regression analysis	44
Table 4.10: Model Summary.....	45

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Demand for financial services is changing rapidly and customers' behaviours regarding these services is also adapting rapidly. These changes are evident with the revolution of the traditional banking sector to electronic banking, new strategies have become necessary in order to attract and retain existing customers. Banking has always relied on information technology (IT) to acquire, process, and deliver its services to all relevant users. Beside IT is critical in the processing of information, it also provides a way for the banks to differentiate their products and services, and provide convenient, reliable, and expedient services (Tan and Teo, 2000). As a result, banks have invested more in technology and information to achieve maximum return and attract large number of clients (Siam, 2006). One of the advanced services that have been introduced by banks is electronic banking or e-banking.

E-banking is defined as the automated delivery of new and traditional banking products and services directly to customers through electronic and interactive communication channels (Federal Financial Institutions Examination Council, 2003). It includes the systems that enable financial institutions, customers, individuals or businesses, to access accounts, transact business or obtain information on financial products and services through a public or private network, including the internet (FFIEC, 2003). E-banking is another subject on which both developed and developing countries have expressed concerns motivated by differences in perspective. Developing nations, such as Ghana, have a number of inherited difficulties in promulgating an electronic banking culture. Although e-banking services can improve banks' efficiency and competitiveness, it unfortunately incurs high level of implementation risk. Therefore, banks need to know whether

they are really ready to implement e-banking, and where they should improve themselves (Huang et al., 2004). Banks that want to offer their services electronically must first ensure that all necessary infrastructures, workforce, and banking functions are in place and working at maximum efficiency. So, there is a need for banks to assess their readiness to offer ebanking services to their clients (Maugis et al., 2004)

Most researchers have indicated that service quality is an important tool to measure customer satisfaction (Abdul, 2011). Accordingly, in order to satisfy and retain customers in the ecommerce environment, the financial sector must shift the focus to e-service quality. As a result, banks have started to compete in expanding their branch networks and providing a variety of delivery channels such as call centers, internet banking, mobile banking, and ATMs. Electronic service is increasingly important not only in determining the success or failure of electronic commerce (Yang and Lily, 2001), but also in providing consumers with a superior experience with respect to the interactive flow of information, and thus revolutionizing the way business is conducted (Kumbhar, 2011). This study therefore sets out to examine electronic banking challenges and the perspective of Ghanaian customers.

1.2 Problem statement

Not many inventions have changed the business of banking like the e-banking revolution. All over the world banks are re-orienting their business strategies towards new opportunities offered by e-banking (Maugis et al., 2004). In Ghana e-banking has strongly impacted the strategic business considerations for banks by significantly cutting down costs of service delivery and transactions. It must be noted, however, that while e-banking provides many benefits to customers and banks, it also aggravates traditional banking risks. Compared to developed countries, Ghana faces many

impediments that affect the successful implementation of e-banking initiatives (Nitsure, 2004). Aside these risks, there are also reported cases of poor patronage of electronic banking products by customers. It is also not surprising to see long queues in many banking halls when many of these transactions could be done outside the banking hall. For some customers, many of these electronic banking products are not reliable hence the need to resort to the traditional banking system. In line with the above challenges, this study sought to examine electronic banking challenges and the perspective of Ghanaian customers.

1.3 Research Objectives

Generally, the study sought to examine the adoption of e-banking and the perspective of Ghanaian customers. The specific objectives include:

1. To assess the adoption of e-banking products among customers of selected banks in Kumasi
2. To identify factors that contribute to the adoption of e-banking among customers of selected banks in Kumasi
3. To identify challenges hindering the effective patronage of e-banking products in Ghana
4. To analyze customers' perception regarding the quality of e-banking services provided by banks in Ghana.

1.4 Research Questions

In line with the above objectives, the following research questions were formulated to guide the study:

1. What is the level patronage of e-banking products among customers of selected banks in Kumasi?
2. What factors hinder the effective patronage of e-banking products in Ghana?

3. What factors have the potential of enhancing the adoption of e-banking among Ghanaian customers?
4. How do customers' assess the quality of e-banking services provided by banks in Ghana?

1.5 Significance of the study

The purpose of this research is to study and understand the challenges and obstacles affecting the development of e-banking from the perspective of Ghanaian customers. The work also provides comparisons between the views of different groups of customers and staff regarding e-banking challenges. The study is significant in the sense that findings of this research would be useful for policy makers and bank managers in the formulation of best practice in order to promote e-banking and also aid researchers in studies related to e-banking. In terms of contribution to the economy, the researcher envisaged that providing more innovative electronic banking products would make the country more competitive on the world market as many transactions could be facilitated electronically. The study is also expected to engender further discourse among academia and future researchers as it adds to existing empirical work on the subject area.

1.6 Scope of the study

The study covers banks located within the Kumasi Metropolis. The study focused on customers of selected commercial banks in Kumasi. In terms of theoretical scope, the study looked at some empirical works both from developed and developing economy perspective. Consideration was also given to the innovation adoption process in explaining the level of e-banking patronage.

Another model used was the technology acceptance model (TAM) suggested by Davis et al (1989). Selected banks include Cal Bank, Barclays Bank, Ecobank, Stanchart, ADB, HFC Bank,

Fidelity bank, Bank of Africa, Unibank, Zenith Bank, GCB and National Investment Bank (NIB).

1.7 Overview of Methodology

The study adopts a mixed method as part of the methodological framework. Both quantitative and qualitative assessments were performed in identifying e-banking challenges. For the purpose of analyses, e-banking challenges or obstacles were divided into two broad groups: soft and hard factors. Soft factors comprised; culture, awareness, job and human relations, trust, resistance, coordination, and decision making etc. Hard factors include supporting soft factors with suitable technological and economic infrastructures, finance of network development and the preparation of software and hardware required of e-banking etc. As identified by Karimzadeh and Allam (2012), barriers and challenges of electronic banking can be categorized into six main groups, including infrastructural barriers, knowledge barriers, legal and security issues, socio-cultural barriers, economic factors, and management and banking issues. The population comprised customers of selected banks in Kumasi out of which a sample of 520 was used. Sampling technique deployed was convenience. The methods of analyses included mean, cross-tabulation, regression, correlation and factor analysis. These analyses were by means of the Statistical Package for Social Scientists (SPSS).

1.8 Limitations

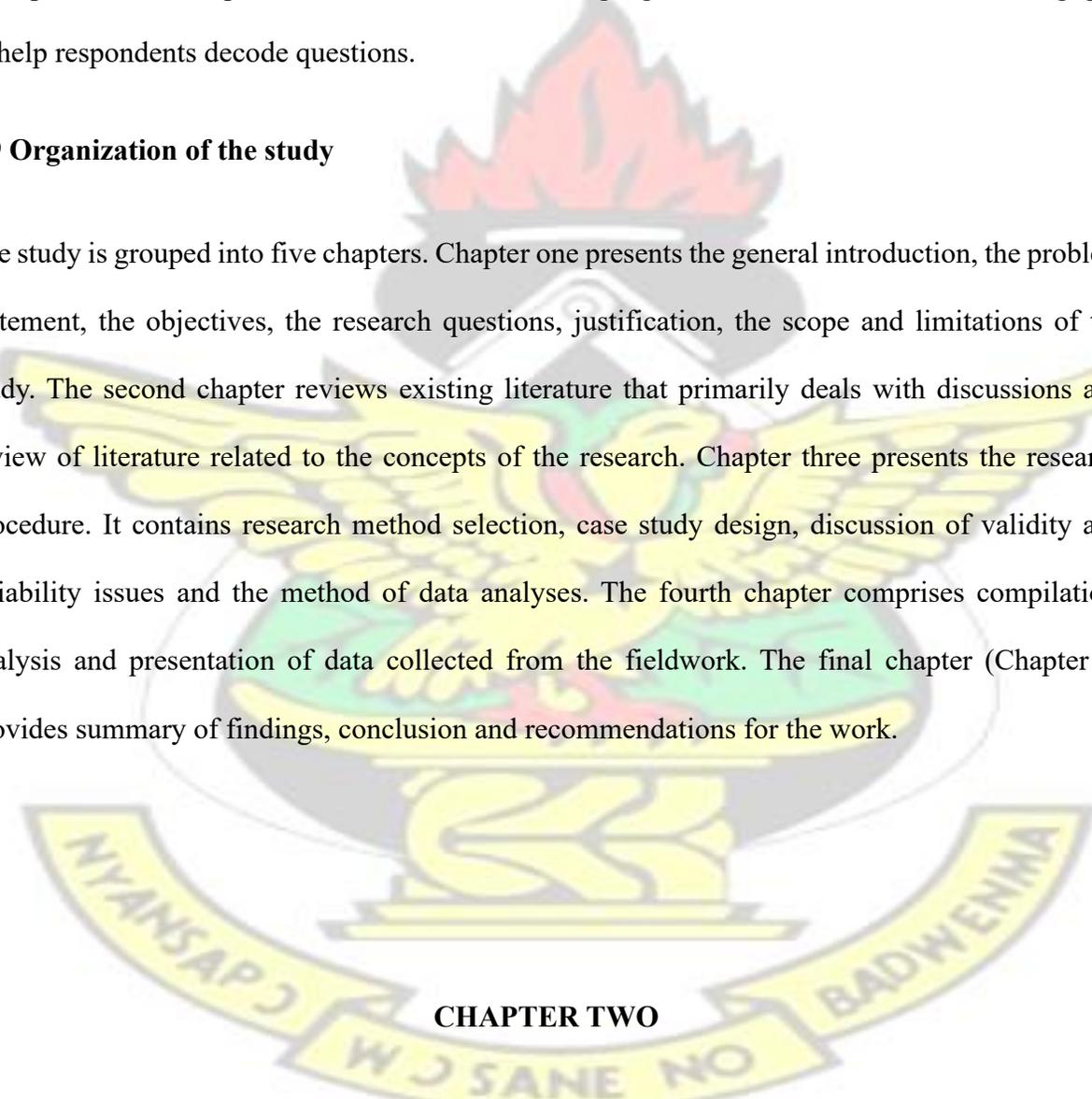
Like my other studies, this research was not without some challenges. First is the fact that the study was confined to bank retail customers within Kumasi Metropolis. Another limitation related to the choice of sample out of over 250,000 customers. The obvious financial and logistical constraints were not isolated.

In spite of these challenges, the researcher believes that the geographical scope would not hinder the generalization of findings since retail customers in Kumasi are not different from bank retail customers in other parts of the country. Again, the researcher is optimistic the choice of sample

size was representative enough of the population stated. To address challenges regarding financial, logistics and non-response, the researcher ensured that field activities were undertaken in locations with high customer traffic. Specific days were also chosen to ensure that more customers were contacted and to reduce cost. Also, since the researcher could not be present at all locations at the same time, relationships were built with some customer service executives at the various banks to help retrieve filled questionnaires. To overcome language barriers, field attendants were engaged to help respondents decode questions.

1.9 Organization of the study

The study is grouped into five chapters. Chapter one presents the general introduction, the problem statement, the objectives, the research questions, justification, the scope and limitations of the study. The second chapter reviews existing literature that primarily deals with discussions and review of literature related to the concepts of the research. Chapter three presents the research procedure. It contains research method selection, case study design, discussion of validity and reliability issues and the method of data analyses. The fourth chapter comprises compilation, analysis and presentation of data collected from the fieldwork. The final chapter (Chapter 5) provides summary of findings, conclusion and recommendations for the work.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter focuses on reviewing studies on electronic banking from different perspectives. Available literature suggests that some work has been done on the adoption and growth of e-banking in most developed economies. The intent here is to look at the growth of e-banking, challenges and benefits to be gained from e-banking services from the perspective of Ghanaian customers.

2.2 Overview of Electronic Banking Globally

Though data on electronic banking are scarce, and differences in definitions make cross-country comparisons difficult, a preliminary analysis by Nsouli and Schaechter from International Monetary Fund (IMF) shows that e-banking is particularly widespread in Austria, Korea, the Scandinavian countries, Singapore, Spain, and Switzerland, where more than 75 per cent of all banks offer such services (Nsouli and Schaechter 2002). The Scandinavian countries have the largest number of e-banking service users, with up to one-third of bank customers in Finland and Sweden taking advantage of e-banking. In the US, electronic banking is still concentrated in the largest banks. While most US consumers have accounts with banks that offer electronic banking services, only about 6 per cent of them use these services.

At present, most banks have combined the new electronic delivery channels with traditional brick and mortar branches, but a few that have emerged offer their products and services only through electronic distribution channels. These 'virtual' or 'internet only' banks do not have a branch network but might have a physical presence, for example, an administrative office or nonbranch facilities like ATMs. The US has about 30 virtual banks; Asia has two, launched in 2000 and 2001; and the European Union has several, either as separately licensed entities or as subsidiaries or branches of brick and mortar banks. In developing economies, however, the spread of e-banking is much limited. In some cases, electronic services such as internet usage only starts to take off

once the average purchasing power of citizens exceeds US \$ 10,000, although of course this is also affected by the distribution of income.

Although banks in Ghana have started realizing the importance of e-banking and have begun providing e-banking services for their customers, they seem to have overlooked the importance of e-banking service quality. Most banks prefer making e-banking available and are making clear attempts to maintain their web presence. However, there are still some barriers that prevents ebanking from dominating the industry. Ghana's banking system as the case with most emerging markets has a number of limitations. One of the major weaknesses was the poor quality of ebanking services, which caused customers' reluctance to use them. This may be because, although e-banking services are provided and made available, they are not reliable, responsive, easy to use, nor is the performance satisfactory. This may be the reason why e-banking users in Ghana are infrequent e-banking users (Abd El-Aziz, 2009).

2.3 Electronic banking concept

The definition of electronic banking (E-banking) varies amongst researchers partially because electronic banking refers to several types of services through which a bank's customers can request information and carry out most retail banking services via computer, television or mobile phone (Daniel, 1999; Mols; 1998; Sathye, 1999). Different authors have defined it in different ways based on their understanding of the application of electronic banking. According to Daniel (1999), electronic banking is electronic connection between the bank and customer in order to prepare, manage and control financial transactions. Sathye (1999) also asserted that electronic banking can be defined as a variety of the following platforms: (a) Internet banking (or online banking), (b) telephone banking, (c) television-based banking, (d) mobile phone banking, and (e)

PC banking (or offline banking). In the opinion of Daniel (1999), E-banking is online banking (or Internet banking) which allows customers to conduct financial transactions on a secure website operated by their retail or virtual bank, credit union or building society. This implies that E-banking is a service that allows an account holder to obtain account information and manage certain banking transactions through a personal computer via the financial institution web site on the internet.

For many consumers, electronic banking means 24-hour access to cash through an Automated Teller Machine (ATM) or Direct Deposit of pay checks into checking or savings accounts (FTC, 2006). But electronic banking now involves many different types of transactions. E- Banking services are delivered through various electronic means collectively called electronic delivery channels. Electronic Banking is really not one technology, but an attempt to merge several different technologies. Each of these evolved in different ways, but in recent years different groups and industries have recognized the importance of working together (Abor, 2004). ATM banking is one of the earliest and widely adopted retail E-banking services in Kenya (Nyangosi et al. 2009).It is described as a combination of a computer terminal, record-keeping system and cash vault in one unit, permitting customers to enter the bank's book keeping system with a plastic card containing a Personal Identification Number (PIN) or by punching a special code number into the computer terminal linked to the bank's computerized records 24 hours a day (Rose, 1999).PC-Banking is another channel that allows the bank's customers to access information about their accounts via a proprietary network, usually with the help of proprietary software installed on their personal computer". Once access is gained, the customer can perform a lot of retail banking functions. The increasing awareness of the importance of computer literacy has resulted in increasing the use of personal computers. This certainly supports the growth of PC banking which virtually establishes a branch in the customers' home or office, and offers 24-hour service, seven days a week. It also

has the benefits of Telephone Banking and ATMs (Abor, 2004). An Electronic Funds Transfer at the Point of Sale is another e-banking channel that allows customers to transfer funds instantaneously from their bank accounts to merchant accounts when making purchases (at purchase points). A POS uses a debit card to activate an Electronic Fund Transfer Process (Chorafas, 1988).

2.3.1 Types of Electronic banking

Electronic banking (e-banking) technology represents a variety of different services, ranging from the common automatic teller machine (ATM) services and direct deposit to automatic bill payment (ABP), electronic transfer of funds (EFT), and computer banking (PC banking).

2.3.1.1 Internet banking

Internet banking is a new age banking concept. It uses technology and brings the bank closer to the customer. Internet banking refers to systems that enable bank customers to get access to their accounts and general information on bank products and services through the use of bank's website, without the intervention or inconvenience of sending letters, faxes, original signatures and telephone confirmations (Thulani et al, 2009). Broadly, the levels of banking services offered through internet can be categorized in to three types:

1. The Basic Level Service is the banks' websites which disseminate information on different products and services offered to customers and members of public in general. It may receive and reply to customers' queries through e-mail.
2. In the next level are Simple Transactional Websites which allows customers to submit their instructions, applications for different services, queries on their account balances, etc, but do not permit any fund-based transactions on their accounts.

3. The third level of Internet banking services are offered by Fully Transactional Websites which allows the customers to operate on their accounts for transfer of funds, payment of different bills, subscribing to other products of the bank and to transact purchase and sale of securities.

The above forms of Internet banking services are offered by traditional banks as an additional method of serving the customer. There are also banks that deliver banking services primarily through Internet or other electronic delivery channels. Some of these banks are known as “virtual” banks or “Internet only” banks and may not have any physical presence in a country despite offering different banking services (Adriana, 2006).

2. 3.1.2 Telephone Banking (Telebanking)

Telebanking (telephone banking) can be considered 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” (Balachandher et al., 2001). It allows consumers to phone their financial institutions with instructions to pay certain bills or to transfer funds between accounts (FTC, 2006).

2. 3.1.3 SMS Banking

SMS banking uses short text messages sent through the client’s mobile phone. SMS text messages can be used for both passive and active operations similarly as with classic telephone banking. A client can automatically receive information about his/her account balance: an SMS is sent to the client immediately after a certain operation is performed, or on request: a client sends the bank a correctly formatted message which processes it and answers the client’s request by SMS.

2.4 Theories on E-banking Innovation diffusion

Theories on innovation diffusion abound. First, Rogers (1962) proposed a model of the diffusion of innovations that included five product or service characteristics postulated to influence consumer acceptance of new products and services: relative advantage, compatibility, simplicity/complexity, observability, and trial ability. Several researchers have incorporated pieces of Rogers' model in empirical work that examined technological innovations (Rogers, 1962; Raju, 1980; Shimp and Beardon, 1982; Price and Ridgeway, 1983; Childers, 1986; Prendergast, 1993; Busch, 1995; Dabholkar, 1996; Lockett and Littler, 1997; Daniel, 1999; Howcroft et al., 2002; Lee et al., 2003).

Trial ability refers to the ability of consumers to experiment with a new innovation and evaluate its benefits. The extent to which various financial institutions offer "introductory" e-banking to their customers impacts the trial ability and accessibility of the innovation. Empirical studies on the acceptance of technologies have found consistently positive relationships between usefulness and to a lesser extent, ease of use, and the adoption of a variety of specific technologies, ranging from computer software to e-mail (see, for example, Davis, 1989; Karahanna et al., 1999; Chau and Hu, 2001).

Relative advantage is the degree to which consumers perceive a new product or service as different from and better than its substitutes (Rogers, 1962). In the case of e-banking, savings of time, money and convenience have been cited as relative advantages. At the same time, financial management conducted online raises concerns of privacy, a relative disadvantage for some (Abbate, 1999; Snel, 2000; Karjaluoto et al., 2002). Consumers who must supply myriad personal information before being permitted to use the innovation may be inhibited from adopting a given e-banking service.

Observability is the extent to which an innovation is visible and communicable to consumers. For example, seeing ATMs on the street corners and in grocery stores may make this technology more observable than PC banking conducted inside the home. Simplicity/complexity is the extent to which consumers perceive a new innovation as easy to understand or use. For consumers without previous computer experience, or for those who believe that e-banking is difficult to use, adoption of these innovations may be thwarted. Compatibility is the extent to which a new product or service is consistent and compatible with consumers' needs, beliefs, values, experiences, and habits. In the case of e-banking, we must consider the degree to which a given technology fits in with the banking behavior of a consumer, and the way in which they have historically managed their finances. Technological service innovations differ from other commodities insofar as their adoption may require behavior different from consumers' typical routines (Gatignon and Robertson, 1985). This includes "bricks and mortar" issues such as not having a branch bank to visit, as well as "paper" issues including receiving statements electronically and not in the mail.

A further refinement of Rogers' original model added the dimensions of perceived risk as well as product involvement (that is, how involved consumers are in related product categories; Lockett and Littler, 1997). This study found that risk-averse households were less likely to adopt direct banking and households that used other technologies (ATMs and buying products over the telephone) were more likely to adopt direct banking. The researchers conclude that "perceived innovation attributes appear to be better predictors of adoption behavior than personal characteristics" (Lockett and Littler, 1997, p. 807).

The Technology Acceptance Model (TAM), proposed by Davis (1989), incorporated the characteristics of perceived ease of use and perceived usefulness into a model of technology acceptance. Empirical work related to diffusion of technological innovations has expanded the use

of the TAM model to include individual differences (Gattiker, 1992; Gefen and Straub, 1997; Taylor and Todd, 1995; Mick and Fournier, 1998; Jayawardhena and Foley, 2000; Karjaluoto et al., 2002), and attitudes as defined by the Theory of Reasoned Action (Davis et al., 1989; Karahanna et al., 1999; Jayawardhena and Foley, 2000; Venkatesh and Morris, 2000; Karjaluoto et al., 2002). Explorations of demographic correlates of technology acceptance have produced differing results with respect to significant relationships to adoption. In part, these differences may relate to the sets of variables included in the analysis. Gender has not been found to have a direct effect on adoption of technology in general (Taylor and Todd, 1995; Gefen and Straub, 1997), but men and women appear to have different acceptance rates of specific computer technologies, with men more likely to adopt (Gefen and Straub, 1997). Results with respect to gender may be confounded by marital status. When it comes to bank accounts, married couples may have jointly held accounts; thus at the household level, adoption of e-banking may be related to the combination of marital status and gender, with married couples more likely to adopt than either single males or single females. Research has also linked age and adoption of technologies, with younger persons being more likely to adopt (Zeithaml and Gilly, 1987; Trocchia and Janda, 2000; Karjaluoto et al., 2002; Lee et al., 2002). Race has not often been included in studies of technology adoption. Lee and Lee (2000) did find that for direct bill payment, minorities were less likely to have already adopted the technology. Increases in income and education tend to be positively related to the adoption of an innovation (Donnelly, 1970; Uhl et al., 1970; Labay and Kinnear, 1981; Kennickell and Kwast 1997; Daniel, 1999; Lee and Lee, 2000; Jayawardhena and Foley, 2000; Mattila, 2001; Lee et al., 2002; Karjaluoto et al., 2002)

2.5. Customer satisfaction with E-banking services

Consumer satisfaction is a phenomenon of particular importance in the evaluation process of a shopping, consumption, or product or service usage experience and is therefore vital in long-term

consumer responses (Gronroos, 1991). Both the scientific literature and the business management world have shown a strong interest in meeting customer needs to determine subsequent purchase behaviour. Although satisfaction has been studied scientifically since the 1960s (Howard and Sheth, 1969) following different approaches and theories, the managerial focus would not be considered a key element of the value chain until the 1990s (Oliver, 1997).

Growing attention has also been paid to satisfaction in the financial sector as a result of increased competition and recent technological developments. Given that financial institutions offer similar banking products and services, many attempts to justify differentiation and customer preference in terms of satisfaction with the services customers receive. Electronic banking, in particular, is one of the services that offer the greatest advantages to financial customers. Traditionally, financial products and services have been distributed through bank branches due to their proximity to customers, the large number of services they perform, the added value that the client receives at the branch, and the important role bank branches play in decisions made by customers. In spite of this, however, this conventional channel has begun to be replaced by a more agile and dynamic channel as reflected in the data of the World Retail Banking Report (2010) on the percentage of use of the main channels.

Based on the proposals of Giese and Cote (2000) and later adaptations by Moliner (2004), the satisfaction is approached according to two criteria: a “conceptual” criterion which defines satisfaction through processes and/or types of consumer responses; and a “referential” criterion that reflects aspects of the situation in which these processes and/or responses occur. Given that these are not necessarily mutually exclusive criteria, the main definitions in the literature may provide different and complementary approaches that serve to improve our understanding of satisfaction.

Regarding the first set of definitions, which responds to the “conceptual” criterion, three approaches can be taken: the evaluation process, which is understood as a process of evaluating certain variables (product performance, needs and expectations); the cognitive response, which is the result of a consumption experience that is manifested as a consequence of an evaluation or the cognitive comparison of variables (expectations and performance, efforts and rewards, etc.) versus the affective response, of variables (happiness, surprise or displeasure); and the process of evaluation and affective response, which is expressed as satisfaction linked to both cognitive judgments and affective reactions resulting from acquisition, consumption or use.

With regard to the second set of definitions related to the “referential” criterion, the conceptualization of consumer satisfaction can be interpreted from the point of view of a specific transaction as a post-choice evaluative judgment and/or an emotional response by the consumer concerning a given purchase, consumption or use. In contrast, the cumulative view evaluates the overall experiences of the user.

After reviewing the literature and following the transaction specific approach, we understand satisfaction as the general attitude manifested by consumers as a result of experience accumulated through buying behaviour. Specifically, satisfaction with online service has been studied extensively by many authors since the late 1990s (McHaney and Cronan, 1998; Kuo and Wu, 2008). Sheng and Liu (2010) and Kuo and Wu (2012) confirm that improved user satisfaction with this type of service favours future purchase intention and increased loyalty (Eid, 2011). However, in the financial sector, the study of online satisfaction as an element of consumer decision-making behaviour in virtual environments has only recently attracted attention in marketing research (Lassala et al., 2010).

Within the context of e-banking Mattila (2001) conceded that customer satisfaction is a key to success in internet banking and banks use different media to customize products and services to fit customers' needs. Research into the adoption and use of e-banking services has grown in many parts of the world, but the centre of attention has been largely on determinants of online banking adoption, not on user satisfaction (Pikkarainen et al., 2006). Riquelme et al. (2009) demonstrated that satisfaction with electronic banking is directly related to the services that an entity offers through this channel. Casalo' et al. (2008) showed that satisfaction with previous interactions with the bank's web site had a positive effect on customer loyalty and positive word-of-mouth (WOM).

2.6 Empirical Review of Electronic Banking Challenges

Based on 'best practices' in developed countries, United Nations Conference on Trade and Development (UNCTAD) report has identified four challenges that developing countries, in general, are expected to overcome to achieve the advantages that e-banking initiatives can bring about (UNCTAD 2002):

The ability to adopt global technology to local requirements: An adequate level of infrastructure and human capacity building are required before developing countries can adopt the global technology for their local requirements. For example, the review of the migration plan of Society for Worldwide Interbank Financial Telecommunications (SWIFT) to the internet shows that to date full migration has not occurred in many developing countries due to the lack of adequate infrastructure, working capital, and required technical expertise. Broadly accepted e-payment systems are another such example. Many corporates and consumers in some developing countries either do not trust or do not have access to the necessary infrastructure to be able to process e-payments.

The ability to strengthen public support for e-finance: Historically, most e-finance initiatives in developing countries have been the result of cooperative efforts between the private and public sectors. For example, Singapore's successful Trade Net system was a government-sponsored project. If the public sector does not have the necessary means to implement the projects it is essential that cooperative efforts between public and private sectors, along with the multilateral agencies like the World Bank, be developed to facilitate public support for e-finance related initiatives.

The ability to create a necessary level of regulatory and institutional frameworks: The lack of regulatory frameworks, trust, security and privacy standards, high trade barriers, customer and investor protections impede progress in implementing e-banking initiatives on a larger scale in many developing countries.

The ability to mainstream small and medium scale enterprises (SMEs) towards e-banking: The availability of and access to quality data and banking information is required for SMEs in developing countries to move towards e-banking. Similarly, on-line credit information will enhance SME's ability to secure financing.

Prior research has also empirically found positive relationship between perceived ease of use and perceived usefulness as critical factors on the use of e-banking (Venkatesh and Davis, 1996; Agarwal et al., 2000; Johnson and Marakas, 2000; Hong et al., 2001; Chau, 2001; Wang et al., 2003; Pikkarainen et al., 2004). E-banking provides higher degree of convenience that enables customers to access internet bank at all times and places. Apart from that, the accessibility of computers is perceived as a measure of relative advantage (Devlin, 1995; Ainscough and Lockett, 1996; Daniel, 1999, Black et al., 2001; Polatoglu and Ekin, 2001; Suganthi et al., 2001; Gerrard and Cunningham, 2003).

According to Ainscough and Lockett (1996), the provision of customer interactivity is an important criterion that attracts users in the delivery of e-banking. Gerrard and Cunningham (2003) also identify other factors of paramount importance in ensuring the success of e-banking, i.e. the ability of an innovation to meet users' needs using different feature availability on the web site. For instance, the provision of interactive loan calculators, exchange rate converters, and mortgage calculators on the web sites draw the attention of both users and non-users into the bank's web site. Therefore, it is hypothesized that feature availability has positive effect on consumer acceptance of e-banking.

Pikkarainen et al. (2004) and Jayawardhena and Foley (2000) claim that content on online banking on the web site is one of the factors influencing online-banking acceptance. On the other hand, quality designs, graphics or colors and the propensity to portray good image of the bank would enhance efficient use of navigation. Besides that, Hoffman and Novak (1996) find that there is a significant correlation between download speed and user satisfaction. Speed of download depends on the nature of the site downloaded content, the computing hardware and method of connection used to download information (Jayawardhena and Foley, 2000). Most sites demonstration are small snapshots, and some users have to download the program in order to view the demonstration. Most people perceive downloading may import unwanted viruses, and consume hard disk space. Very often, slow response time after any e-interaction leads to a delay of service delivery and makes consumers unsure about whether or not the transaction is completed (Jun and Cai, 2001).

To sustain in long-term relationships, banking institutions have to embrace the concept of customer satisfaction. As supported by McMahon (1996), for banks to survive in thee-banking era, the retail banks will have to earn consumer loyalty through product features and services excellence. Customers perceived fears of divulging personal information to web sites might be misused by

others over the internet, especially for financial transactions (Sathye, 1999; Aladwani, 2001; Black et al., 2001). Obviously, customers have doubts about the trust ability of the e-bank's privacy policies (Gerrard & Cunningham, 2003). Trust has striking influence on user's willingness to engage in online exchanges of money and personal sensitive information (Hoffman et al., 1999; Friedman et al., 2000; Wang et al., 2003). Security and privacy are two important dimensions that may affect users' intention to adopt e-based transaction systems.

A nationwide survey of 6,006 people conducted by the Fundacio'nBanco Bilbao Vizcaya Argentaria (BBVA) in Spain in 2005 revealed a number of obstacles to carrying out banking operations over the internet. The two issues that most dissuaded people from using electronic or online banking were the preference for a physical receipt and concern about privacy, while the third was the absence of a bank employee (BBVA, 2005).

The main obstacles or disadvantages preventing optimal adoption of electronic banking can be grouped as follows:

- Concern about security and privacy (Gandy, 1995; Rosenberg, 1998; Aladwani, 2001; Chan and Lu, 2004; Laforet and Li, 2005).
- Intangibility and physical separation between customer and institution (Moquillaza, 2002; Embid et al., 1998, p. 120; BBVA, 2005; Alsajjan and Dennis, 2006).
- Potential transactional errors, which increase the perceived risk (Suganthi et al., 2001; Valdunciel, 2004).
- Limited number of online services offered and off-line bureaucracy required (Moquillaza, 2002; Pereira, 2003).
- Asymmetry or lack of information about the use of the services offered (Filotto et al., 1997; Lafuente, 2005).

- Lack of technological skills among the population using the service and in the teams themselves (Chan and Lu, 2004; BBVA, 2005; Laforet and Li, 2005)

2.7 Quality and Growth Potentials of Electronic Banking in Ghana

Nobody would deny that electronic banking is the wave of the future. Though the 'practice' of e-banking in Ghana is quite limited, there is a huge potential for it given its impact on the cost and efficiency of financial intermediation. As suggested by Claessens et al. (2001), developing countries in general have an advantage as they can learn from the experience of advanced economies. It may even be possible for them to leapfrog straight to the most advanced technologies. They can put in place appropriate policies (especially regarding security aspects) before e-banking becomes widespread rather than reacting to it at the time of implementation. In this section, an attempt is being made to see how Ghana can exploit the ongoing e-banking wave to reap maximum possible benefits without incurring any major risks. As regards the problem of a possible 'digital divide', there is a lot one can learn from the experiences of other developing countries to include the poor within the net of e-banking. For instance, some countries have adopted policies to encourage the spread of mobile phone networks in to poorer rural areas. Claessens et al. (2001) have cited examples like, " licence obligations to serve rural communities (as in Mexico and the Philippines); subsidies through rural telecom development funds (as in the case of Chile, Peru); variations of build-operate-transfer arrangements (as in Thailand) and low-interest loans". They have also described an experiment undertaken in South Africa, where post offices in remote parts of the country provided financial services including bill payments through terminals where illiterate users were identified biometrically (i.e., using fingerprints). In East Africa, the internet has been effectively used to make micro-loans to small

entrepreneurs. These and many such innovative efforts would help Ghana tide over the emerging problem of a digital divide.

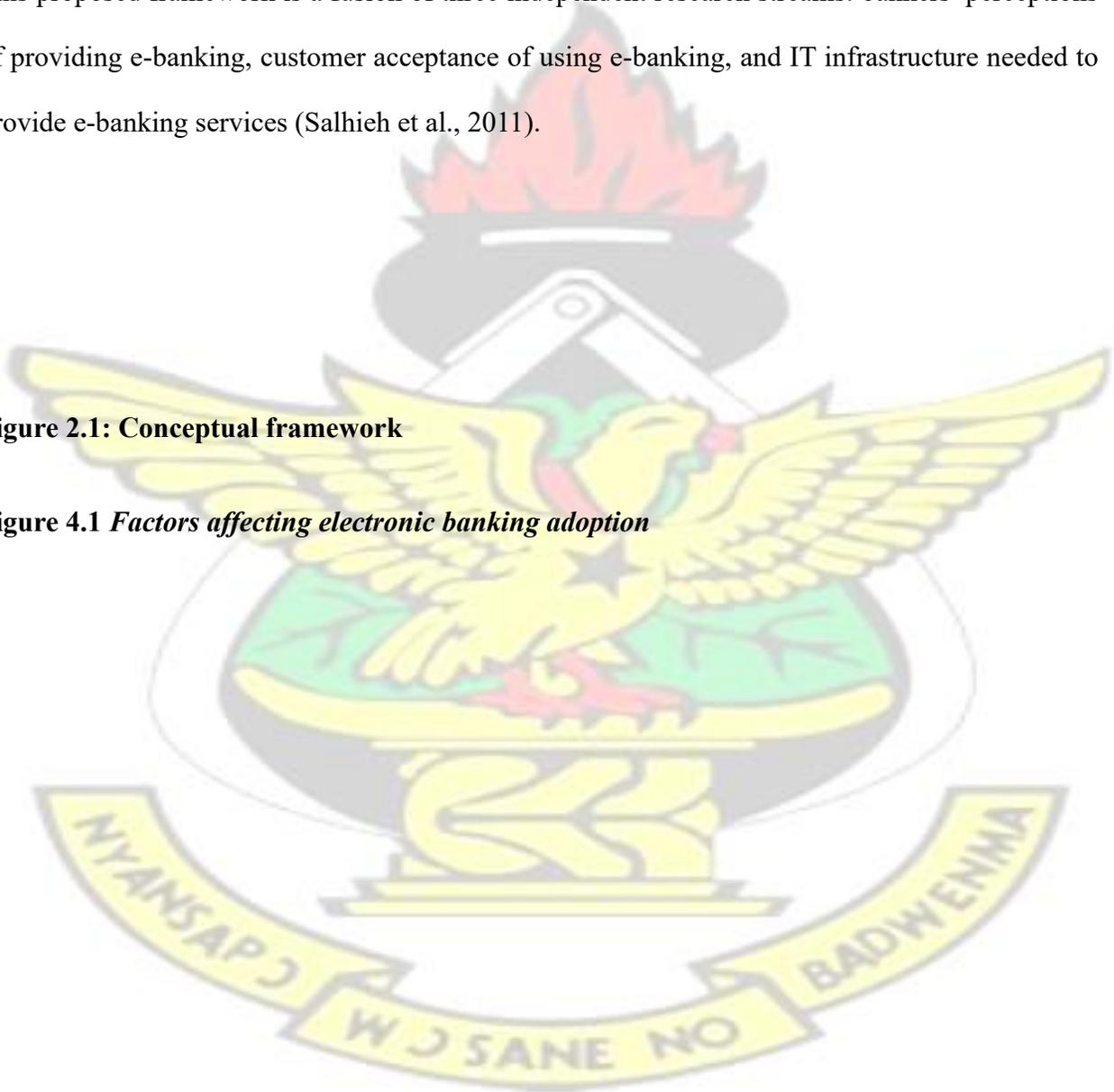
KNUST

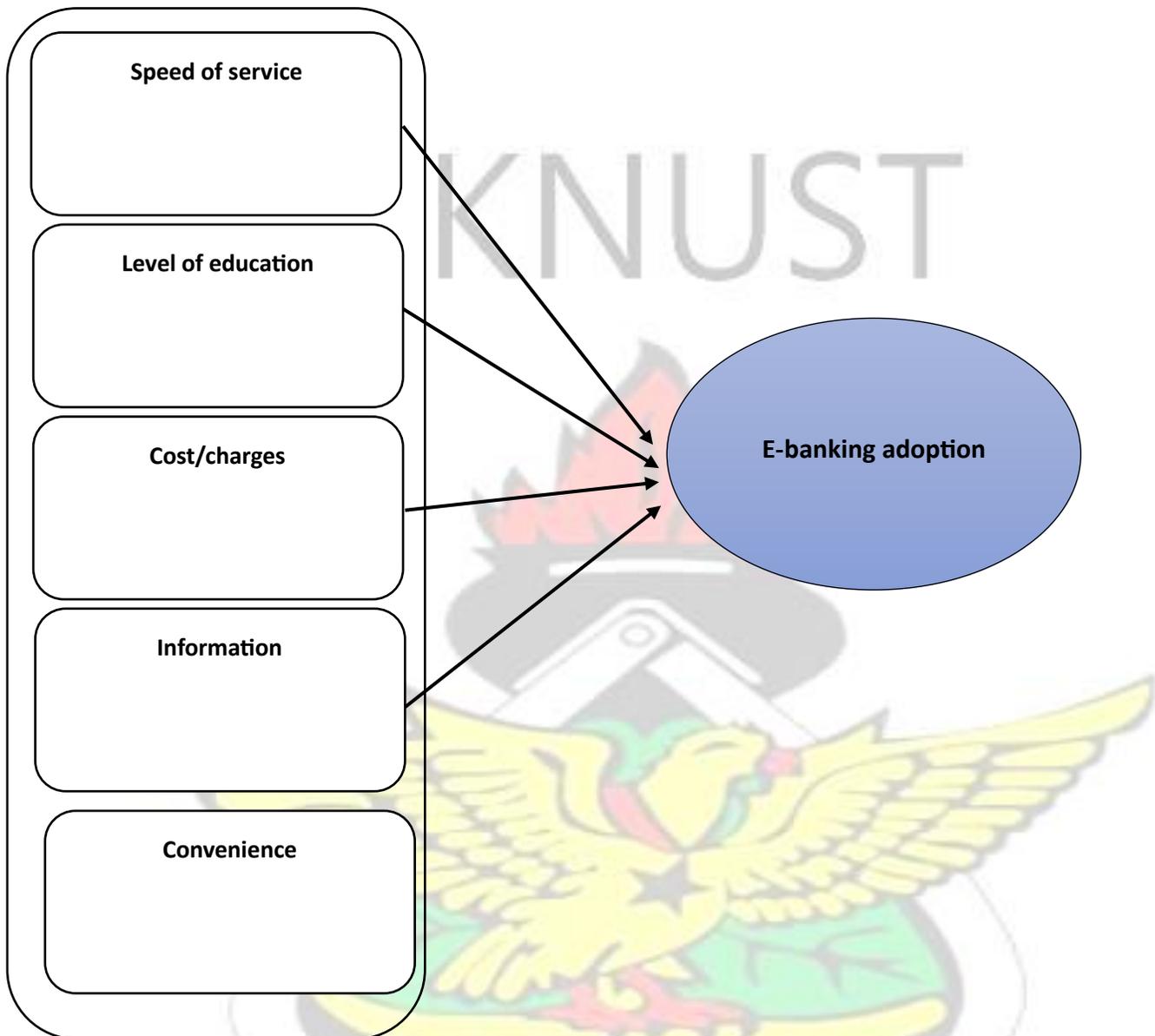
2.8 Conceptual framework

This proposed framework is a fusion of three independent research streams: bankers' perceptions of providing e-banking, customer acceptance of using e-banking, and IT infrastructure needed to provide e-banking services (Salhie et al., 2011).

Figure 2.1: Conceptual framework

Figure 4.1 *Factors affecting electronic banking adoption*





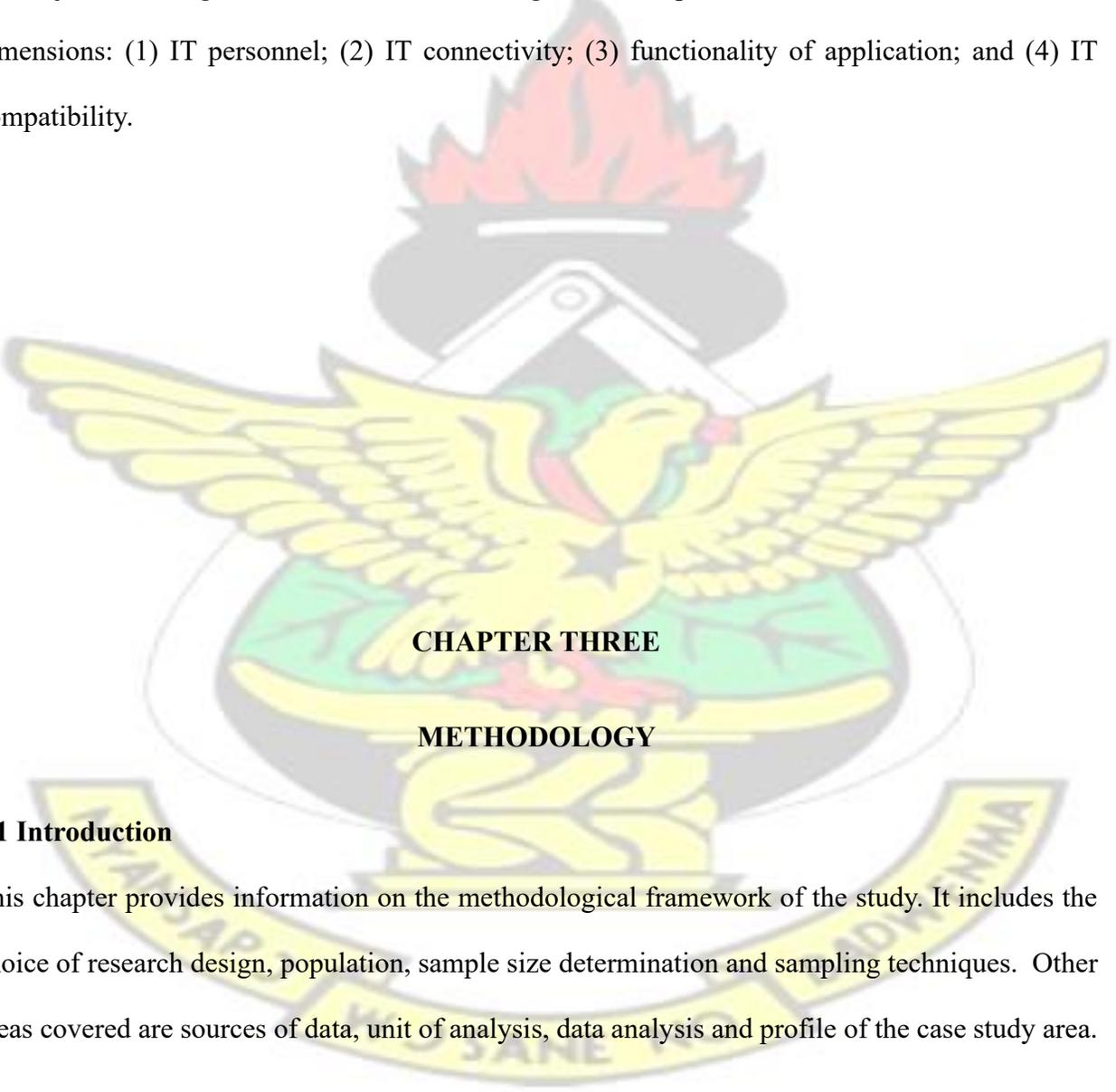
Source: Adapted from Salhieh et al. (2011)

Many studies have focused on the bankers' views on providing banking services using the ebanking. For example, Nath et al. (2001) measured the perceptions of bankers regarding the strategic and operational value of web-based banking, its benefits to customers and banks, and the key technology considerations. Also, Stamoulis et al. (2002) argued that the evaluation of an

information system (e-banking) should be seen as a form of communication, and they developed a model which included five different perspectives: customer perspective, marketing and sales perspective, finance perspective, technology perspective, and strategy perspective. These perspectives can be used to assess the business value of e-banking along two view points. The first is the internal, where the channel is considered as a resource whose utilization must be maximized. The second viewpoint is the external where the channel is an interface to the banks' customer base whose usage should directly support customer relationship management.

Karjaluto (2002) academic study determined the factors that influence the consumer attitudes toward e-banking. The study indicated that beliefs and attitudes toward e-banking varied between users and non-users of internet banking. Also, personal banking experience, and prior experience of computers and technology were the main factors underlying the attitude toward internet banking. On the other hand, Pikkarainen et al. (2004) studied consumer acceptance of online banking in the light of the technology acceptance model (TAM). They proposed the following variables: perceived usefulness, perceived ease of use, perceived enjoyment, information on online banking, security and privacy, and the quality of the internet connection. Their findings indicated that perceived usefulness and information on online banking were the main factors that influenced online banking acceptance. Also, Shanab (2005) identified five major factors affecting Jordanians' intentions to use internet banking. The factors were performance expectancy, social influence, self-efficacy, perceived trust, and locus of control. This component discusses the factors that influence e-banking acceptance by customers and it consists of four dimensions: (1) perceived usefulness; (2) perceived ease of use; (3) perceived enjoyment; and (4) security and privacy.

Still on e-banking, Elias (2000) proposed 13 criteria to evaluate e-banking web sites. These criteria are color scheme, type and shape of icons, page content, service offer, primary offer, ancillaries, category site in relation to bank size, professionalism, speed, consistency, personalization, security, and scalability. Also, Chiemeké (2006) evaluated 12 large online banks in Nigeria. His study identified security and inadequate operational facilities including proper telecommunications as the major inhibiting factors to internet banking. This component consists of four measurable dimensions: (1) IT personnel; (2) IT connectivity; (3) functionality of application; and (4) IT compatibility.



CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter provides information on the methodological framework of the study. It includes the choice of research design, population, sample size determination and sampling techniques. Other areas covered are sources of data, unit of analysis, data analysis and profile of the case study area.

3.2 Research Design

Three main research designs identified in most social science studies include but limited to exploratory, descriptive and the explanatory. This study adopted a descriptive research design involving a cross-sectional survey of customers of various commercial banks found within the Kumasi Metropolis. Descriptive design was chosen because it provides the researcher with an opportunity to identify patterns or trends in e-banking services. It also allows for the assessment of different variables influencing e-banking adoption. The researcher is optimistic that the choice of design is suitable for obtaining relevant data and performing adequate analyses to fulfil the general aim of the research. The study has also collected both qualitative and quantitative data through the use of appropriate research instruments.

3.3 Sources of Data

Two main data sources were harnessed for the study. Primary data which refers to field data gathered by first-hand experience (Saunders et al. 2007) was to ensure that information collected correlate with the objectives outlined for the study. The use of secondary data such as reports on subscription for various e-banking products also provide adequate guide for analyzing the patronage of e-banking services. The use of primary data was meant to improve the validity and reliability of data used. In collecting primary data, questionnaires and interviews were deployed.

3.5 Unit of Analysis

As noted by (Trochim, 2006), the unit of analysis must provide information on “who” or “what” is being analyzed. For the purpose of this study, the unit of analysis includes bank account holders from selected commercial banks within the Kumasi Metropolis. For this work, e-banking

challenges were analysed from customers' perspective. Specifically, respondents were grouped to reflect the type of banks they belonged to. Selected banks include Cal Bank, Barclays Bank, Ecobank, Stanchart, ADB, HFC Bank, Fidelity bank, Bank of Africa, Unibank, Zenith Bank, GCB and National Investment Bank (NIB).

3.5 Population and Sample Frame

The target population is the entire set of units for which the survey data are to be used to make inferences. Thus, the target population defines those units for which the findings of the survey are meant to generalize (Saunders et al., 2007). In line with the current study, the target population consists of all bank customers within the Kumasi Metropolis. Though the population is finite, information is scanty on the actual number of bank customers. It is however estimated that there are not less than 150,000 bank customers within the Kumasi Metropolis.

(<http://kma.ghanadistricts.gov.gh>).

3.6 Sample size

In most cases, using all elements of the target population is practically impossible. This therefore paves way for the use of a sample which must be representative of the entire population for the purpose generalization. Basing the calculation on the sample frame of

150,000 retail customers, a sample of 520 was chosen. The breakdown is shown below:

To arrive at the sample size, the following formula was used;

$$SS = \frac{Z^2 * (P) * (1-P)}{C^2}$$

Z = Z – value

P = Percentage of population picking a choice, expressed as decimal

C = Confidence interval, expressed as decimal

Z – Values (cumulative normal probability Table) represent the probability that a sample will fall within a certain distribution.

The Z – values for confidence levels are:

1.645 = 90% confidence level

1.96 = 95% confidence level

2.576 = 99% confidence level

Source: Godden (2004)

In line with the current study, the following values were used:

Z = 1.96 for 95 percent confidence level

P = 0.5

C = 0.05 (5 percent margin of error)

Calculation for the infinite population

$$SS = \frac{Z^2 * (P) * (1-P)}{C^2}$$

$$SS = \frac{1.96^2 * 0.5 * (1 - 0.5)}{0.05^2}$$

$$SS = \frac{3.8416 * 0.5 * 0.5}{0.0025}$$

$$SS = 384$$

Note: Finite population = 150,000

Note that 384 was the result from the initial calculation using the infinite population.

$$\begin{aligned} \text{New SS} &= \frac{SS}{\{1+(SS-1)\} \text{Pop.}} \\ &= \frac{384}{\{1+ (384-1)\} 150,000} \\ &= \frac{384}{1.00255} \end{aligned}$$

= 383

The calculation shows that the study cannot use less than 383 sample size. The researcher therefore settled on a sample size of 520.

3.7 Sampling technique

Sampling is done usually because it is impossible to test every single individual in the target population. However, the choice of sampling technique is very crucial as they have the tendency of influencing the quality of data collected. For this study, convenience sampling technique was used. Convenience sampling is a type of nonprobability sampling which involves the sample being drawn from that part of the population which is close to hand; thus, a respondent is selected because he or she is readily available and willing to participate in the study (Saunders et al. 2007). Selected banks include Cal Bank, Barclays Bank, Ecobank, Stanchart, ADB, HFC Bank, Fidelity bank, Bank of Africa, Unibank, Zenith Bank, GCB and National Investment Bank (NIB).

3.8 Data Collection Instrument

The main instrument used was questionnaires. Questionnaires were used to gather information on e-banking adoption and perspective of customers. The questionnaires were administered to customers of banks located within the Kumasi business hub (Adum) and KNUST commercial area. The questionnaires were basically closed-ended questions with few open-ended questions. In all, 520 questionnaires were administered. The advantage for using questionnaire includes the fact that it allows for quantitative analysis and also ensures that all respondents are asked the same set of questions. Questionnaires are also characterized with high confidence interval, high response rate. Selected banks include Cal Bank, Barclays Bank, Ecobank, Stanchart, ADB, HFC

Bank, Fidelity bank, Bank of Africa, Unibank, Zenith Bank, GCB and National Investment Bank (NIB).

3.9 Pilot Testing, Reliability and Validity Tests

The quality of every research is judged by the soundness and reliability of the analyses. Validity describes the extent to which a test measures what it was intended. The question of validity can be raised in the context of three points; the form of the test, the purpose of the test and the population for whom it is intended (Cronbach, 1990). According to Cronbach (1990) a validity coefficient of 0.70 is acceptable.

Again, in an effort to improve on the internal consistency of the instrument, questionnaires were pilot tested using 30 respondents located at the KNUST commercial area. This enabled the researcher to address sensitive and highly confidential issues in the questionnaire. Again, the pilot test also allowed the researcher to address concerns about the likert scale used.

3.10 Data Analysis

In analyzing the data gathered, the researcher was guided by the research questions and objectives outlined in chapter one. Descriptive statistical approaches used include t-test to compare means and regression analyses. Regression analysis was to examine the effect ebanking on customer satisfaction. All these analyses were by help of the statistical package of social scientists (SPSS).

3.11 Brief Profile of the Case Study

The Kumasi Metropolis is made up of the formal and the informal sectors. The Formal sector is characterized by businesses with corporate ownership, large-scale operation, capital-intensive and

the use of sophisticated technology and the good access to infrastructure and land. The informal sector structure of Kumasi is “a confusing maze of thousands of tiny workshops and enterprises with a complicated distribution and communication network at their disposal”. The major sectors of the economy fall under Trade/ Commerce/Services which accounts for about 71%, Manufacturing/Industry which takes up of 24% and the Primary Production sector which takes only 5%.

The service sector consists of an integrated system of markets at Adum CBD, Kumasi Central Market (single largest market in West Africa) with linkages to the satellite markets at Asafo, Bantama, Asawase, Ayigya, Ahinsan, Oforikrom, Tafo, Atonsu-Agogo, Santasi, Suame, Amakom, Bomso and Tarkwa, etc.

In addition to these, Banking, Insurance, Transportation, Hotels, Restaurants and Traditional caterers (chop bars) and other Tourist sites are found in the city. Kumasi is predominantly a trade/commerce (service economy inclusive) with an employment level of 71 per cent. This is followed by industry and agriculture with employment levels of 24 per cent and 5 per cent respectively. Kumasi has therefore established itself as a major commercial centre. Commercial activity is centred on wholesaling and retailing. Both banking and non-banking financial institutions also offer ancillary services. There are several financial institutions in the Metropolis. They include the Bank of Ghana, Insurance Companies, Forex Bureau as well as Rural Banks and these have multiple branches in the city providing financial services to the people in and around the City (<http://kma.ghanadistricts.gov.gh>).

KNUST

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSIONS

4.1 Introduction

This chapter deals with analysis and discussion from the field data collected through questionnaires. Out of an estimated population of 150, 000 retail customers, a sample of 520 was used. The presentation outline in this chapter entails demographic information of respondents, adoption of e-banking products among Ghanaian customers, factors that contribute to the adoption of e-banking among Ghanaian customers; challenges hindering the effective patronage of e-banking products in Ghana and customers' perception regarding the quality of e-banking services provided by banks in Ghana. The main research analytical tool used was Statistical Package for Social Scientists (SPSS).

4.2 Demographics

Demographic information affords readers the opportunity to understand the category of respondents who participated in the study. It also helps in effective critique of findings relative to the study area. As presented in table 4.1, approximately 53% of respondents who took part in the research were female retail account holders. The analysis also revealed that majority of respondents were first degree holders (37%) with approximately 27 percent being WASSCE or O' level holders. Those with post graduate qualifications constituted approximately 25 percent of the entire sample used. The study further revealed that majority of respondents were between the age bracket of 18 – 33years (60.6%). On the type of account held by respondents, the analyses indicated that those with savings account dominated the research. Based on the information below, it is fair to conclude that the study was dominated by savings account holders most of whom were female customers between the ages of 18 and 33. It therefore implies that subsequent analyses would be influenced by this background information.

Table 4.1: Background information

Demographics	Responses	Frequency	Percentages (%)
Gender	Male	245	47.1
	Female	275	52.9
	Total	520	100
Education	WASSCE/A/O level	140	26.9
	1 st degree	193	37.1
	Masters	92	17.7
	PhD	40	7.7
	Others (Diploma)	55	10.6
	Total	520	100

Age of respondents	18-25yrs	156	30.0
	26-33yrs	159	30.6
	34-41yrs	99	19.0
	42- 49yrs	66	12.7
	50yrs and above	40	7.7
	Total	520	100
Type of Account	Savings	319	61.3
	Current	140	26.9
	Fixed deposits	30	5.8
	Investment	25	4.8
	Others	6	1.2
	Total	520	100

Source: Field work, 2015.

4.3 Adoption of E-banking Products by Customers

In assessing the adoption of e-banking products among customers in Ghana, the researcher was guided by theories on innovation diffusion. The infamously diffusion model proposed by Rogers (1962) included five product or service characteristics postulated to influence consumer acceptance of new products and services: relative advantage, compatibility, simplicity/complexity, observability, and trial ability. In this part, the researcher first conducted a cross tabulation using age and selected e-banking products. The essence was to look at which ebanking product was mostly patronized by a particular age group if any.

Table 4.2: Age * E-banking-service Crosstabulation

	E-banking service	Total

		ATM banking	Credit Cards	Debit Cards	Mobile banking (SMS)	Electronic transfers (EFTs)	Internet banking	
18-25yrs	Count	130	6	10	0	5	5	156
	% of Total	25.0%	1.2%	1.9%	.0%	1.0%	1.0%	30.0%
26-33yrs	Count	119	10	5	20	5	0	159
	% of Total	22.9%	1.9%	1.0%	3.8%	1.0%	.0%	30.6%
34-41yrs	Count	74	15	5	5	0	0	99
	% of Total	14.2%	2.9%	1.0%	1.0%	.0%	.0%	19.0%
42- 49yrs	Count	36	0	15	0	0	15	66
	% of Total	6.9%	.0%	2.9%	.0%	.0%	2.9%	12.7%
50yrs and above	Count	25	5	0	5	0	5	40
	% of Total	4.8%	1.0%	.0%	1.0%	.0%	1.0%	7.7%
Total	Count	384	36	35	30	10	25	520
	% of Total	73.8%	6.9%	6.7%	5.8%	1.9%	4.8%	100.0%

Source: Field work, 2015.

As could be seen in table 4.2 above, the use of ATM recorded the highest percentage (73.8%). The breakdown shows that out of approximately 74 subscribers to ATM, 25 percent were between 18-25 years. Approximately 23 percent were between 26 – 33 years. Only 4.8 percent of users were above 50 years. Respondents who subscribed to credit cards were only 36 out of 520 (6.9%). Users of mobile banking and internet banking constituted 5.8 percent and 4.8 percent respectively. The findings suggest that most bank customers prefer using ATMs as compared to other e-banking products. As indicated in table 4.2, internet banking is one of the least patronized e-banking products. The implication is that banks must devise more aggressive strategies to promote internet banking.

The study also revealed that most subscribers to e-banking products use these services for cash withdrawals. Approximately 61 percent indicated that they used e-banking products for withdrawal purposes only. Details are presented in Table 4.2.1 below.

Table 4.2.1: Details of E-banking transactions

E-banking transactions	Frequency	Percent	Valid Percent
Cash withdrawal	319	61.3	61.3
Cash deposits & Cheque	62	11.9	11.9
Account information	67	12.9	12.9
Request for cheque book	20	3.8	3.8
Paying utility bills	15	2.9	2.9
Transfers	22	4.2	4.2
Total	15	2.9	2.9
	520	100.0	100.0

Source: Field work, 2015.

To further explore the rate of e-banking product adoption, respondents were asked to indicate the frequency with which they use these e-banking products. The scale given was *1=Never, 2=Once a month, 3=Every week, 4= At least twice every week, 5= very often when need arises.*

The analysis revealed that majority of users of e-banking services such as ATMs do so at least twice every week. See details in table 4.3.

Table 4.3: Frequency of E-banking usage

	N	Minimum	Maximum	Mean	Std. Deviation
Using Visa ATM	520	1.00	5.00	3.4769	1.58371

Using ATM	520	1.00	5.00	3.4635	1.50228
Cash Transfer	520	1.00	5.00	2.8654	1.71167
Mobile Banking	520	1.00	5.00	2.8596	1.60368
Cheque book Online	520	1.00	5.00	2.4712	1.65268
Utility Bill Online	520	1.00	5.00	2.1769	1.52546
Valid N (listwise)	520				

Source: Field work, 2015.

4.3.1 Customers' preference of Bank services

In ascertaining customers' preference of bank products, the analysis was done using one sample t-test. For a single sample test, the hypothesis was set as: $H_0: U = \text{or} > U_0$ and $H_a: U < U_0$. With H_0 representing the null hypothesis, H_a representing the alternative hypothesis and U_0 representing the hypothesized mean. The U_0 is the critical rating below which the variable is considered important. The Likert scale was, 1=most preferred and 6=Less preferred. Under this section, the lower ratings of 1, 2 and 3 were chosen for the rating scale as *most preferred*, *much preferred* and *preferred* respectively while the U_0 was set at 3.5, with 95% as the significance level in accordance with the antecedent. Three things must occur at the same time for an item to be accepted as measuring a particular dimension. 1) It must have a mean score of less than 3.5; 2) it must have a t-value of equal or greater ± 1.65 ; and 3) it must be statistically significant at 0.05 ($p\text{-value} = \text{or} < 0.05$). The absence of any would mean the rejection of that variable.

As shown in table 4.4 below, all five (5) products fell within a positive rating or scale indicating that customers admit using these services. However, ATM and the use of banking halls were the

most preferred options for customers. Internet and telephone banking were the least preferred options by customers. All variables were significant at 0.00.

Table 4.4: Customers preference of bank services

Customers' Preference	<i>Test Value = 3.5</i>				<i>Ranking</i>
	<i>Mean</i>	<i>T</i>	<i>Sig. (2tailed)</i>	<i>Mean Difference</i>	
Automatic Teller Machines (ATMs)/debit cards	1.5212	-32.578	.000	-1.97885	1 st
Branch (face to face) banking	2.7981	-8.322	.000	-.70192	2 nd
Mobile banking	2.8942	-7.577	.000	-.60577	3 rd
Internet banking	3.0442	-5.438	.000	-.45577	4 th
Telephone banking	3.8173	3.718	.000	.31731	5 th

Source: Field work, 2015.

4.3.2 Motivation for using E-banking products

This part of the analysis looked at motivating factors behind the use of e-banking products. Again, respondents were given a scale to choose from. The Likert scale was, 1=Strongly disagree, 2=disagree, 3=Neutral, 4=Agree, and 5=Strongly agree. Under this section, the higher ratings of 4, and 5 were chosen for the rating scale as *agree* and *strongly agree* respectively while the Uo was set at 3.5, with 95% as the significance level in accordance with the antecedent. The study found that three major variables accounted for why customers may opt for e-banking services; this included but not limited to speed of service, transaction charges and the need to avoid long queues in banking halls. All three were statistically significant at 0.05.

Table 4.5: Motivation for using e-banking services

Motivation for using e-banking services	Test Value = 3.5				
	Mean	T	Sig. (2tailed)	Mean Difference	Std. deviation
E-banking services are generally faster than traditional banking	3.6596	2.428	.016	.15962	1.49936
E-Banking services have no time limit since I can use them at any time of the day.	3.4519	-.854	.393	-.04808	1.28336
There is high degree of convenience in accessing Ebanking services.	3.4500	-.956	.340	-.05000	1.19303
E-banking channels are easier to use than traditional channels.	3.4423	-.966	.334	-.05769	1.36165
E-banking services are generally cheaper than traditional banking at the branch	3.1731	-5.286	.000	-.32692	1.41041
Using E-banking service is more prestigious than queuing at the bank halls.	3.6192	1.918	.056	.11923	1.41735

Source: Field work, 2015.

4.4 E-BANKING CHALLENGES

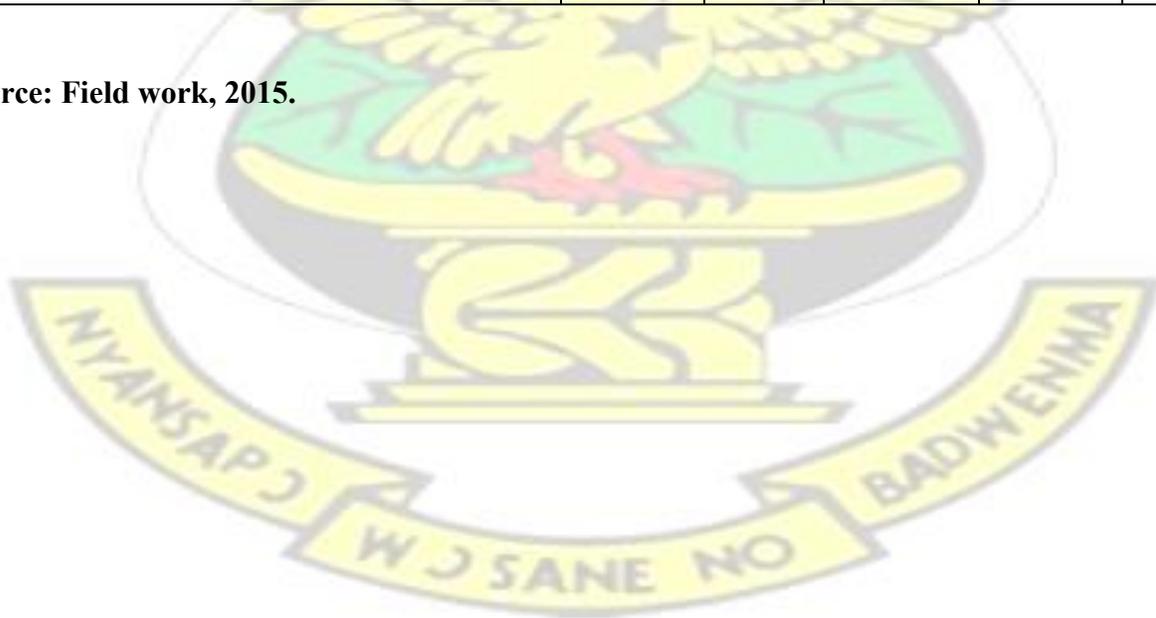
As part of the research objectives, the study explored challenges regarding the use of e-banking services. First was to look at the ability of respondents to adapt to the use of these products. Here again, respondents were given a scale to choose from. The Likert scale was, *1=Not at all conversant, 2=Somehow conversant, 3=Neutral, 4= conversant, 5= very conversant*. Under this section, the higher ratings of 4, and 5 were chosen for the rating scale as *conversant* and *very conversant* respectively while the Uo was set at 3.5, with 95% as the significance level in accordance with the antecedent.

The study found that most customers were not conversant with the use of e-banking services to request for cheque books online, payment of utility bills, checking bank statements and cash transfers. All three were statistically significant at 0.05.

Table 4.6: Customers adaptability level to e-banking products

Adaptability	<i>Test Value = 3.5</i>				
	Mean	<i>T</i>	<i>Sig.</i> (2-tailed)	<i>Mean Difference</i>	<i>Std. deviation</i>
Withdrawing money/ balance using bank ATMs	3.5769	1.223	.222	.07692	1.43378
Requesting cheque book online	2.3788	-20.261	.000	-1.12115	1.26184
Paying utility bills online	2.3731	-20.913	.000	-1.12692	1.22877
Checking bank statement using mobile banking	2.9423	-9.468	.000	-.55769	1.34313
Cash transfer	2.9845	-8.430	.000	-.51553	1.38774
The use of VISA ATMs (withdrawing from different bank ATMs)	3.4692	-.505	.614	-.03077	1.39052
Mobile money services	3.4827	-.291	.771	-.01731	1.35709

Source: Field work, 2015.



4.4.1 Other E-banking challenges

The second part of the challenge related to the convenience of using these e-banking products. In ascertaining these challenges, the analysis was done using one sample t-test, after which the results were compared. For a single sample test, the hypothesis was set as: $H_0: U = \text{or} > U_0$ and $H_a: U < U_0$. The U_0 is the critical rating below which the variable is considered important. The Likert scale was, 1=Strongly agree, 2=Agree, 3=Neutral, 4=Disagree, and 5=Strongly disagree. Under this section, the lower ratings of 1 and 2 were chosen for the rating scale as *strongly agree* and *agree* respectively while the U_0 was set at 2.5, with 95% as the significance level in accordance with the antecedent. Results are presented in table 4.7.

Table 4.7: Other e-banking challenges

Other e-banking challenges	Test Value = 2.5				
	Mean	T	Sig. (2tailed)	Mean Difference	Std. deviation
Security concerns is the most discouraging factor in using E-banking services	3.5769	17.128	.000	1.07692	1.43378
I'm not aware of E-banking services provided by my bank	2.3788	-2.189	.029	-.12115	1.26184
E-banking services generally do not have privacy of customer's information.	2.3731	-2.355	.019	-.12692	1.22877
I still prefer traditional (Branch) banking to e-banking	2.9423	7.509	.000	.44231	1.34313
Only few banks provide interbank E-banking services	2.9845	7.922	.000	.48447	1.38774
Some Banks charge high fees on using E-banking services.	3.4692	15.895	.000	.96923	1.39052
Information provided on e-banking platforms are very often misleading	3.4827	16.512	.000	.98269	1.35709
Services on e-banking systems often delay	2.8096	4.722	.000	.30962	1.49511
There's often unnecessary charges for e-banking services	3.4827	16.851	.000	.98269	1.32984

Subscribing to e-banking services (i.e SMS alert) is often abused by bank officials for promotions 41	3.5154	18.865	.000	1.01538	1.22740
---	--------	--------	------	---------	---------

Source: Field work, 2015.

Table 4.7 shows that users of e-banking products were much concerned about the following:

First is the fact that most customers had doubts about the security of their transactions especially about the media reports about ATM frauds and many online fraudsters. Again, some customers were of the view that, very little information has been provided by banks on e-banking products. For those who have already subscribed to these e-banking products, there are reports of frequent abuse by banks to use information provided for promotional gains which is becoming a nuisance to many customers. It was also not surprising to discover that many customers still preferred the tradition banking option of having to use withdrawal books even if they could do such transactions using ATMs. One may be tempted to assume that such preferences may come from respondents with low level of education but reverse was the case.

The study also found that very few banks provided VISA ATM products which allow card holders from different banks to withdraw or transact business at one terminal. Issues about high fees also came to the fore.

4.5 Perception regarding the quality of e-banking services provided by banks in Ghana

Having looked at e-banking adoption rate and challenges thereof, the researcher shifted attention to perception of customers about the quality of e-banking products. Respondents were given a likert scale of 1- 5. Where 1=very poor and 5= very good. Under this section, the higher ratings of 4, and 5 were chosen for the rating scale as *good* and *very good* respectively while the Uo was set at 3.5, with 95% as the significance level in accordance with the antecedent. For an item to be accepted as measuring a particular dimension. 1) It must have a mean score of less than 3.5; 3) it

must have a t-value of equal or greater ± 1.65 ; and 3) it must be statistically significant at 0.05 (p-value = or < 0.05). The absence of any would mean the rejection of that variable.

As presented in table 4.8 below, respondents were pleased with services provided through e-banking platforms except for the fact that some employees did not have enough insight about most e-banking services. There were also issues raised about the consistency in maintenance charges.

Table 4.8: Quality of e-banking services

Quality of E-banking services	<i>Test Value = 3.5</i>				
	Mean	<i>T</i>	<i>Sig. (2tailed)</i>	<i>Mean Difference</i>	<i>Std. deviation</i>
Subscription / application processes for e-banking services	3.6115	1.921	.055	.11154	1.32381
Reliability of ATMs on 24/7 basis	3.8173	6.457	.000	.31731	1.12053
Safety of transactions on e-banking platforms	3.6192	2.679	.008	.11923	1.01492
Relationship management for e-banking services	3.3288	-3.809	.000	-.17115	1.02452
Consistency of maintenance charges	3.2692	-4.918	.000	-.23077	1.07009
Knowledge of bank employees on e-banking products	3.6538	3.226	.001	.15385	1.08741
Prompt feedback on accounts	3.5692	1.418	.157	.06923	1.11351
Flexibility of service usage	3.6173	2.546	.011	.11731	1.05059
Accessibility of self-service technologies such as ATMs, E-zwich etc.	3.5115	.249	.803	.01154	1.05525
Convenience of using e-banking service	3.6635	3.209	.001	.16346	1.16144

Source: Field work, 2015.

4.6 Regression Analysis on the Adoption of E-banking Products

This part of the study looked at factors that influence the adoption of e-banking among customers. As noted from literature, Salhieh et al. (2011) proposed a framework which fused three independent research streams: bankers' perceptions of providing e-banking, customer acceptance of using e-banking, and IT infrastructure needed to provide e-banking services. For the purpose of this study, the researcher expanded the variables to include information, speed of service, level of education, convenience and service charges/cost. The reason for selecting these variables relates to the fact that the study focused on e-banking adoption from customers' perspective. Again, from the previous analyses, it came to the fore that customers' decisions were influenced by these factors though not limited to only these 5 items.

Table 4.9: Regression analysis

Source: Field work, 2015.

Independent variable	Dependent variable (e-banking adoption) (Information, cost/charges, customers' level of education, speed of service, and convenience)						R	
	R ²	Adj. F-Stats	B	Sig.	Std.	T-	Error Values	
(Constant)	.915 ^a	.838	.836	525.160	1.025	.000	.085	12.077
Information					.044	.006	.016	2.763
charges					-.059	.000	.016	-3.573
Level of education					-.093	.000	.015	-6.378
speed of service					.419	.000	.015	28.768
Convenience					.327	.000	.018	17.968

Source: Field work, 2015.

Note:

R represents the correlation or relationship between the dependent and the independent variables
*R*² represents how much of the dependent variable can be explained by the independent variables.
B represents the coefficients of the independent variables.

Sig. represents the statistical significance level of the model (the acceptable level of significance for this research was 0.05).

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.915 ^a	.838	.836	.40985

a. Predictors: (Constant), Information, cost/charges, customers' level of education, speed of service, and convenience

The output in the Table 4.9 represents the multiple regressions to establish factors that influence e-banking adoption by customers in Ghana. The regression equation was therefore $y = a + b_1X_1 + b_2X_2 + b_3X_3$.

When the values in table 4.9 are computed, the equation becomes; $y =$

$$1.025 + 0.044 (X_1) - 0.059 (X_2) - 0.093 (X_3) + 0.419(X_4) + 0.327(X_5)$$

From the analysis above, the study found that the independent variables had a high (strong) relationship with e-banking adoption. The correlation value was 0.915 (when the correlation value falls between 0.7 and 1.0, it is considered a high correlation). The value was also positive which indicates that when the independent variables increase by 100%, e-banking adoption also increases and vice versa. The *R*² value indicates that approximately 84% (.838) tendency of ebanking

adoption (dependent variable) could be explained using the independent variables (Information, cost/charges, customers' level of education, speed of service, and convenience).

The study found that effort by banks to provide information about various e-banking products was likely to influence the adoption rate by approximately 4%. This was significant at $0.006 < 0.05$. The analysis also revealed that low service charges have an effect on the adoption of e-banking product by approximately 6 percent. It therefore means that customers who are price sensitive will most likely decline using e-banking service due to deductions in the form of maintenance / service charges. This item was also significant at 0.05

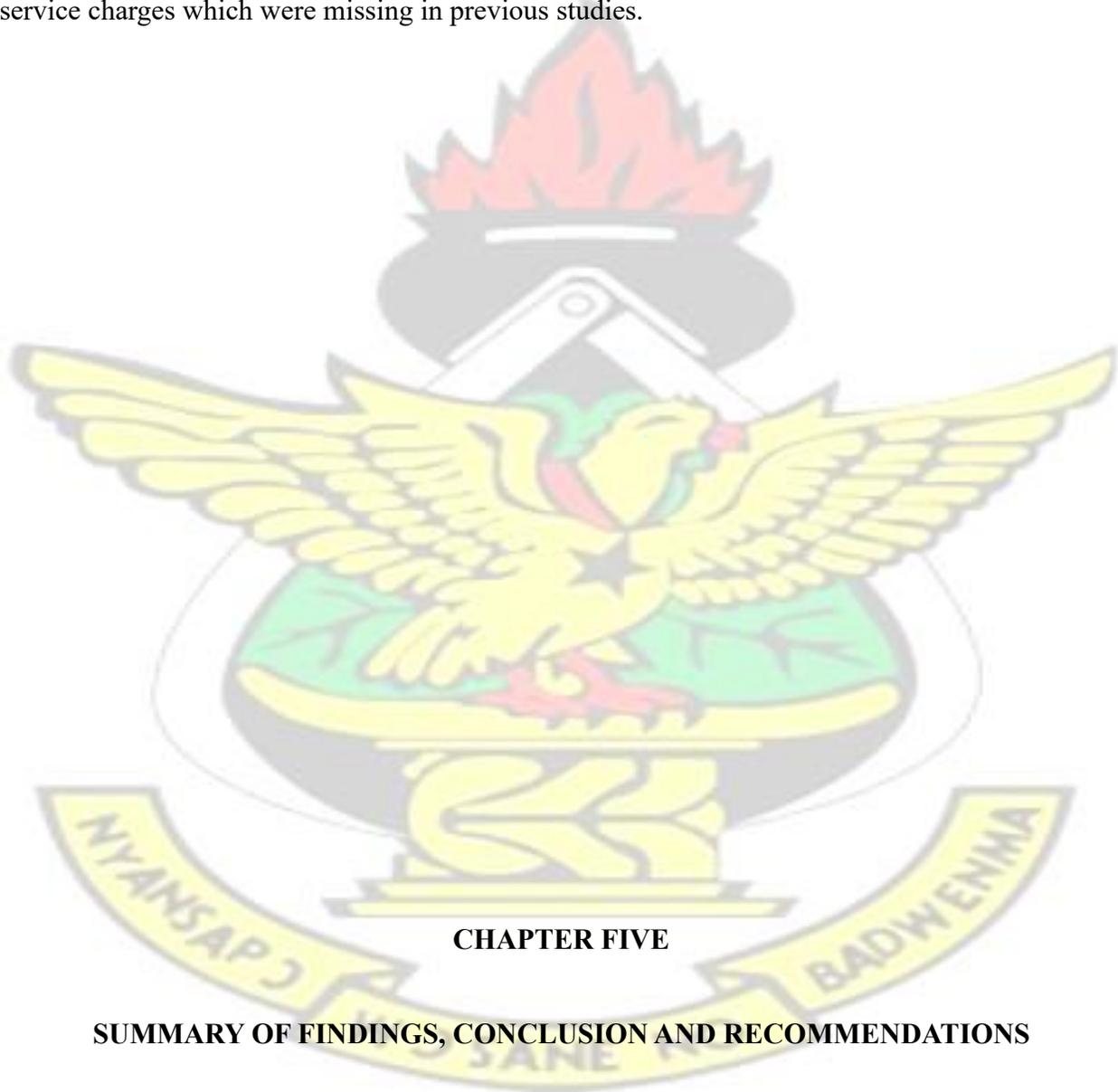
The third variable used in the analysis was the educational level of users. It is not surprising to find that most customers who failed to use e-banking products cite the issue of not being able to read and understand information on these platforms. Many of these customers also lack the knowledge required to perform basic computer functions. The study found that low level of education influences the level of e-banking adoption by approximately 9 percent.

Still on factors that influence e-banking adoption, the research identified speed as one motivating factor for using e-banking products. The analysis revealed that if customers are convinced that ebanking products had the ability to reduce cycle or turnaround time, they would be encouraged to use these products. As presented in the regression equation, speed has the potential of influencing e-banking adoption by 41 percent.

The final item was convenience or ease of use. From literature, Pikkarainen et al. (2004) studied consumer acceptance of online banking in the light of the technology acceptance model (TAM). They proposed the following variables: perceived usefulness, perceived ease of use, perceived enjoyment, information on online banking, security and privacy, and the quality of the internet connection. In this this study, the study found that convenience or ease of use influenced the level

of adoption by approximately 33 percent. In today's world, customers are always seeking convenience and any service provider that meets this requirement is likely to enjoy a competitive edge over others. This item was also significant at 0.05.

The findings are unique in the sense that variables used were identified by customers and not from the researcher's own perspective. Again, the study added other factors such as education and service charges which were missing in previous studies.



CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the major findings on e-banking adoption among bank retail customers in Ghana. The chapter also makes some interesting recommendations aimed at improving the use e-banking products. The final part of the chapter provides conclusion and some suggestion for future research.

5.2 Summary of Findings

This section provides summary of findings from the previous chapter.

5.2.1 Adoption of E-banking Products by Customers

In assessing the adoption of e-banking products among customers in Ghana, the researcher was guided by theories on innovation diffusion. As presented in table 4.2 (Chapter 4), the study found that the use of ATM recorded the highest percentage (73.8%). The breakdown showed that out of approximately 74 subscribers to ATM, 25 percent were between 18-25 years. Approximately 23 percent were between 26 – 33 years. Only 4.8 percent of users were above 50 years. Respondents who subscribed to credit cards were only 36 out of 520 (6.9%). Users of mobile banking and internet banking constituted 5.8 percent and 4.8 percent respectively. The findings further revealed that most bank customers preferred ATMs as compared to other e-banking products. Internet banking was one of the least patronized e-banking products.

In ascertaining customers' preference of bank products, the analysis was done using one sample t-test. As shown in table 4.4 (chapter 4), all five (5) products fell within a positive rating or scale indicating that customers admitted using these services. However, ATM and the use of banking halls were still the most preferred options for customers. Internet and telephone banking were the least preferred options.

The study also found that three major variables accounted for why customers opt for e-banking services; this included but not limited to speed of service, transaction charges and the need to avoid long queues in banking halls.

5.2.2 E-Banking Challenges

E-banking is not without challenges. The study found that most customers were not conversant with the use of e-banking services to request for cheque books online, payment of utility bills, checking bank statements and cash transfers. All three were statistically significant at 0.05.

The second part of the challenge related to the convenience of using these e-banking products. In ascertaining these challenges, the analysis was done using one sample t-test, after which the results were compared. First is the fact that most customers had doubts about the security of their transactions especially about the media reports about ATM frauds and many online fraudsters. Again, some customers were of the view that, very little information has been provided by banks on e-banking products. Those who have already subscribed to these e-banking products reported of frequent abuse by banks to use information provided for promotional gains which is becoming a nuisance to many customers. It was also not surprising to discover that many customers still preferred the tradition banking option of having to use withdrawal books even if they could do such transactions using ATMs. The study also found that very few banks provided VISA ATM products which allow card holders from different banks to withdraw or transact business at one terminal.

5.2.3 Perception regarding the quality of e-banking services provided by banks in Ghana

Having looked at e-banking adoption rate and challenges thereof, the researcher shifted attention to perception of customers about the quality of e-banking products. The study found that respondents were pleased with services provided through e-banking platforms except for the fact

that some employees did not have enough insight about most e-banking services. There were also issues raised about the consistency in maintenance charges.

5.2.4 Regression Analysis on the Adoption of E-banking Products

In examining factors that influence the adoption of e-banking, the researcher conducted regression analysis using 5 variables (Information, cost/charges, customers' level of education, speed of service, and convenience). The regression equation found was $y = 1.025 + 0.044 (X_1) - 0.059 (X_2) - 0.093 (X_3) + 0.419(X_4) + 0.327(X_5)$

The study found that the independent variables had a high (strong) relationship with e-banking adoption. The correlation value was 0.915 (when the correlation value falls between 0.7 and 1.0, it is considered a high correlation). The value was also positive which indicates that when the independent variables increase by 100%, e-banking adoption also increases and vice versa. The R^2 value indicates that approximately 84% (.838) tendency of e-banking adoption (dependent variable) could be explained using the independent variables.

The study found that effort by banks to provide information about various e-banking products was likely to influence the adoption rate by approximately 4%. This was significant at $0.006 < 0.05$. The analysis also revealed that low service charges have an effect on the adoption of e-banking product by approximately 6 percent. It therefore means that customers who are price sensitive will most likely decline using e-banking service due to deductions in the form of maintenance / service charges. This item was also significant at 0.05

The third variable used in the analysis was the educational level of users. The study found that low level of education influences the level of e-banking adoption by approximately 9 percent.

Still on factors that influence e-banking adoption, the research identified speed as one motivating factor for using e-banking products. The analysis revealed that if customers are convinced that ebanking products had the ability to reduce cycle or turnaround time, they would be encouraged to use these products. As presented in the regression equation, speed has the potential of influencing e-banking adoption by 41 percent.

The final item was convenience or ease of use. The study found that convenience or ease of use influenced the level of adoption by approximately 33 percent.

5.3 Recommendation

On the basis of the above findings, the following recommendations were made:

In trying to increase the level of e-banking adoption, it is recommended that promotional campaigns are geared toward educating customers on how to use e-banking products especially internet banking. If internet banking is to be taken seriously, banks must be more committed to replying all emails within 48 hours maximum. Also, the focus on internet banking must target people with appreciable level of education.

Banks must also endeavour to guarantee the safety and security of online transactions. This will go a long way to instill confidence in the adoption of e-banking products. It is also possible for banks to leverage on other areas of operation without having to charge high fees for e-banking products.

Banks should also commit more resources to training employees on the use of e-banking products. Additionally, commercial banks in the country must embrace the interbank platform to make VISA

services more appealing. It is also possible to adopt creative promotional campaigns to encourage trial.

5.4 Conclusion

In assessing the level of e-banking adoption, the study covered a list of proposed frameworks.

First is a fusion of three independent research streams: bankers' perceptions of providing ebanking, customer acceptance of using e-banking, and IT infrastructure needed to provide ebanking services. Again, bankers' views on providing banking services using e-banking was measured regarding the strategic and operational value of internet banking, its benefits to customers and banks, and the key technology considerations. The study found that five factors have the potential to influence the adoption of e-banking (Information, cost/charges, customers' level of education, speed of service, and convenience) in Ghana. The correlation value was 0.915). The value was also positive which indicates that when the independent variables (Information, cost/charges, customers' level of education, speed of service, and convenience) increase by 100%, e-banking adoption (dependent variable) also increases and vice versa. The R^2 value indicates that approximately 84% (.838) tendency of e-banking adoption (dependent variable) could be explained using the independent variables.

5.5 Areas for Future Research

The following have been suggested for further research:

1. Internet penetration and its effect on online banking in Ghana.
2. Trend analysis of internet banking growth in Ghana

3. Assessment E-banking strategy canvass for selected banks in Ghana **REFERENCES**

Abbate, A. (1999), "For small banks, future lies in technology and tight focus", *American Banker*, Vol. 164 No. 17, p. 8. Abd El-Aziz, 2009

Abdul Shanab, E. (2011), "Internet banking and customers' acceptance in Jordan the UNIFIED models perspective", unpublished thesis, Southern Illinois University, Carbondale, IL.

Abor, J. (2004). *Technological Innovations and Banking in Ghana: An evaluation of customers' perceptions*. Accra, University of Ghana, Legon.

Adriana, C. (2006). Forms of electronic banking. *Journal of internet banking*, Vol. 16(6), Bank of Slovenia, Narodna.

Agarwal, R., Sambamurthy, V. and Stair, R.M. (2000), "Research report: the evolving relationship between general and specific computer self-efficacy: an empirical assessment", *Information Systems Research*, Vol. 11 No. 4, pp. 418-30.

Ainscough, T.L. and Luckett, M.G. (1996), "The internet for the rest of us: marketing on the World Wide Web", *Journal of Consumer Marketing*, Vol. 13 No. 2, pp. 36-47

Aladwani, A. M. (2001). *Online banking: a field study of drivers, development challenges and expectations*. *International Journal of Information and Management*, 2 (1), 213–225.

Alsajjan, B. and Dennis, C. (2006), "The impact of trust on acceptance of online banking", *European Association of Education and Research in Commercial Distribution*, Brunel University, London, 27-30 June, pp. 1-19.

Balachandher K., G., Santha V., Norhazlin I., & Rajendra P., (2001). *Electronic banking in Malaysia: A note on Evolution of Services and Consumer Reactions*.

Black, N.F., Lockett, A., Winklhofer, H. and Ennew, C. (2001), "The adoption of internet financial services: a qualitative study", *International Journal of Retail & Distribution Management*, Vol. 29 No. 8, pp. 390-8.

Busch, B. M., (1995), "The implications of information technology infrastructure for business process redesign", *MIS Quarterly*, Vol. 23 No. 2, pp. 159-82.

- Casalo R., Kabir, H.M. and Ahmad, A.U.F. (2008), "Quality perception of the customers towards domestic Islamic banks in Bangladesh", *Journal of Islamic Economics, Banking and Finance*, Vol. 5 No. 1, pp. 109-32.
- Chan, S.C. and Lu, M.T. (2004), "Understanding internet banking adoption and use behavior: a Hong Kong perspective", *Journal of Global Information Management*, Vol. 12 No. 3, pp. 21-43.
- Chau, P.Y.K. and Hu, P.J.H. (2001), "Information technology acceptance by individual professionals: a model comparison approach", *Decision Sciences*, Vol. 32 No. 4, pp. 699-719.
- Chiemeke, S. (2006), "The adoption of internet banking in Nigeria: an empirical investigation", *Journal of Internet Banking and Commerce*, Vol. 11 No. 3.
- Childers, T.L. (1986), "Assessment of the psychometric properties of an opinion leadership scale", *Journal of Marketing Research*, Vol. 23, pp. 84-188.
- Chorofas, D. N. (1988). *Electronic funds transfer*. Butterworth's, London, UK.
- Cronbach, L. (1990). *Essentials of psychological testing*. Harper and Row, New York.
- Dabholkar, F. (1996), "Extrinsic and intrinsic motivation to use computers in the workplace", *Journal of Applied Social Psychology*, Vol. 22 No. 14, pp. 11-32.
- Daniel, E. (1999), "Provision of electronic banking in the UK and the republic of Ireland", *International Journal of Bank Marketing*, Vol. 17 No. 2, pp. 72-82
- Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, Vol. 1, September, pp. 319-39.
- Eid, M.I. (2011), "Determinants of e-commerce customer satisfaction, trust, and loyalty in Saudi Arabia", *Journal of Electronic Commerce Research*, Vol. 12 No. 1, pp. 78-93.
- Embidi, P., Marti'n, M. and Zorrilla, V. (1998), *Marketing Financiero*, McGraw-Hill, Madrid.
- Filotto, U., Tanzi, P.M. and Saita, F. (1997), "Customer needs and front-office technology adoption", *International Journal of Bank Marketing*, Vol. 15 No. 1, pp. 13-21.

Friedman, B., Kahn, P.H. Jr and Howe, D.C. (2000), "Trust online", *Communications of the ACM*, Vol. 43 No. 2, pp. 34-40.

Fundacio'n Banco Bilbao Vizcaya Argentaria (BBVA) (2005), *Estudio sobre Internet en Espan~a*, Unidad de Estudios de Opini'o'n Pu'blica del BBVA, Bilbao.

Federal Trade Commission (1992), *FTC Guidelines for the Use of Environmental Marketing Claims*, FTC, Washington, DC.

Gandy, T. (1995), "Banking in e-space", *The Banker*, Vol. 145 No. 838, pp. 74-6.

Gatignon, H. and Robertson, T.R. (1985), "A propositional inventory for new diffusion research", *Journal of Consumer Research*, Vol. 11, March, pp. 849-67.

Gattiker, V.E. (1992), *Technology-mediated Communication*, W. de Gruyter, New York, NY

Gefen, D. and Straub, D.W. (1997), "Gender differences in the perception and use of e-mail: an extension to the technology acceptance model", *MIS Quarterly*, December, pp. 389-99

Gerrard, P. and Cunningham, J. (2003), "The diffusion of internet banking among Singapore consumers", *International Journal of Bank Marketing*, Vol. 21 No. 1, pp. 16-28

Giese, J.L. and Cote, J.A. (2000), "Defining consumer satisfaction", *Academy of Marketing Science Review*, Vol. 1, pp. 1-34.

Gronroos, C. (1991), "The marketing strategy continuum: towards a marketing concept for the 1990s", *Management Decision*, Vol. 29 No. 1, p. 9.

Hoffman, D.L. and Novak, T.P. (1996), "Marketing in hypermedia computer-mediated environments: conceptual foundations", *Journal of Marketing*, Vol. 60 No. 3, pp. 50-68.

Hoffman, D.L., Novak, T.P. and Peralta, M. (1999), "Building consumer trust online", *Communications of the ACM*, Vol. 42 No. 4, pp. 80-5.

Hong, W., Thong, J.Y.L., Wong, W.M. and Tam, K.Y. (2001), "Determinant of user acceptance of digital libraries: an empirical examination of individual differences and system characteristics", *Journal of Management Information Systems*, Vol. 18 No. 3, pp. 97-124.

Howard, J.A. and Sheth, J.N. (1969), *The Theory of Buyer Behavior*, Wiley, New York, NY.

Howcroft, B., Hamilton, R. and Hewer, P. (2002), “Consumer attitude and the usage and adoption of home-based banking in the United Kingdom”, *The International Journal of Bank Marketing*, Vol. 20 No. 3, pp. 111-21.

Huang, J., Huang, W., Zhao, C. and Huang, H. (2004), “An e-readiness assessment framework and two field studies”, *Communications of the Association for Information System*, Vol. 14 No. 19, pp. 364-86.

Jayawardhena, C. and Foley, P. (2000), “Changes in the banking sector – the case of Internet banking in the UK”, *Internet Research: Electronic Network Applications and Policy*, Vol. 10 No. 1, pp. 19-31.

Johnson, R.D. and Marakas, G.M. (2000), “Research reports: the role of behavior modeling in computer skills acquisition: toward refinement of the model”, *Information Systems Research*, Vol. 11 No. 4, pp. 402-17.

Jun, M. and Cai, S. (2001), “The key determinants of internet banking service quality: a content analysis”, *International Journal of Bank Marketing*, Vol. 19 No. 7, pp. 276-91.

Karimzadeh R. and Allam K. M., (2012). Internet banking adoption in India. *Journal of Indian Business Research* 6:2, 155-169.

Karjaluoto, H., Mattila, M. and Pentto, T. (2002), “Factors underlying attitude formation towards online banking in Finland”, *International Journal of Bank Marketing*, Vol. 20 No. 6, pp. 261-72.

Kennickell, A.B. and Kwast, M.L. (1997), “Who uses electronic banking? results from the 1995 Survey of Consumer Finances”, paper presented at the Annual Meeting of the Western Economic Association, Seattle, WA, 2004, available at: www.federalreserve.gov/pubs/feds/1997/199735/199735pap.pdf (accessed March 20, 2015).

Kumbhar, A. (2011), “Personalized hypermedia and international privacy”, *Communications of the ACM*, Vol. 45 No. 5, pp. 64-7.

- Kuo, Y.-F. and Wu, C.-M. (2012), "Satisfaction and post-purchase intentions with service recovery of online shopping websites: perspectives on perceived justice and emotions", *International Journal of Information Management*, Vol. 32, pp. 127-138
- Kuo, Y.F. and Wu, C.M. (2008), "Satisfaction and post-purchase intentions with service recovery of online shopping websites: perspectives on perceived justice and emotions", *International Journal of Information Management*, Vol. 32, pp. 127-138.
- Labay, D.G. and Kinnear, T.C. (1981), "Exploring the consumer decision process in the adoption of solar energy systems", *Journal of Consumer Research*, December, pp. 271-7.
- Laforet K. and Li, B. (2005), "Initial trust and the adoption of B2C e-commerce: the case of internet banking", *ACM SIGMIS Database Homepage Archive*, Vol. 35 No. 2, pp. 50-6
- Lafuente, N. (2005), "Understanding factors affecting trust in and satisfaction with mobile banking in Korea: a modified De Lone and McLean's model perspective", *Interacting with Computers*, Vol. 21 Nos 5/6, pp. 385-392.
- Lassala, C., Ruiz, C. and Sanz, S. (2010), "Implicaciones de la satisfacción, confianza y lealtad en el uso de los servicios bancarios online. Un análisis aplicado al mercado español", *Revista Europea de Dirección y Economía de la Empresa*, Vol. 19 No. 1, pp. 27-46.
- Lee, E. and Lee, J. (2000), "Haven't adopted electronic financial services yet? The acceptance and diffusion of electronic banking technologies", *Financial Counseling and Planning*, Vol. 11 No. 1, pp. 49-60.
- Lee, E., Lee, J. and Schumann, D. (2002), "The influence of communication source and mode on consumer adoption of technological innovations", *Journal of Consumer Affairs*, Vol. 36 No. 1, pp. 1-28.
- Lee, E., Lee, J. and Eastwood, D. (2003), "A two-step estimation of consumer adoption of technology-based service innovations", *Journal of Consumer Affairs*, Vol. 37 No. 2, pp. 256-82.
- Lockett, A. and Littler, D. (1997), "The adoption of direct banking services", *Journal of Marketing Management*, Vol. 13, pp. 791-811.

Mattila, M. (2001), *Essays on Customers in the Dawn of Interactive Banking*, Jyvaskyla Studies in Business and Economics, Jyvaskylan Yliopisto

Maugis, V., Choucri, N., Madnick, S., Siegel, M., Gillett, S., Haghseta, F., Zhu, H. and Best, M. (2004), *GLOBAL E-READINESS – FOR WHAT? Readiness for e-Banking*, Composite Information Systems Laboratory, Sloan School of Management Massachusetts Institute of Technology, Cambridge, MA (02142).

McMahon, L. (1996), “Dominance and survival in retail financial services: use of electronic delivery channels to optimize distribution strategy”, *Journal of Financial Services Marketing*, Vol. 1 No. 1, pp. 35-47.

Mick, D.G. and Fournier, S. (1998), “Paradoxes of technology: consumer cognizance, emotions, and coping strategies”, *Journal of Consumer Research*, Vol. 25, September, pp. 123-42.

Moliner Y.G. (2001), “Extending the TAM for a world-wide-web context”, *Information & Management*, Vol. 38, pp. 217-230.

Mols, N.P. (1999), “The internet and the banks’ strategic distribution channel decisions”, *International Journal of Bank Marketing*, Vol. 17 No. 6, pp. 245-300

Moquillaza, M.R. (2002), “Los bancos y las nuevas tecnologías”, available at: www.monografias.com/trabajos10/banu/banu.shtml, pp. 1-5 (accessed 23 January 2009)

Nath, R., Schrick, P. and Parzinger, M. (2001), “Banker’s perspectives on electronic banking”, *E-Service Journal*, Vol. 1, pp. 21-37.

Nitsure, N. (2004), “The behavioral consequences of PC banking”, *International Journal of Bank Marketing*, Vol. 16 No. 5, pp. 195-201.

Nsouli, S M and A Schaechter (2002): 'Challenges of the E-banking Revolution', *Finance and Development*, International Monetary Fund, September, Volume 39, Number 3.

Nyangosi C. Mcdougall, G. and Bansal, H. (2005), “A model of online customer behavior during the initial transaction: moderating effects of customer characteristics”, *Marketing Theory*, Vol. 5 No. 1, pp. 51-74.

Oliver, R.L. (1997), *Satisfaction: A Behavioral Perspective on the Consumer*, McGraw-Hill, New York, NY.

Pereira, P.F. (2003), “Comportamiento del consumidor bancario en internet”, PhD thesis, Dept de Administració n y Economía de la Empresa, Universidad de Salamanca, Salamanca.

Pikkarainen, T., Karjaluo to, H. and Pahnla, S. (2004), “Consumer acceptance of online banking: an extension of the technology acceptance model”, *Internet Research*, Vol. 14 No. 3, pp. 224-35.

Polatoglu, V.N. and Ekin, S. (2001), “An empirical investigation of the Turkish consumers’ acceptance of internet banking services”, *International Journal of Bank Marketing*, Vol. 19 No. 4, pp. 156-65.

Prendergast, G.P. (1993), “Self-service technologies in retail banking: current and expected adoption patterns”, *International Journal of Bank Marketing*, Vol. 11 No. 7, pp. 29-35.

Raju, P.S. (1980), “Optimum stimulus level: its relationship to personality, demographics, and exploratory behavior”, *Journal of Consumer Research*, Vol. 7, pp. 272-82.

Riquelme C., Scruggs, L. and Nam, K. (2009), “Internet banking in the US, Japan and Europe”, *Multinational Business Review*, Fall, pp. 73-81.

Rogers N. (1962), “The behavioral consequences of PC banking”, *International Journal of Bank Marketing*, Vol. 16 No. 5, pp. 195-201.

Rose, B (2003), “E-banking and customers preferences in Malaysia: an empirical investigation”, *Information Sciences*, Vol. 150, pp. 207-17.

Rosenberg, M. (1998), “The viability of the internet for business”, *Strategic Alley*, April, white paper, pp. 1-11.

Salhieh R., Kabir, H.M. and Ahmad, A.U.F. (2011), “Quality perception of the customers towards domestic Islamic banks in Bangladesh”, *Journal of Islamic Economics, Banking and Finance*, Vol. 5 No. 1, pp. 109-32.

Sathye, M. (1999), Adoption of internet banking by Australian consumers: an empirical investigation, *International Journal of Bank Marketing*, 17(7):324-334.

Saunders, M., Lewis, P. and Thornhill, A. (2007), “ *Research Methods for Business students*” 4th ed. Financial times Prentice Hall: Harlow.

Sheng, T. and Liu, C. (2010), “An empirical study on the effect of e-service quality on online customer satisfaction and loyalty”, *Nankai Business Review International*, Vol. 1 No. 3, pp. 273283.

Shimp, T. and Beardon, W.O. (1982), “Warranty and other extrinsic cue effects on consumers’ risk perception”, *Journal of Consumer Research*, Vol. 9, pp. 38-46.

Siam, A. (2006), “Role of the electronic banking services on the profits of Jordanian banks”, *American Journal of Applied Sciences*, Vol. 3 No. 9, pp. 1546-9239.

Snel, R. (2000), “On-line bill payment is falling short of promise”, *American Banker*, Vol. 65 No. 47, p. 4.

Stamoulis, D., Kanellis, P. and Martakos, D. (2002), “An approach and model for assessing the business value of E-banking distribution channels: evaluation as communication”, *International Journal of Information Management*, Vol. 22, pp. 247-61.

Suganthi, S., Balachandher, K.G. and Balachandran, S. (2001), “Internet banking patronage: an empirical investigation of Malaysia”, *Journal of Internet Banking and Commerce*, Vol. 6 No. 1, available at: www.arraydev.com/commerce/JIBC/0103_01.htm

Tan, M. and Teo, T.S. (2000), “Factors influencing the adoption of internet banking”, *Journal of the Association for Information Systems*, Vol. 1 No. 5, pp. 1-42.

Taylor, S. and Todd, P. (1995), “Assessing IT usage: the role of prior experience”, *MIS Quarterly*, December, pp. 561-8.

Thulani, D., Tofara, C & Langton, R. (2009). Adoption and Use of Internet Banking in Zimbabwe: An Exploratory Study. *Journal of Internet Banking and Commerce*, Vol. 14(1).

Trocchia, P.J. and Janda, S. (2000), “A phenomenological investigation of Internet usage among older individuals”, *Journal of Consumer Marketing*, Vol. 17 No. 7, pp. 605-16.

Trochim, D.(2006), “Determinants of long-term orientation in buyer-seller orientation in buyerseller relationships”, *Journal of Marketing*, Vol. 58, April, pp. 1-19.

Uhl, K., Andrus, R. and Poulsen, L. (1970), “How are laggards different? An empirical inquiry”, *Journal of Marketing Research*, February, pp. 51-4.

United Nations Conference on Trade and Development (UNCTAD) (2002): *E-commerce and Development Report*, (<http://ro.unctad.org/ecommerce/docs/>).

Valdunciel, L. (2004), “La banca electro´nica en Espan˜a: ana´lisis comparativo del negocio tradicional y del negocio online”, X Taller de Metodologı´a, ACEDE, Asociacio´n Cientı´fica de Economı´a y Direccio´n de Empresa, Gerona, May, pp. 1-26.

Venkatesh, V. and Davis, F.D. (1996), “A model of the antecedents of perceived ease of use: development and test”, *Decision Sciences*, Vol. 27 No. 3, pp. 451-81.

Wang, Y.S., Wang, Y.M., Lin, H.H. and Tang, T.I. (2003), “Determinants of user acceptance of internet banking: an empirical study”, *International Journal of Service Industry Management*, Vol. 14 No. 5, pp. 501-19.

Yang Y. and Lily, H.P (2004), “Customer-focused performance and its key resource-based determinants: an integrated framework”, *Competitive Review*, Vol. 14 No. 1.

Zeithaml, V.A. and Gilly, M.C. (1987), “Characteristics affecting the acceptance of retailing technologies: a comparison of elderly and non-elderly consumers”, *Journal of Retailing*, Vol. 63 No. 1, pp. 49-68.

QUESTIONNAIRE

Dear respondent,

I am conducting research on "Adoption of E-banking services. Perspective of Ghanaian customers" for the Degree of Master of Business Administration (Strategic Management option), in the Department of Marketing and Corporate Strategy, KNUST School of Business. Kindly spare some of your valuable time to fill up the questionnaire. The information collected shall be used for academic purposes only. Thank you.

Please tick your response in the space provided. In all such cases where more than one responses is necessary under the same Question, please tick as many responses as are applicable

PART A: DEMOGRAPHICS

1. What is the name of your bank?
 2. Do you hold any account with other banks apart from the one stated above?
[] Yes ,if yes please specify..... [] No
 3. Type of account held [] Savings [] Current , [] Fixed deposit, [] other(s).....
 4. Which of the following applies to you?
[] Civil servant, [] self-employed, [] student, [] other..... 5.
- What is your highest educational qualification?
- []WASSCE/A'O' level, [] 1st degree, [] Masters, []PhD, [] others.....
6. What is your age?
[] 18 – 25yrs, [] 26-33yrs, [] 34-41, [] 42- 49, [] 50 and above

PART B: PERSPECTIVE OF CUSTOMERS ON E-BANKING

1. In general, what do you feel about E-Banking as a new system of delivering banking services?

Not useful Not user friendly Desirable Cannot say exactly

Any other (Please specify).....

2. Which of the following E-banking services have you subscribed to?

ATM banking Credit Cards Debit Cards Mobile banking (SMS)

Electronic transfers (EFTs) Internet banking

2.1 If you have not subscribed to any of the above e-banking products, what reasons explain your lack of usage?

.....

3. How did you hear about E-banking services provided by your bank? (Tick applicable one(s))

Through bank officials, Advertisement in Print Media, Television and Radio Advertisement On line Advertisement, Through friends

Any other (Please specify)

4. Indicate by ticking the services offered through E-banking in your bank

Withdrawal of cash, Deposit of cash and cheque, Balance check

Request for cheque book, Paying any utility bills, Check bank statement

Order cheque book, Transfer of funds

5. How often do you use the following e-banking products?

1=Never, 2=Once a month, 3=Every week, 4= At least twice every week, 5= when need arises

<i>Patronage of e-banking services</i>	Never	once a month	Every week	Twice every week	When need arises
1. Withdrawing money/balance check using bank ATM					
2. Requesting cheque book online					
3. Paying utility bill online					
4. Checking bank statement using mobile banking					
5. Cash transfer					
6. The use of VISA ATMs					
7. Others.....					
8.					

9. How long have you been using E-banking services?

Less than 1 year 1-2 years 2-3 years 3-5 years More than 5 Years

10 Rank the following channel from most preferred to less preferred in Numerical Number 1 to 6 (1=most preferred, 6=less preferred)

Automatic Teller Machines (ATMs)/debit cards

Branch (face to face) banking

Telephone banking

Mobile banking

Internet banking

Any other (Specify)

Use the following key to indicate your level of Agreement with the following statements.

1=Stronglydisagree 2=Disagree 3= Neutral 4= Agree 5= Strongly Agree

Motivation for using E-banking		1	2	3	4	5
1.	E-banking services are generally faster than traditional banking					

2.	E-Banking services have no time limit since I can use them at any time of the day.					
3.	There is high degree of convenience in accessing E-banking services.					
4.	E-banking channels are easier to use than traditional channels.					
5.	E-banking services are generally cheaper than traditional banking at the branch					
6.	Using E-banking service is more prestigious than queuing at the bank halls.					

PART C: E-BANKING CHALLENGES

How will you rate yourself in using the following e-banking products?

1=Not at all conversant, 2=Somehow conversant, 3=Neutral, 4= conversant, 5= very conversant

<i>Adaptability to e-banking services</i>	1	2	3	4	5
1. Withdrawing money					
2. Checking account balance using bank ATMs					
3. Requesting cheque book online					
4. Paying utility bills online					
5. Checking bank statement using mobile banking					
6. Cash transfer					
7. The use of VISA ATMs (withdrawing from different bank ATMs)					
8. Mobile money services					
9.					

Use the following key to indicate your level of Agreement with the following statements.

1=strongly agree 2=Agree 3= Neutral 4= Disagree 5= strongly Disagree

E-banking Challenges		1	2	3	4	5
1.	Security concerns is the most discouraging factor in using E-banking services					
2.	I'm not aware of E-banking services provided by my bank					
3.	E-banking services generally do not have privacy of customer's information.					

4.	I still prefer traditional (Branch) banking to e-banking					
5.	Only few banks provide interbank E-banking services					
6.	Some Banks charge high fees on using E-banking services.					
7.	Information provided on e-banking platforms are very often misleading					
8.	Services on e-banking systems often delay					
9.	There's often unnecessary charges for e-banking services					
10.	Subscribing to e-banking services (i.e SMS alert) is often abused by bank officials for promotions					

PART D: QUALITY OF E-BANKING SERVICES PROVIDED BY BANKS IN GHANA

Use the following key to indicate your level of Agreement with the following statements.

1=very poor 2=Poor 3= Neutral 4= good 5= very good

How will you assess the quality of e-banking service provided by your bank?		1	2	3	4	5
1.	Subscription / application processes for e-banking services					
2.	Reliability of ATMs on 24/7 basis					
3.	Safety of transactions on e-banking platforms					
4.	Relationship management for e-banking services					
5.	Consistency of maintenance charges					
6.	Knowledge of bank employees on e-banking products					
7.	Prompt feedback on accounts					
8.	Flexibility of service usage					
9.	Accessibility of self-service technologies such as ATMs, Ezwich etc.					
10.	Convenience of using e-banking service					

Thank you for your time