ASSESSMENT OF THE KNOWLEDGE, PATRONAGE AND CHALLENGES OF E-BANKING SYSTEM IN GHANA: CASE STUDIES OF GCB BANK LIMITED AND ECOBANK GHANA LIMITED IN THE KUMASI METROPOLIS

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DECLARATION

I hereby declare that, except for the references made to the works of previous authors, and information on the internet which have all been duly acknowledged, this work is entirely the effort of my own research and that this work has never been presented in whole or in part for a degree in this institution or elsewhere.

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ABSTRACT

The study investigated the level of patronage and challenges of e-banking systems in Ghana using descriptive statistics and two selected branches of GCB and Ecobank in the Kumasi Metropolis as case studies and a sample of 376 clients. The study found ATM to be the most popular e-banking service to customers of both banks. Only 20% of the respondents from Ecobank and 15% from GCB reported having used the credit card before. None of the other products recorded patronage level above 20%. It was however found that there is slightly higher acceptability of e-banking products by customers of Ecobank than customers of GCB. It was revealed that about 10% of respondents use the ATM at least once every day whilst 30% use it at least once every week. The study established that respondents find e-banking services to be more efficient and convenient than traditional banking. In addition, majority of the respondents also identified e-banking services to be more reliable and accessible, and faster. The study identified the following as significant challenges that come with e-banking products: security threat posed by hackers, technological failures and frequent breakdowns, and ineffective servicing of delivery channels. It is recommended that there is the need for regular maintenance of e-banking infrastructure and enhanced education of e-banking services for customers.

DEDICATION

To my wife Mrs. Hannah Quansah, and lovely daughter Ewurasi Quansah

ACKNOWLEDGEMENT

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Increasing competitiveness in banking globally is responsible for the significant increase in the number of banks. This has created increased knowledge in banking whilst customer taste and preferences have also grown. The result has been the need to match customer demand with services and products that can satisfy the growing demand (Balachandher, 2001). Due to this increased competition, many banking institutions have introduced more products and services to attract more customers in order to stay in business. Technological innovation has attuned the preconditions for service conveyance, drastically in recent years (Fredriksson, 2003).

Generally, banks are interested in safe transactions. In this regard, banks seek, as part of their objectives, ultimately to give the best services to customers and to make profit. This objective of banks tends to influence their product offerings and as such exerts a level of expected reaction from the customers, who are the significant cause of the banks product and service creation.

Advancement in Information and Communication Technology (ICT) is forcing many industries including the banking sector to adjust their service delivery. To remain competitive, banks are adopting technological innovations to enhance their service delivery. One of the latest technologies adopted by banks is Electronic Banking or e-banking. E-banking refers to the process of performing various banking activities by the use of electronic channels such as telephone, mobile phone, internet, among others (Shama,

2011). Gates (2008) stated "banking is essential but banks are not", this simply implies that there is a need to adopt e-banking to replace the traditional bank branch (Baten and Kamil, 2010). E-banking, which consists of different technologies such as Automated Teller Machines (ATM), point of sales, telephone banking, internet banking, mobile banking, among others, have created new approaches of handling banking transactions and are also important for the banks to be able to attain their long-term objectives (Burnham, 1996).

Traditional methods of banking are limited by time, space and resources but through e-banking, banking services can be obtained outside of the normal banking hours, that is, one can have uninterrupted access to banking services (Rubino, 2000). Services like balance inquiry, account information, funds transfer, bills payments, loan application, online cheque clearing among others are offered electronically (Turban et al., 2004). Although customers generally get benefit from these services, it is most appealing to those who have hard time staying informed about their transactions, as their transactions are banking hall based (Deitel et al., 2001).

Electronic-banking has enhanced banking services for both the bank and its customers. This mode of service delivery has enhanced the speed of service delivery as well as accessibility, convenience and reliability. Crede (1995) describe e-banking as also being cost effective to both customers and the bank. Owing to this, e-banking has been picking up prevalence as a potential medium for electronic business (Crede, 1995).

Despite these benefits, there are several noteworthy difficulties and issues confronting service delivery through e-banking. Security challenges remain a top concern in this regard (Feinmanet al., 1999). The increasing on-line fraud and other technology related crimes

has created concerns for most customers. There is also the issue of quality of service delivered by network providers (Furstet al., 2000). Restricted online payment options have brought about numerous customers opting out eventually as a result of some forms of unsatisfactory factors and inconveniences (Furash, 1994). It is evident from these challenges that though the customers have their own share of shortfalls (i.e. lack of knowledge on the internet usage) as far as e-banking is concerned; the bigger burden of smooth running and increased patronage of the product depends on the banks. The study seeks to enumerate the challenges banks face in executing the e-banking service and link this to the low level of patronage by customers.

1.2 Statement of the Problem

A major advancement brought about by technology is electronic banking. Ainin et al. (2005) assert that the nature of traditional banking came with the need to get services closer to the people by opening branches all over the place. E-banking has eliminated the quest to always go to the bank for every transaction. Nevertheless, Locket and Littler (1997) put forward that some form of assurance regarding making sure one's savings are secured is attached to physically going to the banking hall. Customers are also able to access some resources of the bank they cannot get at the comfort of their homes.

Almost all the traditional banks in Ghana have adopted the e-banking system. This breakthrough in the banking industry has widened the service jurisdiction of these banks leading to increase in their customer base. However, the introduction of this innovation did not accompany any staff recruitment rather it led to reduction in staff numbers through redundancy and exit packages. This action has therefore resulted in the banks having relatively few staff to meet the growing work load.

Despite the widespread of the usage of the E-banking system and its numerous benefits, it is observed that a great number of customers still opt for the traditional methods of banking (Owusu-Afriyie 2012). Since most of the customers happen to be literate one may wonder the reason for their reluctance to this new technology. The low patronage coupled with the reduction in staff numbers has resulted in overcrowding in the banking halls, bringing in its wake, unnecessary pressure on the few staff and facility at the bank. This occurrence has been explained by Owusu-Afriyie (2012) as resulting from lack of internet facilities at home, social diffusing in terms of discouragement from friends and relatives and delays in issuance of ATM cards. However, she admitted that these factors do not significantly affect the patronage of the e-banking service.

In the face of the above possible reasons, it so happens that the overcrowding in the banking halls is exceptionally high in GCB Bank Limited as compared to other banks. One may wonder if it is as result of other banks' customers being more informed and well abreast with the services than the customers of GCB or is just the customer base of the bank causing this pressure. Ecobank Ghana Limited although an international and also one of the most popular banks in Ghana, their banking halls remain calm at most part of the month as compared to GCB. The researcher is curious about the cause of this development.

This study seeks to conduct a comparative study between customers of GCB Bank Limited and Ecobank Ghana Limited about the knowledge and the extent of patronage of e-banking services, paying a particular attention to challenges clients face with respect to these services.

1.3 Objectives

The general objective is to assess the knowledge, patronage and challenges of e-banking system in the Kumasi Metropolis, using GCB and Ecobank as case studies.

The specific objectives of the study are as follows:

1.   To assess customers' awareness of the e-banking products available at the banks.

2.   To evaluate the extent to which customers of the banks patronize the e-banking services.

3.   To examine why some customers opt out of the use of the various e-banking products the banks have.

1.4 Research Questions

The study seeks to provide answers to the following questions:

1.   Are customers aware of the e-banking facilities available at the banks?

2.   What is the extent to which customers of the banks patronize the e-banking services?

3.   What reasons account for customers opting out of the use of the various e-banking products provided by the banks?

1.5 Justification of the Study

The technological innovation akin to banking electronically has become widespread and have been adopted by many financial establishments. These institutions have adopted the e-banking strategy so as to reduce expenditure, shorten processing duration, increase pace

of transaction and provide some form of variety and flexibility to customers (Shih and Fang, 2004). It has become one of the fastest growing areas in business (Aladwani, 2001) and many financial institutions have employed the use of e-banking strategies to keep abreast with global occurrences. Though the banks have rolled out this product many customers tend to ignore it. This study will inform the management of the banks the reasons for the low patronage of the e-banking product. It will also uncover the shortfalls of the banks in executing this product effectively to customers. Finally the study will help improve the knowledge and patronage of the e-banking facility in general.

1.6 Scope of the Study

Two selected branches of GCB and Ecobank in the Kumasi metropolis were the focus of the study. The selection of these two banks' branches is based on their close proximity to the researcher. The choice of GCB and Ecobank in this comparative study is as a result of the fact that they are the first two largest banks in the country, and also the prevailing perception that the banking halls of GCB are always choked with customers whiles a contrary situation is seem at the banking halls of Ecobank. This work seeks to find out whether it is the magnitude of the customer base that causes such a queuing situation or just the quality of service and the patronage of the e-banking products.

1.7 Organization of the Study

The study is presented in five chapters. Chapter one contains the introduction of the study and includes sections describing the background of the study, general and specific objectives, problem statement, justification and scope of the study. Chapter two focuses on reviewing literature relevant for this study, and includes both theoretical and empirical

reviews that underpin knowledge and utilization of e-banking. Chapter three describes the

methodology used for the study. Chapter four presents the results of the study whilst the

final chapter, chapter five presents the summary, conclusions and recommendations of the

study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter offers a review of existing literature related to the topic.

2.1 The Concept of E-Banking

E-banking is the newest mode for delivering of banking services and products. To some extent, the meaning of e-banking varies among researchers. According to Daniel (1999), electronic banking describes banking service provided through the use of internet technology to customers. However, Singh and Malhotra (2004) defines e-banking in a more comprehensive way as using electronic and communication network to directly provide banking services to customers.

According to Boateng and Molla (2006), "products and services are delivered "through electronic and communication networks including Automated Teller Machines (ATMs), the Internet, Mobile devices and telephones". They further state that "among these technologies, the increasing penetration of personal computers, relatively easier access to the internet and a wider diffusion of mobile phones has drawn the attention of most banks to e-banking" (Boateng and Molla, 2006, p.12). Stamoulis et al. 2002, on the other hand consider e-banking as a financial innovation that has been enabled by the creative use of emerging Information Communication Technology (ICT) and other business forces. The financial innovation incorporates ICT, customer service, marketing, finance and corporate strategy.

However, one common denominator which runs through the above three definition is the provision of services and products through a medium such as computer, television or mobile phone. E-banking is thus service delivery by banks that allow customers the ability to obtain information and undertake transactions through mobile phone (Sathye, 1999). Such e-banking service include mobile phone banking, Internet banking, PC banking, telephone banking, and television-based banking. According to FTC (2006), most customers however consider e-banking only as the use of ATMs, cheques clearing or direct deposit.

2.2 Evolution of E-Banking

E-banking innovations is traced to the 1970s with the increased momentum in the computerization of financial institutions (Pang, 1995). The earliest example of e-banking however was the ATM which was introduced since 1981. This provided customers access to e-banking. Since then there has been several innovations to improve e-banking.

Previously, it was virtually insignificant but now it is well-known to millions of users worldwide. According to Sohail and Shanmugham (2003, p.12), "the earliest part of the 1990s saw the emergence of automated voice response (AVR) technology". They added that, "by using the AVR technology, banks could offer financial services through the telephone banking facilities" (p.13). Technological improvements enabled to offer services "through personal computers owned and operated by customers at their convenience, through the use of intranet proprietary software" (Sohail and Shanmugham, 2003, p.13). This was however limited to corporate customers. It is on record that the Security First Network Bank was the world's first pure Internet bank in the USA in 1995. Other banks such as Citibank and Bank of America followed subsequently (Alagheband, 2006).

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Later, phone banking was introduced which allowed users to call their banks on ordinary phones to perform banking transactions. Nonetheless, phone banking was superseded by Personal Computer (PC) banking where customers have proprietary software installed on their personal computers by their banks to enable them bank from their homes. With this medium, users are able to get in touch with the bank on a computerized platform connected to the internet. Currently, internet banking is the most recent of the several generations of systems. This mode of electronic banking is widespread in Austria, Singapore, Spain, Switzerland, Korea, and the Scandinavian countries. In these areas, about 75 percent of all banks provide internet related banking products and services (Nitsure 2003).

The profitability of e-banking delivery channel by banks is calculated not only on the basis of revenue generated by charging customers but also exploring other avenues for reducing operating cost (Stamoulis et al., 2002). The implementation of e-banking ensures operational efficiency as it is evident that expenses on labour, premises, back-office paper work and facilities are minimized. Also, through electronic banking, banks now deal directly with customers as compared to the traditional brick and mortar model where customers transacted business over the counter. According to Boateng and Molla (2006) profitability of banks can be determined by different e-banking capabilities possessed by banks and can be seen ultimately in the use of electronic banking delivery channels in serving customers. In developed countries, many banks began with the use of ATMs and have evolved to personal computer banking. Nevertheless, this evolution is not visible in recently established banks in developing countries.

2.3 Theories of E-banking

Although numerous studies have been done on user adoption of technology, very few focused on e-banking (American Banker, 2007). Some researchers investigated individuals' perceptions regarding "the adoption of Internet banking for corporate purposes, and one of the theories in this regard is the technology acceptance model (TAM) developed by Davis (1989)" (Nasim, 2009, p.8). In order to also understand why customers are not embracing e-banking, "it will be useful to examine the theory of planned behaviour, developed by Ajzen (1985) and the innovative diffusion theory, developed by Rogers (1983), which aim to identify the attitudinal, social and perceived behaviour control factors that influence the adoption of e-banking" (Nasim, 2009, p.13).

Nasim (2009) states that in adopting e-banking or internet banking, there are certain stages through which firms go, each with different roles. "These different stages are reflected in the many levels that are present when firms undertake the adoption of new technology" (Nasim, 2009, p13). These stages, whether for a mature firm or one that is relatively new, will also apply to a bank which is adapting to or using e-banking. According to Spreading Science (2009), firms go through five main stages, viz:

- Information awareness, where the firm is simply aware that the innovation exists;

- Interest, where the firm wants more information and begins to wonder whether or not the innovation will be to their advantage;

- Evaluation, where the firm mentally examines the innovation using the information gathered;

- Testing, where the firm really subjects the innovation to testing in order to ensure whether reality tallies with expectations; and

- Adoption, this is where the firms adopt the innovation fully because they like it.

In implementing e-banking, banks undergo several levels of developments, ranging from a marketing approach to a strategic approach. The extent to which the bank is willing to go with e-banking will determine which approach it should adopt (Nasim, 2009).

A number of factors have been identified as important for the adoption of e-banking. Nasim (2009) suggests that the bank should be able to get the attention of the customers to these products. According to Nasim (2009, p.14)), "the consumer also determines whether or not it is convenient to do banking this way (convenience), how usable the application appears to be (usability), and his/her perceived competence in terms of Internet and banking application use (self-efficacy)". He states that "these four factors (accessibility, self-efficacy, convenience, and usability) are interrelated."

A number of other theories have been propounded by various researchers. This study focusses on 3 main theories: i) technology acceptance model, ii) innovative diffusion theory, and iii) theory of planned behaviour. These theories are explained below.

2.3.1 Technology Acceptance Model (TAM)

The TAM model was developed by Davis (1989). This model suggests that "a person's behavioural intention to use determines his adoption of a computer system which also is influenced by their two beliefs- perceived ease of use and perceived usefulness" (Nasim, 2009, p.15). TAM has been used widely to determine the level of acceptance of information

system, including internet adoption. The TAM adopted the Theory of Reasoned Action (TRA) which Fishbein and Ajzen (1975) developed.

In essence, the TAM posits that "perceived usefulness and perceived ease of use determine an individual's intention to use a system; where perceived usefulness is also viewed as being directly influenced by perceived ease of use" (Venkatesh et al., 2006, p.20). Researchers simplified the TAM by removing the attitude construct found in the TRA from the current specification (Venkatesh et al., 2006). According to Wixom and Todd (2005), "attempts to extend the TAM generally adopted one of three approaches: (1) introducing factors from related models, (2) introducing additional or alternative belief factors, and (3) examining antecedents and moderators of perceived usefulness and perceived ease of use". Moon and Kim (2008) employed the TAM in their study in the WWW framework. They put forward the construct of playfulness in order to foretell attitude.

The findings of Moon and Kim (2008) showed that "although TAM-related hypotheses were all supported, the results deviated from the basic belief of the TAM that usefulness is the key determinant of user acceptance of IT" (Moon and Kim, 2008, p.60). Their study further showed that "perceived ease of use has a more significant effect on attitude than perceived usefulness in the WWW context, and perceived playfulness (an intrinsic motivational factor) has a more significant effect on attitude than perceived usefulness (an extrinsic motivational factor)".

According to the TAM, "these two beliefs –perceived ease of use and perceived usefulness- are of primary significance for computer acceptance" (Rusu and Shen, 2011). Rusu and Shen (2011), who based their study of acceptance of e-banking in the United Arab Emirates

(UAE) using the TAM, observed that among the elements, the intention to use a new technology is the main focus.

Again, their study gives support for the TAM theoretical model, extended with convenience and computer self-efficacy. The results support the view that "computer self-efficacy and convenience are important factors for determining the perceived ease of the use of e-banking or Internet banking for customers in the UAE" (Rusu and Shen, 2011, p.71).

The study by King and He (2006, p.89) showed that "the TAM to be a powerful, highly reliable, valid and robust predictive model that may be used in a variety of contexts". Wang et al. (2003) confirm the validity of the TAM and support its use with different populations of users and different software choices.

In another study, Wang et al. (2003) found that "there was a significant impact of perceived ease of use, perceived usefulness and perceived credibility on the intention to use Internet banking" (p.98).

Bagozzi (2007) explained that "intention may not be representative enough of actual use, because the time period between intention and adoption could be full of uncertainties and other factors that might influence an individual's decision to adopt a technology" (p.72). Burton-Jones and Hubona (2006) also found that "perceived usefulness and perceived ease of use may not mediate all the influences of external environment factors on system usage. Instead, some external factors such as system influence, level of education and age may have a direct influence on system usage."

2.3.2 Theory of Planned Behaviour and Innovation Diffusion Theory

According to Taylor and Todd (1973) "Two other theories were developed in order to better understand the acceptance of new technologies by customers; these are the Theory of Planned Behaviour (TPB) (Ajzen, 1985) and the Innovative Diffusion Theory (Rogers, 1983)". Taylor and Todd (1973, p.76) stated that, "in comparing the two versions of the TPB, it is believed that value is added as a result of the decomposition in terms of increased explanatory power and a better, more precise understanding of the antecedents of behaviour."

According to Taylor and Todd (1973, p.71), "the decomposed TPB model provides a better understanding of usage behaviour and intention, and may provide more effective guidance for IT managers and researchers interested in the implementation of the system". Taylor and Todd (1973) suggest that "the decomposed TPB model uses constructs from the innovation literature (e.g. relative advantage, compatibility); and also explores subjective norms (e.g. social influence) and perceived behavioural control more completely, by breaking them down into more specific dimensions". They further state that "it provides a comprehensive overview of how an individual's attitudes, subjective norms and perceived behavioural control can influence his or her intention to use banking services via the Internet" (Taylor and Todd, 1973).

As highlighted by IS theory (2005, p.33), the TPB puts forward that "individual behavior is driven by behavioral intentions, where behavioral intentions are a function of an individual's attitude towards the behavior, the subjective norms surrounding the performance of the behavior, and the individual's perception of the ease with which the behavior can be performed (behavioral control)." Attitude towards the behaviour is seen as

"the individual's positive or negative feelings about performing the behavior" (p.33). "It is determined through an assessment of one's beliefs about the consequences arising from behavior and an evaluation of the desirability of these consequences" (P.33). Properly, general attitude can be evaluated as "the sum of the individual consequence multiplied by desirability assessments for all expected consequences of the behavior" (Wu, 2009, p.31).

Subjective norm is defined as "an individual's perception of whether or not people important to the individual think that the behavior should be performed" (Wu, 2009, p.32). According to Wu, "the contribution of the opinion of any given referent is weighted by the motivation that an individual has to comply with the wishes of that referent. Hence, overall subjective norm can be expressed as the sum of the individual perception multiplied by the motivation assessments for all relevant referents."

Behavioural control can be referred to as "one's perception of the difficulty of performing a specific behaviour." (Wu, 2009, p.34). According to Ajzen (1991), "the TPB views the control that people have over their behaviour as lying on a continuum of behaviours that are easily performed, as opposed to those requiring considerable effort, resources etc". Tan and Teo (2009) shared this view and postulated that "a person's intention to adopt Internet banking is determined by three factors:(1) attitude, which describes a person's perceptions regarding Internet banking; (2) subjective norms, which refer to the social influence that may affect a person's intention to adopt Internet banking; and (3) perceived behavioural control, which refers to whether or not a person believes that he/she has the necessary resources and opportunities to adopt Internet banking."

Sadeghi and Farokhian (2011) observed that "an individual's intention to adopt an innovation is influenced by his/her attitude towards the behaviour and subjective norms."

Therefore, "a person's behaviour is determined by his/her intention to perform the behaviour" (Rivis and Sheeran, 2010). "The attitude towards performing the behaviour is an individual's positive or negative belief about performing the specific behaviour (Rivis and Sheeran, 2010, p.41) Rivis and Sheeran (2010) found in their study that "prototype similarity was directly associated with behaviour, both on its own and through its relationship with descriptive norms, even after controlling for the TPB and past behaviour" (p.96). Côté et al. (2012) also found in their study that "nurses' intention to integrate research findings into clinical decision-making can be predicted by moral norms, normative beliefs, perceived behavioural control and past behaviour."

Moga (2009) observed that the critical factors determining the adoption of an innovation at the general level are the following: "relative advantage, compatibility, complexity, trialability and observability". Researchers have looked at the adoption of e-banking. The nominalised factors are, trialability, complexity, observability among others. In terms of compatibility with the needs of potential adopters, "e-banking can be seen as an expeditious tool that allows customers to better manage their multiple accounts" (Moga, 2009, p.41). He suggest that "the more financial products and services there are, the more it is expected that individuals who have many financial accounts and subscribe to a variety of banking services will be inclined to adopt e-banking" (p.41).

Abukhzam and Lee (2010, p.31) opined that "bank managers' perceptions of two basic concepts provide a broader understanding of adoption of e-banking in the banking industry than that of previous theories and models, including the Theory of Reasoned Action, the Theory of Planned Behaviour, the Technology Acceptance Model and Innovative Diffusion Theory". These perceptions are the following: "perceived technological features

such as ease of use and usefulness, compatibility, complexity and perceived risk and security; and perceived managerial and organisational issues such as organisational change, top management support and IT funds" (p.33).

Moga (2009) observed that there are several steps that must be taken by banks in order to increase accessibility. Based on her research findings, Moga (2009) identified "factors that should be included in the main model to predict the adoption of IT, in particular e-banking" (p.42). In reviewing this proposed model, it can be observe that four distinct components are represented: security and trust, empirical factors, national attributes, and classical theory focused on technology acceptance. The final proposed model should be developed by taking these factors into consideration.

The attitudes of customers regarding internet banking "are driven by trust, which plays an important role in increasing usability within the Internet banking environment" (Suh and Han (2008, p.16). According to Suh and Han (2008, p.16), "the issue of trust is more important in online as opposed to offline banking, because transactions of this nature contain sensitive information and parties involved in the financial transaction are concerned about access to critical files and information transferred via the Internet".

As stated by Werner (2004, p. 19), "the TRA and TPB have some limitations in terms of predicting behaviour, the first limitation being that intention determinants are not limited to attitudes, subjective norms and perceived behavioural control, as there may be other factors that influence behaviour". The second limitation is that "there may be a substantial gap in time between assessment of intention to perform a specific behaviour and the actual behaviour being assessed. In that time gap, the intention of an individual might change" (p.20). The third limitation is that "both the TRA and TPB are models that predict an

individual's actions based on certain criteria. Individuals do not, however, always behave as predicted by those criteria" (p.20).

Ogden (2007) notes that "the TRA and the TPB are pragmatic theories". She however criticises their conceptual bases and discusses several limitations of these theories. Firstly, based on the literature review, she observes that "some studies of the TPB did not report any role for subjective norms, while others showed no predictive role for perceived behavioural control, and some showed no role for attitudes".

Rogers (1983), identified three main characteristics of innovations "relative advantage, compatibility, and complexity". Adopters were invariably found to "have different perceptions about these characteristics in comparison with non-adopters" (p.23). According to Rogers (1983), some products catch on immediately, while others take a long time to gain acceptance. Ching & Ellis (2004) suggests that "if the innovation is perceived to be better than the existing system (a measure of its relative advantage), is consistent with the needs of the potential adopter (a measure of its compatibility), and is easy to understand and use (a measure of its complexity), it is more likely that a favourable attitude towards the innovation will be formed."

2.3.2.1 Relative Advantage

Lee et al. (2011, p. 22) stated that "relative advantage is defined as the degree to which an innovation is considered to be better than the idea it replaced". This construct is found to be one of the best predictors of the adoption of an innovation. Robinson (2009) opined that "it is the degree to which an innovation is perceived by a particular group of users as being better than the idea it supersedes, measured in terms of economic advantage, social

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prestige, convenience, or satisfaction". According to him, "the greater the perceived relative advantage of an innovation, the more rapid is the rate of adoption" (p.23). Relative advantage does not follow any fixed rules, as it rooted in the perceptions and exigencies of the user group.

Gerrard and Cunningham (2007) identified "perceived relative advantage as being a significant factor driving the adoption of e-banking; hence, relative advantage is often the content of network messages with regard to an innovation" (p.12). According to them, "consumers may be motivated to use some electronic banking technologies because of their time-saving ability". They further suggest that "time-saving equates to a customer being able to access the services of a bank without physically visiting a branch". In one survey of computer banking users, "79% indicated that convenience was very important in their decision to use computer banking, and 71% said that saving time was very important" (Fox, 2006, p.9).. The perceived relative advantage of e-banking is positively related to the level of adoption. Daghfous and Toufaily (2007) stated that "the degree of adoption of e-banking is higher if the bank believes that this innovation might increase the performance of the bank". In their research in Malaysia on 100 Muslim consumers of banking services, Marhana et al. (2012) found that "relative advantage is the most influential factor for the adoption of Internet banking, followed by compatibility and complexity". Respondents perceived e-banking as having some comparative advantages over traditional banking.

2.3.2.2 Compatibility

Lee et al. (2011) sees compatibility as "the degree to which innovation is regarded as being consistent with the potential end-users' existing values, prior experiences and needs". The compatibility of an innovation, as perceived by members of a social system, is positively

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related to its rate of acceptance. Robinson (2009, p. 44) also suggested that "compatibility is the degree to which an innovation is perceived as being consistent with the values, past experiences and needs of potential adopters". Therefore, an idea that is incompatible with their values, norms or practices will not be adopted as rapidly as an innovation that is compatible.

Wu (2009, p. 49) stated that "compatibility is defined as the degree to which an innovation is perceived as being consistent with the existing values, past experiences and needs of potential adopters". Bradley and Stewart (2003) discovered that "the perceived compatibility of Internet banking is a key driver in the adoption of Internet banking". Most of the previous studies in this field found significant positive relationships in this regard and concluded that compatibility significantly affected the adoption of Internet banking (Hernandez & Mazoon, 2007; Eriksson, et al., 2008). According to Beer (2006, p.33). "The convenience of online banking is helping people gain greater control of their finances and contributing to changing patterns of cash withdrawal and day-to-day money management". Marhana et al. (2012, p.12) opined that "when an innovation is compatible with the individual's job responsibilities and value system, the innovation will be more likely to be adopted". With regard to banking, e-banking can be perceived as "a banking channel that is compatible with the profile of the modern-day consumer, who is familiar with the Internet and is always busy" (p.13).

2.3.2.3 Complexity

Lee et al. (2011) stated that "complexity is the end-users' perceived level of difficulty in understanding innovations and their ease of use; and that consumers will reject an innovation if it is very complex and not user-friendly". A study carried out in Estonia and

reported by Kerem (2001) found "the most important factors in starting to use Internet banking are, first and foremost, better access to services (convenience), better prices, and a high level of privacy" (p.88). Improved service is also of above-average importance.

Cooper (1997, p61) reported that "ease of use of innovative products or services is one of the three most important factors determining adoption from the customer's perspective, which means that the adoption of Internet banking is likely to be increased when customers consider Internet banking processes to be easy to use". Marhana et al. (2012) mentioned that "an innovation that is simpler to understand and easy to use will be adopted more rapidly than innovations that require adopters to acquire new skills and understanding; hence, the more complex an innovation is, the slower its diffusion will be". Nevertheless, consumers of today will find e-banking user friendly because "they tend to be educated and have sufficient understanding of computers and the internet" (Mohd-Suki, 2010). In a study done in Malaysia on 100 Muslim consumers of banking services, Marhana et al. (2012) found that the respondents who thought that Internet banking was easy to use were more likely to adopt this service. Mohd-Suki (2010) also found that complexity had a negative effect on the adoption of internet banking in Malaysia.

The three factors discussed above, namely relative advantage, compatibility and complexity, are the main factors in the innovation diffusion theory. However, they cannot be studied without considering factors which are linked to them, such as perceived cost, perceived risk, demographic characteristics, and social influences.

2.3.2.4 Perceived Cost

According to Ching and Ellis (2004), "adoption of e-banking will be driven by the perceived costs and benefits inherent to the particular innovation". They further suggest that "the cost of an innovation has many components: initial investment costs, operational costs, and utilization costs". They also observed that "there are two fundamental sets of factors affecting user needs, namely price factors and non-price factors" (p.19). Hills (2004) found that with time, Internet costs are decreasing and will be very cheap in the future, which will encourage the adoption of e-banking. According to Hills, "if consumers are to use new technologies, the technologies must be reasonably priced in relation to alternatives; otherwise, the acceptance of the new technology may not be viable from the standpoint of the consumer". As stated by Wu (2009:40), "in South Africa, ABSA Bank launched a marketing campaign offering free Internet access as a means of promoting its Internet banking services in 2001". In a study conducted in Pakistan, Asghar (2012:6) stated that "63% of the respondents did not find Internet banking to be an expensive service for them to use, while 57% also agreed that there were no hidden charges for online banking, as all the rates and charges were clearly and honestly communicated to users". The study therefore concluded that perceived cost has a direct impact on the use of e-banking.

2.3.2.5 Perceived Risk

"Perceived risk has been identified by many studies as one of the most influential factors in the adoption of e-banking" (Laforet & Li, 2005). Customers perceive e-banking services as being more risky than conventional banking (Zhao et al., 2008). Zeithaml et al. (2008) found that "there are several types of perceived risks, including economic, functional,

social, and psychological risks", which influence customers' pre-purchase decision. According to Almogbil (2005), "perceived functional performance of Internet banking determines whether or not it is adopted". Agarwal et al. (2009) point out that "due to its technical nature and self-service features, the functional risk is higher among developing nations with high levels of illiteracy". In these nations, "perceived operating difficulty and chances of incomplete transactions due to Internet slowness are thought to be high" (Agarwal et al., 2009; Aslam and Sarwar, 2010). Asghar (2012) also found that "perceived risk has an effect on the intention to adopt Internet banking". Lee (2009) found in his study that "the intention to use online banking is adversely affected mainly by the security/privacy risk, as well as financial risk". These findings were supported by another recent study by Hua (2009), who investigated online banking acceptance in China. Hua (2009) showed that "perceived ease of use is of less importance than privacy and security, and emphasised that security is the most important factor influencing user's adoption."

2.3.3 Demographic Characteristics

According to Rogers (1995, p.51), "innovativeness is the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a social system". There are five adopter categories, or classifications of the members of a social system on the basis of their innovativeness: innovators, early adopters, early majority, late majority and laggards

- Innovators: "these are the first to adopt the new product. Technically, innovators are defined as the first 2.5% of customers". "Innovators are very venturesome- they are willing to take risk in trying new ideas; they are important first as the initial

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target segment for an innovative product. Second, they personally influence later adopters" (p.51).

- Early adopters: "these are the next segment to adopt the product, technically 13.5% of the market, they tend to be opinion leaders and, since personal influence plays a large role in adoption of new products, they are particularly important" (p.51).

- Early majority: "the next group, 34%, completes the first half of the potential market for the innovation". "The early majority are deliberate –they adopt new ideas before the average person, although they are rarely leaders" (p.51).

- Late majority: These are "more skeptical about new products and harder to persuade; eventually they adopt because of economic necessity or social pressure".

- Laggards: The last 16% of the market are the most reluctant, and the most economically incapable of adopting the innovation. These are described as "tradition bound – they are suspicious of changes, mix with other tradition bound people, and adopt the innovation only when it takes on a measure of tradition itself" (p.51).

Several studies have linked consumer characteristics to the adoption process. "Age, income and education all have been found to be directly related to the adoption of technology" (Lee and Lee 2000). According to Gefen and Strauf (1997), "gender has not been found to have a direct effect on adoption of technology in general, but men and women appear to have different acceptance rates of specific computer technologies, with men more likely to adopt". Also a set of demographic characteristics of adopter and non-adopters has been mentioned from different research. "Adopters tend to have the following characteristics compared to non-adopters" (Rogers 1995): "more educated and higher level of cognition

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and intelligence; more affluent; more favorable attitude towards risk; more active social participation; greater opinion leadership and younger". Lee and Lee's (2000) study shows that "these general characteristics also apply to adopter of electronic banking profile. Specifically, adopters of ATM's, bill payments, debit cards, and smart cards tend to more highly educated, more affluent and younger".

2.4 Electronic Banking in Ghana

Banking in Ghana "is undergoing rapid growth with the liberalization of the financial sector by the Bank of Ghana and positive economic environment" (Adams and Lamptey, 2009). As a result most of the banks are keeping abreast with time in the world of technology to provide variety and flexibilities to their customers. A remarkable concept adopted is the adoption of e-banking, which gives every day and moment access to their customers. In Ghana, "the earliest forms of electronic and communications technologies used were mainly office automation devices" (Abor, 2004). According to Abor (2004), "telephones, telex and facsimile were employed to speed up and make more efficient, the process of servicing clients". For many years, "they remained the main information and communication technologies used for transacting the business of banking" (Abor, 2004).

A report presented by Abor (2010) indicated that "Barclays Bank (Ghana) Limited and Standard Chartered Bank (Ghana.) Limited pioneered this very important electronic novelty, which changed the banking landscape in the country".

A number of banks in the country have come up with a lot of commercials and a large spectrum of services and products. The foremost ATM installed in the country was by the Trust Bank Ghana in 1995. Other major banks began their ATM networks at competitive

positions. GCB Bank Limited started its ATM offering in 2001 in collaboration with Agricultural Development Bank. ATMs have been able to entrench the one-branch philosophy in this country, by being networked, people do not necessarily have to go to their branch to do some banking.

The banks in Ghana have come up with a number of e-banking cards. "For instance, the first major cash card is a product of Social Security Bank, now Soceite Generale SSB, introduced in May 1997 in Ghana" (Abor, 2010). Standard Chartered Bank however came up with the first debit card in Ghana. According to Abor (2010) a consortium of three (3) banks (Ecobank, Cal Merchant Bank and The Trust Bank) introduced a further development in electronic cards in November 2001, called E-Card; which was online in real time, so anytime a client uses the card, or changes occur in their account balance, their card automatically reflects the change.

2.5 Patronage of E-Banking

The emergence of new banking technology has created highly competitive market conditions, which have had a critical impact upon consumer behavior. According to Mols et al. (1998), "electronic banking providers must, therefore, attempt to better understand their customers and their attitudes toward technology in general; which when successful will enable banks influence and even determine consumer behavior, which will become a major issue in creating competitive advantage in the future". Mols et al., (1998) further asserts that "the interaction between the patronage and marketing of electronic delivery channels by the banks and the changing customer segments is creating new environments for distribution channels".

There have been several discussions about what is behind patronage of e-banking and internet banking in particular. According to Rogers and Shoemaker (1971), "consumers go through "a process of knowledge, persuasion, decision, implementation and confirmation" before they are ready to patronize a product or service". Knowledge has to do with the socio-economic characteristics, Personality variables and communication behavior towards innovativeness (Rogers, 1995).

According to Rogers, "early adopters have more formal education than later adopters have and are more likely to patronize as fast as they can" (p.45). In relation to persuasion, Rogers emphasized that "the potential adopter's attitude towards the innovation is formed in this stage". By anticipating and predicting future use satisfaction and risk of adoption, "the potential user develops positive or negative attitudes to the innovation, which play important role of modifying the final decision" (Rogers, 1995, 45).

When one engages in events that cause either an acceptance or rejection of an innovative service, the decision stage occurs then. In this stage, the users starts to actively seek out information about the innovation that assists the decision-making. In the implementation stage mental information processing and decision making come to an end, but the behavioral change begins. After the adoption of innovations, "the adopter keeps evaluating the results of his/ her decision and this forms the confirmation stage" (Rogers, 1995,46).

2.6 Level of Awareness of E-Banking

The extent of awareness of consumers of e-banking "influences the patronage of e-banking. The e-banking literature supports that individual factors like knowledge has an impact on consumer's adoption of internet banking" (Polatoglu and Ekin, 2001). Sathye (1999)

pinpoints that "many consumers were simply unaware of internet banking and its unique benefits". In this case, knowledge implies consumers' cognizance of e-banking and the advantages that come with internet banking, and their awareness of how to employ rudimentary technology. As noted by Colgate et al. (2003) "when consumers made decisions for different alternatives in the market place, the awareness of the existing alternatives was a determinant for consumers to stay with their current banking provider."

Within this setting, a number of studies (see Sathye, 1999; Polatoglu and Ekin,(2001) supported the notion that consumer awareness has an effect on e-banking usage. It is further explained by Sathye (1999) that "the lack of awareness about electronic banking and its benefits contribute to the non-adoption of electronic banking". Besides, Polatoglu and Ekin (2001) put foward that "the more knowledge and skills a consumer possessed about electronic banking, the easier it was for the consumer to utilize electronic banking". Consequently consumers more knowledgeable of internet banking are more likely to uphold internet banking very expedient and reliable.

Also, "Awareness level of consumers on the concept of internet banking has a positive effect on the perceived usefulness of internet banking" (Polatoglu and Ekin, 2001). The last hypothesis states that "awareness level of consumers on the concept of internet banking has a positive effect on the perceived reliability on internet banking" (Polatoglu and Ekin, 2001). Awareness has been explained in three dimensions with respect to the conviction behind the concept and the usage. These are perceived usefulness, perceived ease of use, and perceived reliability.

2.7 Challenges of Electronic Banking

Financial institutions have been providing electronic products and services to customers for years. According to BCBS (2001, p.33) "electronic funds transfer, including small payments and corporate cash management systems, as well as publicly accessible automated machines for currency withdrawal and retail account management, are global fixtures". Nevertheless, the rising global adoption of the internet "as a delivery channel for banking products and services provides new business opportunities for banks as well as service benefits for their customers" (p.34). Regardless of the advantages of e-banking and the potentials it possesses, there are also some challenges and risks it comes with and this requires banking institutions to manage it in a wise manner.

How fast technology and customer innovative services change are unprecedented. Traditionally, new banking platforms "were implemented over relatively long periods of time and only after in-depth testing" (HCBS, 2001, p.34). Currently banks are burdened with the pressure to come up with new applications in a very fast pace, usually few months from instigation to production. "This competition intensifies the management challenge to ensure that adequate strategic assessment, risk analysis and security reviews are conducted prior to implementing new e-banking applications" (BCBS, 2001, p.34).

According to BCBS (2001) "E-banking increases banks' dependence on information technology, thereby increasing the technical complexity of many operational and security issues and furthering a trend towards more partnerships, alliances and outsourcing arrangements with third parties, many of whom are unregulated" (p.35). This has been leading to "the creation of new business models involving banks and non-bank entities, such as Internet service providers, telecommunication companies and other technology

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firms" (BCBS, 2001). The internet is common and everywhere. It can be used by almost everyone anywhere since it is an open network. Therefore, "it significantly magnifies the importance of security controls, customer authentication techniques, data protection, audit trail procedures, and customer privacy standards" (BCBS, 2001).

2.8 Empirical Review

Thornton and White (2001) found that "customer orientations such as convenience, service, technology, change, knowledge, computer, and Internet affected the usage of different channels". According to their study "the usage of ATM, EFTPOS, and telephone increased as customers were more oriented towards change, knowledge, computer, and confidence". Quoting from Didio (1998), Nath et al. (2001) underlined that "the average transaction cost of $1.07 at a full-service bank was reduced to $0.27 at an ATM, and fell to about a penny if the transaction was made on the Web". They also added that "cost savings, access to additional services, and convenience were among the main benefits of the IB" (p.67).

Similar conclusions were reached by Ahmad and Buttle (2002) for telephone banking which provided convenience and control to consumers and lower costs to banks. Polatoglu and Ekin (2001) argued that "early adopters and heavy users of IB services were more satisfied with the services compared to the other customer groups". According to Joseph and Stone (2003), "the ability in order to deliver services via technology appears to be correlated with high satisfaction with services deemed most important to customers".

Furthermore Moutinho and Smith (2000) emphasized that "human and technology based delivery channels were greatly linked with the customers' perceptions of how these bank

services were delivered to them and pointed out that these perceptual outcomes would affect the level of bank customer satisfaction, retention, and switching".

Liao and Cheung (2002) found that "individual expectations regarding accuracy, security, transaction speed, user friendliness, user involvement, convenience were the most important quality attributes that perceived usefulness of internet based e-retail banking". Among these, the first five determined the willingness to use by consumers. Moutinho and Smith (2000) studied the behavior of established bank customer and concluded that "ease of baking and convenience was the two important expectations."

Mattila et al. (2003) said that "perceived difficulty in using computers combined with the lack of personal service in electronic banking were the main barriers" while Sathye (1999) identified the security concerns and lack of awareness about Internet Banking as the main obstacles to nonadoption. He pointed that "young, educated and wealthy groups of customers were the most relevant customer segments for the rapid development of Internet banking market". Polatoglu and Ekin (2001) pointed out "nine factors that influenced the diffusion of Internet Banking. They were: "Relative advantage, Observablity, Triability, Complexity, Perceived risk, Type of group, Type of decision, and Marketing effort". He concluded that "those customers, who use Internet banking for the longest time or who use more of its services, find Internet banking to be very reliable."

Lockett and Litter (1997) presented a study of the adoption of direct banking services in UK using a model of the perceived innovation attributes and the personal characteristics of adopters and nonadopters. Their results indicated that "the most important perceived positive attribute of direct baking was its 24-hour-a-day availability, whereas complexity and risk of service were the two negative attributes". Patricio et al. (2003) underlined the

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critical importance of understanding and improving the contribution of each channel within the overall service offering rather than concentrating efforts on improvement to each service delivery channel in isolation.

Based on UK evidence, Li (2001) claimed that "the integrated banking models around which traditional banks have built their strategies in the past were showing signs of fragmentation". Thus he described four emerging Internet banking models in UK. The first model was based on accepting the Internet as a "new distribution channel" which was onto the existing model. The second model, also called "electronic banking" was based on multi-channel banking in which the Internet was the integrative component. The third model consisted of creating "baby e-banks" with their own ebrand name and product range. Aladwani (2001) highlighted "security, regulations, consumer privacy and bank's reputation as the main future challenges in the adoption of Internet Banking by Kuwaiti banks". Parasuraman (2000) proposed that "flexibility, convenience, efficiency and enjoyment are examples of major positive themes in the online environment."

2.9 Conclusion

It is evident from the literature that though customers' literacy rate and level of interest (ease of use and usefulness) is important in determining their patronage of e-banking services, the banks' ability to make these services available and well managed is also an issue of great concern. This study adds to the existing literatures on e-banking in Ghana in a unique way. This study particularly pays attention to the challenges the banks face in discharging the e-banking services and how that affect customer patronage.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The purpose of this chapter is to present the methodological framework suitable for conducting the study. It discusses the methods and tools of analysis employed in this study. Specifically, the chapter presents a detailed description of the research design, target population, sample size and sampling procedure, research instruments, sources of data and finally the data analysis plan.

3.1 Research Design

The research design is basically concerned with the researchers plan, structure and strategy of investigation that enables him or her to obtain answers to the study's objectives. The study employed the descriptive survey in which observation made about knowledge, patronage and challenges of e-banking were described. Descriptive research design is a scientific method which involves observing and describing the behaviour of a subject without influencing it in any way (Neuman, 2000). Also, it is a study of variables in their natural setting or under usual circumstances. The survey design is probably the best method available to social scientists who are interested in collecting original data for describing a population too large to be observed directly, as in this study (Babbie, 1989).

3.2 Target Population

The target population for a survey 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. For the purpose of this study the target population comprised all customers of GCB Bank Limited and Ecobank from the Kumasi Metropolis. The number of clients is estimated to be about 15,000 (GCB: 8500, Ecobank: 6,500).

3.3 Sample Size and Sampling Procedure

The study used a sample size of 376. The sample size was selected based on a technique provided by the National Education Association of the USA, published in the *The NEA Research Bulletin*, Vol. 38 (December, 1960). The sample size was determined based on the formula:

$$s = X^2NP\,(1-P) \div d^2\,(N-1) + X^2P\,(1-P).$$

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

N = the population size.

P = the population proportion (assumed to be .50 since this would provide the maximum sample size).

d^2 = the degree of accuracy expressed as a proportion (.05).

Based on this formula the table below was generated to facilitate easy reference in the selection of sample size. The original table contained from 10-1000000 population, for the purpose of this study however, it has been reduced to suit the study as shown in the table below

N	S		N	S
10	10		80	66
20	19		90	73
30	28		100	80
40	36		200	132
50	44		3000	341
60	52		4000	361
70	59		15,000	376

Source: *The NEA Research Bulletin*, (1960)

N-Population

S-Sample Size

Given the total population of 15,000 (GCB: 8500, Ecobank: 6,500), a sample size of   375 was selected based on the table above. The total sample size was distributed evenly among the two selected branches of the two banks as indicated in the table below:

Table 3.1 Population and Sample Size

Bank	Population	Sample Size
GCB	8,500	188
Ecobank	6,500	188
Total		**376**

Source: Field Data (2015)

The study adopted the probability techniques to choose the sample size. The probability method employed was the systematic sampling technique. This was employed to sample the customers. Systematic sampling technique involved selecting respondents from a customers' lists of the two bank. The nominal rolls of customers were employed where

every K^th person from the roll was chosen among the customers. In all 375 customers in both GCB and Ecobank in Adum - Kumasi for the study. A total of hundred (100) respondent will be selected and these will be the main source of primary data for the research.

3.4 Research Instruments

This phase of the study design was concerned with how to obtain the needed information from the sample selected and the data collection instruments to be used. In this study, the researcher used questionnaires as the main instruments of data collection. The questions were spread out and made simple so as to avoid misinterpretation and boredom and enhance the response rate as respondents spent less time in answering many questions.

Questions answered by participants included both closed-ended and opened-ended types. Mutually exclusive and exhaustive response categories of different types for closed-ended questions were included. The open-ended questions were pre-coded to facilitate data processing. The open-ended questions were also included so that participants will also express their views about knowledge and patronage of e-banking facilities. Thus spaces were provided for them to express their views and opinions. To ensure confidentiality the data collecting instruments was made anonymous.

3.5 Source of Data

The study relied solely on the use of primary data from the administration of questionnaires to the respondents.

3.6 Data Analyses Plan

Data gathered were reviewed, and then analyzed in order to come out with finding as well as conclusion. The study adopted the use of descriptive statistics in its analysis. Data collected was tabulated following the responses received from the administration of the questionnaires. The Statistical Package for Social Science (SPSS version 16.0) was employed in the analysis.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents and discusses the results of the study. The findings of the study are presented and analysed under each objectives set for the study. The objectives set included: assessing customers' awareness of e-banking products available, the extent of patronage of the e-banking products and challenges or reasons for customers opting out of the use of some e-banking products.

4.2 Response Rate of Respondents

A total of 376 questionnaires were administered. Out of the number administered, 320 responded to the questionnaires, giving an 85.33% response rate. The response rate is quite significant; and gives an indication of the enthusiasm of customers in the issue under study. It is an indication of customers' interest in e-banking services.

Figure 4.1 response Rate
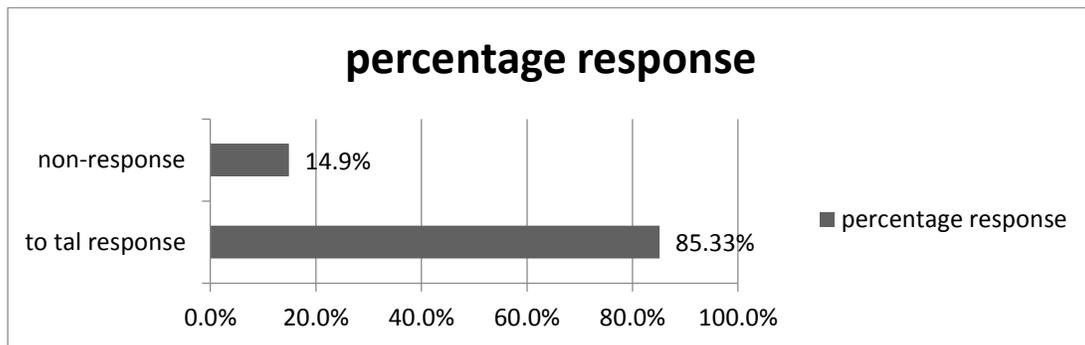
Source: Field Data (2015)

4.3 Demographic Characteristics of Respondents

The study analysed the background profile of respondents used for the study. Areas analysed included their gender, age, level of education and number of years customers have been with the selected bank. Analysing the profile of the respondents creates an explanation of the relationship with the findings.

4.3.1 Gender of Respondents

Table 4.1 presents the results of the study with respect to gender. It is observed from the table that, 192 representing 60% forming majority of the respondents are males as 128 respondents representing 40% are females. The results show an adequate representation of both gender, although the males were slightly dominant. It also suggests that the banked population is slightly dominated by males. Women activists can therefore be encouraged to improve banking among the women population.

Table 4.1 Distribution by Gender

Category	Respondents	Percentage
Male	192	60.0
Female	128	40.0
Total	**320**	**100.0**

Source: Field Survey, 2015

4.3.2 Age

Table 4.2 presents the results on the respondents' distribution regarding age. The results indicate that, 32 respondents representing 10% of the total number of respondents were less than 20 years, 96 respondents representing 30% were also on the other hand within the age group 21-30 years whilst 160 respondents representing 50% were recorded as being within the age group 31-40 years.

Another 32 of the respondents representing 10% of the total population reported being in the age group 41-50 years. The above statistics therefore indicates that majority of the customers of the selected banks were within the age group 31-40 years. It suggests that banked population is dominated by those in their productive age. This may be explained by the fact these age group earn higher and are likely to be engaged in more banking transactions than those under 20 and those approaching retirement.

Table 4.2 Distribution by Age

Age group	Frequency	Percentage
less than 20 years	32	10.0
21-30 years	96	30.0
31-40 years	160	50.0
41-50 years	32	10.0
Total	**320**	**100.0**

Source: Field work, 2015

An important observation however was that those above forty years of age were dominated by customers of GCB. They constituted about 75% compared to only 25% who were customers of Ecobank. The indication is that the older population are more comfortable

with the state banks. It can also be explained that the non-state banks appeal more to the younger population.

4.3.3 Years spent with the Banks

There was an attempt to find out the number of years customers had spent with their banks. This was to authenticate their extent of experience with the issues under study. The table 4.3 below shows the number of years respondents have spent with their banks as customers.

Table 4.3 Respondent's years spent with Ecobank

Years	Frequency	
less than 3 years	40	12.5
3-6 years	132	41.25
7-10 years	80	25
more than 10 years	68	21.25
Total	**320**	**100.0**

Source: Field Data (2015)

The results of the number of years respondents had spent with their respective banks shows that about 40 of them (representing 12.5%) had spent less than three years with the banks. Further analysis revealed that about 32 of the 40 were customers of Ecobank. The indication is that Ecobank has recruited more customers in the last 3 years than GCB.

Again, those found in the age bracket 3-6 years were also 132 in number, resenting 41.25%. Again, the observation was that those in this age group were slightly dominated by customers of Ecobank (with 63%). It confirms the earlier assertion that Ecobank has gained more customers in the last few years than GCB.

The age group 7-10 also recorded 80 respondents, representing 25%. This group was however dominated by customers of GCB. The last age group "more than 10 years" also had 68 respondents or 21.25%. This group was also slightly dominated by customers of GCB.

Generally, what can be inferred from the above results is that compared to GCB, Ecobank has recorded significant increase in customer base in the last few years. The implication is that Ecobank has a better customer drive strategy that has worked in recent years better than that of GCB.

4.3.4 Level of Education

Respondent's level of education was also assessed. The table 4.4 below indicates the distribution of findings with respect to respondent's education level.

Table 4.4 Respondent's Educational Level

Level of education	Frequency	percentage
Basic	32	10.0
Secondary	32	10.0
Tertiary	256	80.0
Total	**320**	**100.0**

Source: Field Data (2015)

From the table above, 10% chose basic level as their level of education. Again, 32 respondents also constituting 10% were found to have been educated up to the secondary level. The remaining 256 respondents representing 80% of the total population were

educated up to the tertiary level. The clear indication is that the respondents were dominated by those educate to the tertiary level.

A cursory observation revealed again that about 62.5% of the combined respondents without tertiary education were customers of GCB. The implication of this is that GCB is able to reach out better to those with lower educational levels than Ecobank. This may be linked to the fact GCB has more presence in most rural communities where lower educational levels are likely to be recorded. The implication for this is that the dominant respondent with tertiary education is a good basis to measure the level of acceptance and patronage of e-banking service by the customers of the selected banks.

4.3.5 Occupation

Another characteristics investigated into was the occupation of the respondents. The results obtained are shown in the table 4.5

Table 4.5 Respondent's Occupation

Level of education	Frequency	percentage
Teaching	132	41.25
Nursing	68	21.25
Students	92	28.75
Artisans	28	8.75
Total	**320**	**100.0**

Source: Field Data (2015)

Table 4.5 reveals that about 132 of the respondents representing 41.25% were teachers whilst 68 or 21.25% were nurses. Out of the remaining, 92 or 28.75% reported being students with the remaining 28 or 8.75% being artisans. It shows a clear dominance by

those in the formal sector. The 8.75% who were artisans is an indication that both banks appeal to a broad spectrum of workers in both the formal and informal sector. It was observed however that the government workers were dominated by customers of GCB, a clear indication that most government workers will opt for GCB.

Another important observation was that out of the total of 92 who reported being students, about 18 of them were customers of Ecobank; another indication that Ecobank also appeals more to students than GCB

4.3.6 Marital Status

The study also analysed the marital status of respondents as part of their demographic characteristics. Findings obtained are shown in the table below:

Table 4.6 Marital Status

	Frequency	percentage
married	160	50.0
single	96	30.0
divorced	32	10.0
separated	32	10.0
Total	**320**	**100.0**

Source: Field Survey (2015)

It can be seen from the table that about 50% of the respondents were married. Out of the remaining, about 96 of them or 30% were single whilst 32 each were either divorced or separated. The significant number of student population reflected in the 30% who reported not being married. For the purpose of this study, it shows that majority of the respondents

have started their family and may be more concerned by financial prudence, hence their need of banking services.

4.3.7 Type of Account

The study also examined the account types held by the respondents with their respective banks. Findings obtained are indicated in the table 4.7 below:

Table 4.7 Type of Account

	Frequency	percentage
current	128	40.0
savings	192	60.0
Total	**320**	**100.0**

Source: Field Data (2015)

It can be seen from the table that majority held savings account (about 60%). It shows that gradually, most people are becoming more conscious about savings. This is a positive trend that must be encouraged by the various banks; since it not only provides them with more stable funds, but also helps the customers reduce their cost of banking.

4.4 Knowledge level of E-Banking Products/Services

A key objective of the study was to examine respondents' knowledge level of e-banking products and service rendered by the banks. The study assesses respondents knowledge of the following services provided both GCB and Ecobank: ATM services, credit cards services, mobile banking, internet banking, and telephone banking. Findings obtained are shown in table 4.8:

Table 4.8 Respondents' Knowledge level of E-Banking Services

E-product	Level of Usage				
	Excellent	**V. good**	**Good**	**Average**	**Poor**
ATM	192	128			
Credit Cards	-	64	32	160	64
Mobile Banking	-	96	224	-	-
Internet Banking	32	32	32	160	64
Telephone Banking	32	64	32	128	64

Source: Field Data (2015)

As indicated in table 4.8, majority of the respondents had better knowledge of the ATM service provided by the banks than the other e-banking services. In other words, the most common e-banking product to the customers was the ATM. This was followed by the mobile banking service and then internet banking. The remaining three e-banking service did not appear much known by the respondents.

A breakdown of the responses showed the following: ATM: excellent (192), very good (128), good (0), average (0) and poor (0). The implication is that there was no customer with a poor knowledge of ATM service provided by the banks. Importantly, majority of them had an excellent knowledge of it. This confirms ATM the most popular e-banking service to customers of both banks.

In the case of credit cards, the following was recorded: excellent (0), very good (64), good (32), average (160) and poor (160). This shows none of the respondents had an excellent knowledge of credit cards whilst about 64 of them actually had poor knowledge of this e-banking service. It suggests the need for enhanced education in this e-banking product.

Mobile banking also recorded the following: excellent (0), very good (96), good (224), average (0) and poor (0). The indication here is that majority of the respondents had a good knowledge of mobile banking whilst none demonstrated a poor knowledge.

With regards to internet banking, the following was recorded: excellent (8), very good (32), good (32), average (160) and poor (64). It can be seen here that internet banking is not very popular with the customers. As much as 224 of the respondents or 70% had average or poor knowledge of internet banking. This suggests that internet banking as an e-banking service has not been well marketed to the public. The level of knowledge of this service appeared equally low for both banks. Banks would therefore need to strengthen their public education of internet banking.

The final e-banking service shown in the table is telephone banking. Findings in respect of respondents' knowledge of this service also show the following: excellent (32), very good (64), good (32), average (128) and poor (64). The details of responses to this service suggests that majority of customers have average knowledge of the service. Whilst 128 had average knowledge, about 64 had poor knowledge whilst only 64 had excellent knowledge.

4.5 Level of Patronage of E-banking

The study also sought to establish the level of patronage of the e-banking products by customers of the selected banks. The aim was to establish any relationship between knowledge level of the e-banking products and level of patronage. Findings obtained are depicted on the figure below:

Figure 4.2: Level of patronage of e-banking products/Service (Ecobank)
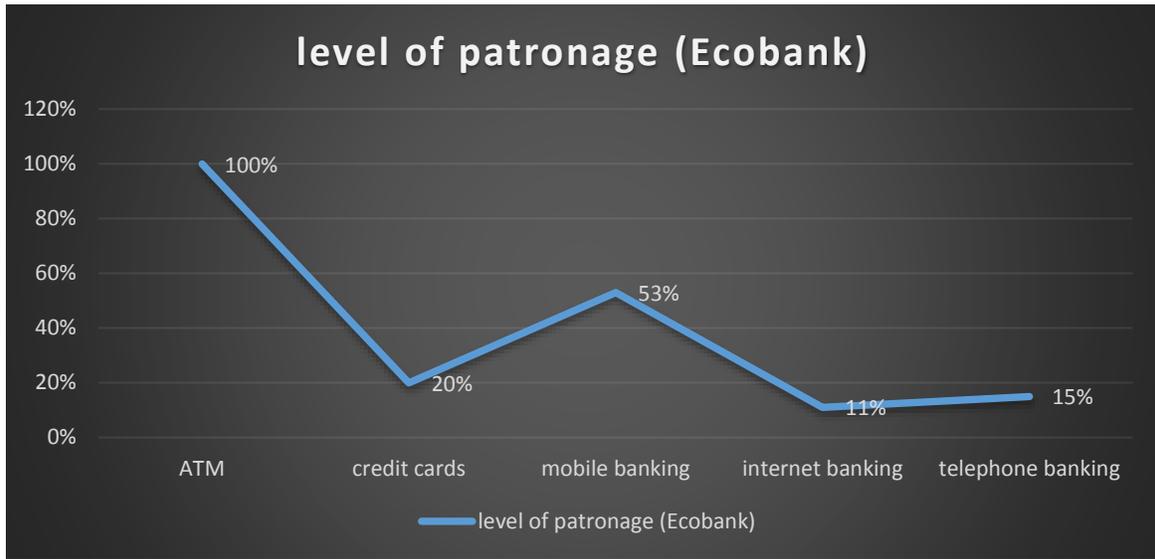
Source: Field data (2015)

Figure 4.3: Level of patronage of e-banking Products/Service (GCB)
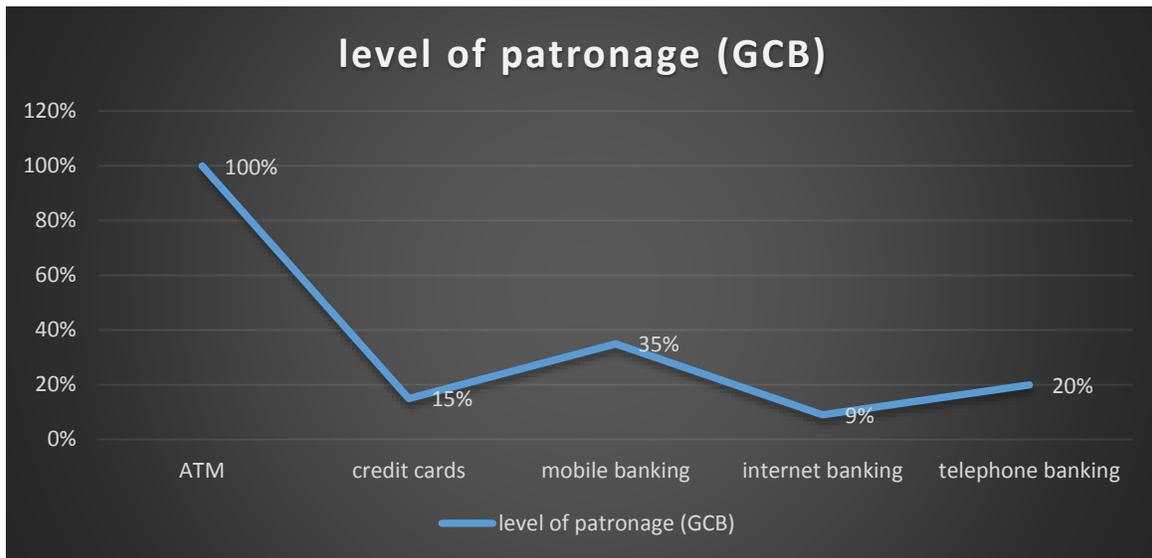
Source: Field data (2015)

As depicted by the two figures (fig 4.2 and fig 4.3) above, it is clear that ATM is the most patronized e-banking product by the customers of both GCB and Ecobank. In both instances a 100% was recorded, suggesting virtually all the respondents had used the ATM before. This was however not the case in the remaining e-banking products. As indicated by the figure, only 20% of the respondents from Ecobank reported having used the credit card before. In the case of GCB, the percentage was slightly lower (15%). The indication is that there is low patronage of the credit card by customers of both banks.

With the exception of Mobile banking that recorded a patronage level above 30% in the case of both banks, none of the other products recorded patronage level above 20%. The indication this provides is that apart from ATM, patronage of other e-banking products by bank customers is generally poor. An important observation however is that patronage of the other e-banking products, apart from ATM which recorded 100% for both banks, was

generally higher at Ecobank than GCB (see the respective figures above). The indication is that there is slightly higher acceptability of e-banking products by customers of Ecobank than customers of GCB. This finding suggests that while both banks and banks in general will be encouraged to intensify education of e-banking products for its customers, GCB will be urged to do more.

4.6 Correlation Between knowledge level of E-banking product and Level of Patronage

A tests was carried out to establish the correlation between knowledge of e-banking products and level of patronage. The test carried out showed a weak correlation between knowledge of e-banking products and level of patronage, which was not statistically significant ($r = .173$, n = 320) (see table 4.9). Again, the level of significance shows a value greater than 0.5 (Sig. This suggests that the knowledge level of e-banking products does not necessarily influence customers' level of patronage.

Table 4.9 Correlations Between knowledge level of E-banking product and Level of Patronage

		Knowledge level	patronage of e-banking services
Knowledge level	Pearson Correlation	1	.173
	Sig. (2-tailed)		.126
	N	320	320
patronage of e-banking services	Pearson Correlation	.173	1
	Sig. (2-tailed)	.126	
	N	320	320

Source: Field Data (2015)

4.7 Means of Introduction to E-Banking Service

Respondent's means of introduction to e-banking products was also assessed. Results obtained are shown in the table below.

Table 4.10 Means of introduction to e-banking service

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	adverts by the bank	96	30.0	30.0	30.0
	through friends	32	10.0	10.0	40.0
	at exhibitions	128	40.0	40.0	80.0
	TV/Radio education	64	20.0	20.0	100.0
	Total	320	100.0	100.0	

Source: Field Data (2015)

From table 4.9 below, it is seen that about 30% of the respondents acquired their knowledge of e-banking products of the banks through various adverts by the banks. 10% also reported getting their knowledge through friends whilst 40% obtained their knowledge at exhibitions. A further 20% also referred to TV/radio educational programmes on banking as the source of their knowledge of e-banking products and services by their banks.

This breakdown of respondents' means of introduction to e-banking products and services shows how effective each channel of information to customers has been. It is clear that exhibitions have provided better interactive platforms for customers to understand products on offer from the banks. Of course adverts of various forms also showed strongly here. The implication for this study is that knowledge of e-banking products through increased information flow through the various channels highlighted above.

4.8 Frequency of usage E-Banking Services

An attempt was also made to establish the frequency of usage of the e-banking products of the selected banks used for the study. The results obtained are presented in Table 4.11.

Table 4.11 Frequency of usage E-Banking Services

E-product		Level of Usage				
	Daily	Weekly	Monthly	As needed	Hardly	Never
ATM	32	160	-	96	32	-
Credit Cards	-	-	-	-	32	288
Mobile Banking	-	32	-	224	64	-
Internet Banking	-	-	-	-	64	256
Telephone Banking	-	-	-	32	64	224

Source: Field Data (2015)

It is observed that on the average nearly 10% (32) of the respondents use the ATM daily whilst 50% (160) use it on weekly basis. About 30% (96) reported using the ATM as and when needed whilst 10% (32) had also hardly use them. A cursory observation of the other e-banking products shows that apart from mobile banking that recorded relatively frequent usage (about 10% weekly and 70% as and when needed), the remaining e-banking products were either hardly used or never used.

The implication for this study is that about 10% of respondents (customers) use the ATM at least once every day whilst 30% use it at least once every week. In other words about 40% use it at least once every week. This is consistent with earlier findings that revealed the ATM as the highest patronized e-banking product On the other hand up to about 90% of the respondents had never used the credit card and internet banking before. It is an

indication of some gap with these other e-banking products that management to come up with some incentives or make it more flexible to attract customers.

4.9 Perception of E-banking Products

The study examined respondents' general perception of e-banking products compared to traditional banking. This was to help understand customers' general attitude to e-banking products. The study employed the one-sample t-test technique (using a test value of 1.5) in analysing the significance of variables tested under this objective. Basically, the strength of responses to each of the variables were measured to arrive at the level of significance of those variables. The table 4.12 presents findings obtained:

Table 4.12 One-Sample Test of Respondents' Perception of E-banking Products

	Test Value = 1.5			
	t	df	Sig. (2-tailed)	Mean Difference
e-banking services are more efficient	11.105	319	.000	.8000
e-banking services are more convenient	.000	319	.000	.0000
e-banking services are more reliable	9.908	319	.000	1.3000
e-banking services are more accessible	6.602	319	.000	.4000
e-banking services are more cost effective	9.937	319	1.000	.5000
e-banking services are faster	-1.814	319	.003	-.1000

Source: Field data (2015)

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The table reveals the *t*-value (t), degrees of freedom ("***df***"), and the statistical significance (*p*-value) (Sig. (2-tailed)) of the test employed. Significance of each of the variables tested is measured by the *p*-value (in the column labeled **"Sig. (2-tailed)"**). The study used a margin of error of 5% (0.05). Therefore a variable is significant if it recorded a *p*-value < 0.05.

Looking at the variables tested, it can be seen that about five (5) out of the six variables in the table recorded significant values (i.e. p<0.05). These include the following variables: e-banking services are more efficient (p=0.00), e-banking services are more convenient (p=0.00), e-banking services are more reliable (p=0.020), -banking services are more accessible, and e-banking services are faster (see table above). The remaining variable: "e-banking services are more cost effective" however recorded a p-values > 0.05 (p=1.00).

The results above thus forms the perception of customers about e-banking products. Generally, the respondents (customers) find e-banking services to be more efficient and convenient than traditional banking. Again, majority of the respondents also identify e-banking services to be more reliable and accessible, and faster. These were all established based on the strength of a test carried out to measure their significance. Respondents however did not generally find e-banking to be more cost effective compared to traditional banking. This could be linked to the charges that usually come with the use and subscription to these services by the various banks.

4.10 Impact of Electronic Banking on Customer Satisfaction

The study also measured the impact of e-banking products and services on customer satisfaction. The study again achieved this objective by testing the level of significance of

some variables using the one-sample t-test. The results obtained (depicted in the table below) shows the following breakdown: It has enhanced accessibility to banking services (p=0.03), It has reduced banking time for me (p=0.00), I have better control of my transactions (p=0.073), It has got me closer to the bank (p=0.02), and It has opened up opportunities to explore other services of the bank (p=0.03) (see table 4.13).

The breakdown shows that four of the five variables recorded p-values that were statistically significant (i.e, P<0.05). The only deviation recorded was in respect of the variable "I have better control of my transactions". The implication is that this is the only variable that was significantly weak in terms of e-banking's impact on customer satisfaction. However, the following were all identified as significant impacts of e-banking on customer satisfaction: enhanced accessibility to banking services, reduced banking time for customers, closer relationship with the bank, and opportunity to explore other services.

Table 4.13 Impact of on Customer Satisfaction

	Test Value = 1.5			
	t	df	Sig. (2-tailed)	Mean Difference
It has enhanced accessibility to banking services	1.814	319	.003	.1000
It has reduced banking time for me	.000	319	.000	.0000
I have better control of my transactions	1.814	319	.073	.1000
It has got me closer to the bank	11.105	319	.002	.80000
It has opened up opportunities to explore other services of the bank	6.602	319	.003	.40000

Source: Field Data (2015)

The obvious findings however is that, the most significant impact of e-banking on customer satisfaction is the fact that it has reduced banking time for customers. This was established because the variable "It has reduced banking time for me" recorded the most significant p-value of 0.00 (see table above).

The findings are consistent with the position by Rubino (2000), who suggests that traditional methods of banking are limited by time, space and resources but through E-banking, banking services can be obtained outside of the normal banking hours, that is, one can use banking services all day round, making it accessible and convenient.

4.11 Challenges With E-banking products and Services

A test was also carried out to identify challenges to e-banking products and service as perceived by the customers. The table below shows the breakdown of findings on the test carried out for each of the five variables tested under this objective: Security threat posed by hackers (p=0.020), Technological failures and frequent breakdowns (p=0.003), Ineffective servicing of delivery channels (p=0.000), unreliable (p=0.060), and Additional cost in patronizing those services (p=0.070).

Table 4.14 One-Sample Test of Challenges of e-banking products/Services

	Test Value = 1.5			
	t	df	Sig. (2-tailed)	Mean Difference
Security threat posed by hackers	.000	319	.020	.00000
Technological failures and frequent breakdowns	1.814	319	.003	.10000
Ineffective servicing of delivery channels	10.668	319	.000	1.10000
unreliable	22.135	319	.060	2.60000
Additional cost in patronizing those services	15.554	319	.070	.70000

Source: Field Data (2015)

Findings as indicated in the one-sample t-test analysis conducted identified the following as significant challenges that come with e-banking products: Security threat posed by hackers, Technological failures and frequent breakdowns, and Ineffective servicing of delivery channels. These were recorded as the variables with p-values that were statistically significant. The following variables were found to be generally weak and did not constitute significant challenges to e-banking: "unreliable" and "Additional cost in patronizing those services".

The challenges identified above were also raised by Feinman*et al.* (1999). According to them, the most important challenge is the security concerns. Furst*et al.* (2000) also identified the quality of service delivery by network providers – including delivery speed and delivery reliability. According to Furst*et al.* (2000), although some of the challenges

are the result of inadequate knowledge on the part of customers (example, lack of knowledge on the internet usage); the bigger burden of smooth running and increased patronage of the product depends on the banks.

4.12 Measures to Address the Challenges

The last objective achieved was aimed at identifying measures to address the challenges to e-banking services and products identified in the previous objective. To achieve this objective, the study used the Relative Importance Index (RII) technique in analyzing the strength of each of the variables as a potential measure to address challenges that come with e-banking.

The study measured respondents perceptions against probable measures identified in the literature. The responses were rated from Strongly Agree to Strongly Disagree which is next separated into five point verbal-numerical scale - strongly agree=5, agree=4, neutral=3, disagree = 2 and strongly disagree = 1.

To determine the relative ranking of the factors, the scores were then transformed to important indices based on the following formula.

$$\text{Relative Importance Index} = \frac{\sum w}{AN} \qquad (1)$$

where "W" is the weighting given to each factor by the respondents, ranging from 1 to 5, A is the highest weight (i.e. 5 in the study) and N is the total number of samples. Based on equation (1), the relative importance index (RII) can be calculated ranging from 0 to 1. Table 4.5 presents the various findings relative to this objective:

Table 4.15 Measures to Address the Challenges

key: SA-strongly agree, A-agree, NS-not sure, D-disagree, SD-strongly disagree						
Statement	Frequency					RII
	SA =5	A =4	NS= 3	D = 2	SD = 1	
greater security	128	192	-	-	-	0.88
Reduction in cost of patronage	96	224	-	-	-	0.86
More flexibility	-	256	64	-	-	0.76
Quicker response to complaints	160	128	32	-	-	0.82
Regular maintenance	256	64	-	-	-	0.96

Source: Field Data (2015)

The results shown in the table reveals the various RII recorded for each of the variables. A breakdown of the results shows the following: greater security (RII=0.88), Reduction in cost of patronage (RII=0.86), More flexibility (RII=0.72), Quicker response to complaints (RII=0.82), and Regular maintenance (RII=0.96).

The results suggests that all the variables recorded RIIs that were statistically significant (closer to 1) and constituted what respondents perceived as measures to address the challenges that come with e-banking services. The implication is that to address the challenges inherent in e-banking, respondents feel that management should ensure greater security, reduce cost of patronage, create more flexibility, respond quickly to complaints and ensure regular maintenance of the e-banking infrastructure.

Further analysis of the RIIs of the various variables also reveals the variable "regular maintenance" as the most significant measure of the lot. This was established based on the

fact that it recorded the highest RII of 0.96 (see table 4.15). It suggests that the most significant thing customers want to see management do is to ensure regular maintenance of e-banking infrastructure. This is apparently linked to the occasional breakdowns of some e-banking infrastructure like ATMs and poor inter-branch connectivity.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter consists of the summary of the findings, conclusion and recommendations of the study.

5.2 Summary of Findings

5.2.1 Demography of Respondents

The study discussed the background profile of the respondents under the following areas: gender, age, level of education, marital status and occupation. In terms of gender, evidence from the study suggested the banked population is slightly dominated by males; who constituted 60% of the respondents used for the study. Age wise, it was found that majority of the customers of the selected banks were within the age group 31-40 years. The conclusion drawn was that the banked population is dominated by those in their productive age. Further analysis suggested that the older population are more comfortable with GCB, a state bank.

Analysis of the years customers had spent with the two banks (GCB and Ecobank) showed that Ecobank has recruited more customers in the last 3 years than GCB. The conclusion drawn was that Ecobank has a better customer drive strategy that has worked in recent years better than that of GCB.

Analysing respondents' level of education, it was found that about 80% of the total population were educated up to the tertiary level. It was also revealed that about 62.5% of

the combined respondents without tertiary education were customers of GCB. The conclusion drawn was that that GCB is able to reach out better to those with lower educational levels than Ecobank. With respect to respondents' occupation, it was found that majority of them were in the formal sector, comprising teachers (41.25%), nurses (21.25%) with the remaining made up of students (28.75%) and artisans (8.75%). The study however revealed that the government workers were dominated by customers of GCB. The conclusion drawn therefore was that most government workers will opt for GCB. Analysis of respondents' marital status also revealed that about 50% of them were married.

5.2.2 Knowledge level of E-Banking Products/Services

The study assessed respondents' knowledge of the following services provided by both GCB and Ecobank: ATM services, credit cards services, mobile banking, internet banking, and telephone banking. The study found that majority of the respondents had better knowledge of the ATM service provided by the banks than the other e-banking services. It was found that there were no customers with a poor knowledge of ATM service provided by the banks. Importantly, majority of them had an excellent knowledge of it.

The study also found that about 70% had average or poor knowledge of internet banking whilst none of the respondents had an excellent knowledge of credit cards. Again, majority of the respondents had a good knowledge of mobile banking whilst none demonstrated a poor knowledge. Regarding telephone banking, it was found that majority of customers had average knowledge of the service. The conclusion drawn was that it confirmed ATM as the most popular e-banking service to customers of both banks.

5.2.3 Level of Patronage

The study found ATM to be the most patronized e-banking product by the customers of both GCB and Ecobank. In both instances a 100% was recorded, suggesting virtually that all the respondents have used the ATM before. This was however not the case for the remaining e-banking products. Only 20% of the respondents from Ecobank and 15% from GCB reported having used the credit card before. None of the other products recorded patronage level above 20%. This gave the indication that apart from the ATM, patronage of other e-banking products by bank customers is generally poor. It was however found that there is slightly higher acceptability of e-banking products by customers of Ecobank than customers of GCB.

5.2.4 Means of introduction to E-Banking Service

The study found that about 30% of the respondents acquired their knowledge of e-banking products of the banks through various adverts by the banks. 10% also reported getting their knowledge through friends whilst 40% obtained their knowledge at exhibitions. A further 20% also referred to TV/radio educational programmes on banking as the source of their knowledge of e-banking products and services by their banks.

5.2.5 Frequency of usage E-Banking Services

It was revealed that about 10% of respondents (customers) used the ATM at least once every day whilst 30% used it at least once every week. In other words about 40% use it at least once every week. On the other hand, it was also observed that up to about 90% of the respondents had never used the credit card and internet banking before.

5.2.6 Perception of E-banking Products

The study established that respondents find e-banking services to be more efficient and convenient than traditional banking. In addition, majority of the respondents also identify e-banking services to be more reliable and accessible, and faster. These were all established based on the strength of a test carried out to measure their significance. They all recorded significant values with their p-value being less than 0.05. Respondents however did not generally find e-banking to be more cost effective compared to traditional banking as that recorded p-value p>0.05.

5.2.7 Impact of E-banking on Customer Satisfaction

The study also measured the impact of e-banking products and services on customer satisfaction. Findings identified the following as significant impacts (at 5% margin of error) of e-banking services on customer satisfaction: enhanced accessibility to banking services, reduced banking time for customers, closer relationship with the bank, and opportunity to explore other services. However at 10% significant level customers control over their transactions impacts significantly on customers' satisfaction as far as e-banking services is concern.

5.2.8 Challenges With E-banking products and Services

A test was also carried out to identify challenges to e-banking products and service as perceived by the customers. The study identified the following as significant challenges that come with e-banking products: security threat posed by hackers, technological failures and frequent breakdowns, and ineffective servicing of delivery channels. Also, on a lesser

note (at about 10% margin of error) additional cost in patronizing e-services and unreliability could be some of the challenges of the products.

5.2.9 Measures to Address the Challenges

The study identified the following as measures to address the challenges the perceived challenges with e-banking products and service: greater security (RII=0.88), Reduction in cost of patronage (RII=0.86), more flexibility in service delivery (RII=0.72), quicker response to complaints (RII=0.82), and regular maintenance (RII=0.96). It was however deduced from the results that regular maintenance constituted the most significant measure to address the challenges identified.

5.3 Conclusion

The study had three key objectives: assessing customers' awareness of e-banking products available, the extent of patronage of the e-banking products and challenges or reasons for customers opting out of the use of some e-banking products. Some findings were made and adequately discussed in these regard. Key among these were the observation that e-banking has enhanced accessibility to banking services for customers and reduced banking time for customers. However there were a number of challenges that customers encounter using e-banking services.

5.4 Recommendations

Regarding the findings of the study, the following are recommended;

1. There is the need for regular maintenance of e-banking infrastructure by banks. This came across as one of the challenges. The lack of maintenance has some

services getting disrupted and occasional leaving customers disappointed or distressed.

2. Again, there is the need for enhanced education of e-banking services for customers by banks. This may engender interest in these products and eventually get some more customers patronizing them.

3. Further, there is the need for banks to consider reducing the charges to the use of e-banking products and services. The additional charges was identified as a disincentive for some customers.

4. Finally, there is the need for departments responsible to respond quicker to customer complaints regarding challenges with e-banking services so that customer interest is sustained.

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KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

QUESTIONNAIRE (CUSTOMERS)

TOPIC: **Assessment of the Knowledge, Patronage and Challenges of E-banking Systems in Ghana**

This questionnaire is to assist in an assessment of the knowledge, patronage and challenges of E-banking systems in Ghana. This is an academic exercise; respondents are therefore assured that information provided would be kept confidential. Kindly answer the various questions based on the instructions provided. Thank you for cooperating.

Section A: Background information

Gender	Tick
Male	
Female	

Age	Tick
Less than 20 years	
21-30 years	
31-40 years	
41-50 years	
51-60 years	
More than 60 years	

How long have you been a customer with your current bank?	Tick
Less than 3 years	
3-6 years	
7-10 years	
More than 10 years	

Level of education	Tick
Basic	
Secondary	
Tertiary	
no formal education	

Occupation	Tick
teaching	
nursing	
petty trading	
artisan	
student	
other (please specify)	

Marital Status	Tick
married	
single	
divorced	
separated	

Section B: knowledge Level of E-banking

What type of account do you hold?	Tick
current account	
savings account	
other (please specify)	

Which of the following services have you heard of?	Tick
ATM	
Credit card	
Mobile banking	
Internet banking	
Telephone banking	

On a scale of 1-5, indicate the extent of your knowledge on the following services provided by your bank (Key: 1- excellent, 2-very good, 3-good, 4-average, 5-poor)

E-banking Services	1	2	3	4	5
ATM					
Credit card					
Mobile banking					
Internet banking					
Telephone banking					

Section C: Level of Patronage of E-Banking Products

Which of the following services by your bank have you used before? (Please tick)

Which of the following services by your bank have you used before? (please tick)	Tick
ATM	
Credit card	
Mobile banking	
Internet banking	
Telephone banking	

If you have used any of the above services how did you get introduced to them?	Tick
Adverts by the bank	
Through friends	
At the banking hall	
At exhibitions	
TV/radio education on e-banking	
Other (please state)	

Which of the services do you frequently use?	Tick
ATM	
Credit card	
Mobile banking	
Internet banking	
Telephone banking	

How often do you use the following services by your bank? (Key: 1- daily, 2-weekly, 3-monthly, 4-as often as needed, 5-hardly, 6-never before)

E-banking Services	1	2	3	4	5	6

ATM					
Credit card					
Mobile banking					
Internet banking					
Telephone banking					

On a scale of 1-5, indicate the extent to which you agree with the following (scale: 1-strongly agree, 2-agree, 3-not sure, 4-disagree, 5-strongly disagree)

How would you compare them to traditional banking?	1	2	3	4	5
e-banking services are more efficient					
e-banking services are more convenient					
e-banking services are more reliable					
e-banking services are more accessible					
e-banking services are more cost effective					
e-banking services are faster					

Generally, which would you prefer?	Tick
e-banking	
Traditional banking	

Section D: Impact of E-banking on Customer Satisfaction

On a scale of 1-5, indicate the extent to which you agree with the following (scale: 1-strongly agree, 2-agree, 3-not sure, 4-disagree, 5-strongly disagree)

Impact	1	2	3	4	5

It has enhanced accessibility to banking services					
It has reduced banking time for me					
I have better control of my transactions					
It has got me closer to the bank					
It has opened up opportunities to explore other services of the bank					

Section E: Challenges

On a scale of 1-5, indicate the extent to which you agree with the following as constituting challenges in e-banking service delivery by your bank (scale: 1- strongly agree, 2-agree, 3-not sure, 4-disagree, 5-strongly disagree)

challenges	1	2	3	4	5
Security threat posed by hackers					
Technological failures and frequent breakdowns					
Ineffective servicing of delivery channels					
unreliable					
Additional cost in patronizing those services					

On a scale of 1-5, indicate the extent to which you agree with the following as potential measures to address the challenges (scale: 1- strongly agree, 2-agree, 3-not sure, 4-disagree, 5-strongly disagree)

measures	1	2	3	4	5
Greater security					
Reduction in cost of patronizing the services					
More flexibility in signing on to those services					
Quicker response to complaints regarding these services					
Regular maintenance and upgrade to prevent technological failures					

Any other relevant comment

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Thank You for your support