UNIVERSITY OF GHANA

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ELECTRONIC BANKING IN RURAL BANKS – EFFECTS ON LIVELIHOODS OF PEOPLE IN BOGOSO

BY

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Declaration

I do hereby declare that this work is the result of my own research and has not been presented by anyone for any academic award in this or any other university. All references and other sources used in the work have been fully acknowledged.

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I confirm that the work reported in this thesis was carried out by the candidate under my supervision as University supervisor.

Signature_____ Date_____

Professor Godfred Alufar Bokpin

Head, Department of Finance

Dedication

This study is wholeheartedly dedicated to my beloved parents, who have been my source of inspiration and gave me strength when I thought of giving up, who up till this day, continually provide their moral, spiritual, emotional and financial support.

To my wife and children for the sacrifices they have made over the period of this work and their words of encouragement and advice to finish this study.

Most Importantly, I dedicate this work to the Almighty God, thank you for your guidance, strength, power of mind, protection and skills and for giving me a healthy life. All of these, I offer to you.

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I would like to thank both teaching and non-teaching members of the Economics Department of the University Of Ghana Business School for making learning an exciting experience for me.

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My deepest gratitude also goes to the staff and management of the Fiaseman Rural Bank Limited in Bogoso in the Western Region of Ghana, especially Mr. KaeDabi Donkor and Mr. Bob Kwofie for their invaluable assistance during the research.

Abstract

The main aim of the study was to assess the adoption of electronic banking by Rural and Community Banks and its effect on the livelihood of the people of Bogoso. Over the past decade, electronic business has grown as an emerging industry. In recent years, the banking industry has strived on the emergence of the internet and has taken advantage of it to get competitive advantage over its competitors.

A descriptive case study design approach was adopted in the methodology in which seventy questionnaires were administered through a gatekeeper, retrieved and used for analysis. The content of the questionnaire were formulated based on the discussions in the reviewed literature (primarily on the TAM) and with respect to the objectives outlined in the study. Furthermore, using statistical package for social sciences (SPSS) version 25, the data obtained was analyzed using descriptive statistics and simple linear regression analysis. The study further revealed that all the dimensions in the TAM had strong and positive significant relationships with electronic banking adoption. In order to make electronic banking more attractive and to increase returns on investments, it is important for rural and community banks to understand the critical success factors that influence customers adoption of the service.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Information Technology plays a vital role in how major businesses operate around the world. Obviously, in conducting their businesses, banks rely heavily on Information Technology and spend huge amounts of money on the appropriate technology to reduce operating cost and gain competitive advantage over their rivals. This they achieve through the provision of better services to their customers through the adoption and use of Automated Teller Machine (ATM), telephone banking and more evidently, electronic banking in the last decade.

From the banks' perspective, electronic banking helps reduce operating costs (Polasik and Piotr, 2009). Previous studies revealed that banks using electronic banking solutions operated at a lower cost ratio of 15 - 20 percent compared to non - internet banks with a cost ratio of 50 - 60 percent (Booz and Hamilton, 2007). Previous studies have also shown that Electronic banking promotes customer commitment and loyalty, which in effect results in higher profitability for the banking sector (Mohan et al. 2013). In other words, electronic banking is a tool that banks use to maintain customers, increase client experience and ultimately increase their share of the market.

According to Tuchila (2000), there are many advantages of running e - banking. For banks some of the benefits include better market shares, minimized business costs and timely reaction to changes in the market whilst their customers equally benefit through minimized cost of doing business and maximized satisfaction.

While Electronic banking benefits are obvious (Mozie et al. 2012), the banking industry in developing countries is still slow to accept internet technology compared to their developed counterparts (Al - Hajri 2005). This can be seen from developing countries' low levels of electronic banking, low education levels, low economies and infrastructures (Sankari and al., 2015).

Over the past decade, electronic business has grown as an emerging industry. In recent years, the banking industry has strived on the emergence of the internet and has taken advantage of it to get competitive advantage over its competitors. According to Boss et al., (2000) in recent past, some pertinent issues addressed in the literature regarding electronic banking include customer satisfaction and acceptance of electronic banking, privacy of information, the operational risk of the banks as well competition from non- banking institutions.

Rural and Community Banks (RCBs) are now competing with commercial and universal banks for customers as most of the universal banks are now operating in some remote areas of the country. These universal banks are now offering services which are rendered by rural banks. In order to be competitive, most rural banks are now applying e-banking in order to remain in business and relevant.

The e - banking industry today is however faced with a number of major challenges and problems. Security concerns are first and foremost perhaps most important (Feinman et al., 1999). Customers are certainly afraid and have genuine concern of transacting business online as they do not trust the safety of the information they are putting out there.

One reason for the failure of e-commerce was the poor nature of the service delivery and the reliability of the service. These challenges are currently associated with electronic banking and e-business as a whole.

The banks leading the current electronic banking system are reported to be the well-established international and some national banks, the majority of them based in the capital cities (Harris, 2000). The majority of literature and studies were done on these institutions neglecting most at times the small rural and community banks.

In comparison, the published research did not fully explore the problems associated with electronic banking systems for smaller or community banks in rural and remote areas. Especially in terms of their electronic banking applications, these local smaller and community banks face special or unusual challenges – how to offer their local clients easy and accessible e - banking services while maintaining sufficient operational funding. Since these smaller local community banks are often not in a position to struggle for financing resources by setting up banks' websites and maintenance, on the one hand and without the necessary high standard, because they are different from large city banks that normally do not have actual budget constraints in their development and have their own high level in - house IT professionals. It is clear that the stages in e - banking implementation and development vary for various banks across the country under the various financial and human resource conditions.

To sum up, two major obstacles to the development and maintenance of electronic banking services for many smaller local community banks exist. These are the insufficient financial resources and weak technical expertise. As such, the primary motivation for this research is, and appears to be, an empirical study of the development of e-banking applications for these smaller rural and community banks.

In terms of assets and contributions to Ghana's economic growth, the rural banking industry which started in Ghana in 1977 has grown substantially. Its structure of ownership, management and operating functions are unique. Unlike big commercial banks, RCBs are unit banks owned by communities. This gives them geographic advantages to manage efficiently risks that they are exposed to.

The RCBs have a major role to play (Bank of Ghana, 2006). These roles include;

- Mobilization of savings and lending to rural micro - business, agribusiness and cottage industries in rural communities.
- Monetize rural communities to inculcate the culture of formal banking in rural communities.
- To serve as the needed tool for the development of small and medium businesses in rural communities in order to enhance industrialization of these rural communities

There are currently 144 RCBs in Ghana with over 800 branches spread across the entire country. With their activities being coordinated and supervised by the ARB Apex Bank limited as enshrined in L. I. 1852 (Apex Bank Regulations, 2006), the RCBs are positioned as major contributors to the socio-economic development of the rural economy of Ghana. With total assets of RCBs standing at GH¢3.8 billion as at June 2018, the RCBs would typically have been considered to contribute marginally to the banking sector, especially comparing this to the total assets of GH¢100.3 billion for the major banks at the same period. Additionally, total deposits of RCBs stood at GH¢3.02 billion compared to GH¢61.7 billion for major banks. However RCBs were estimated to be serving a total number of over 5 million customers as at end-June 2018. This makes the RCBs a central vehicle for financial inclusion, which has been strongly linked to poverty reduction, in Ghana. The RCBs also have a total of over 15,000 employees.

To facilitate and accentuate the financial inclusion and economic development role of the RCBs, the ARB Apex Bank has rolled out a number of e-banking products for and on behalf of the RCBs. These products are the Automated Clearing House (ACH), e-Zwich platform, gh-Link and Mobile Money. The level of uptake by the RCBs in terms of product type and diversity, volumes and number of transactions has however been on the low side as compared to the major banks.

Meanwhile, the level of contribution of e-banking to livelihood improvement in the rural areas is yet to be determined and documented.

1.2 Problem Statement

The smooth adoption and operations of electronic banking by Rural and Community Banks is impaired by high cost of implementation, poor infrastructure and high security challenges (Mensah, 2012). The adoption of e - banking services by rural customers has decreased according to Ndlovu (2013). Agboola (2006) criticizes the low patronage of electronic banking services, since customers still form long queues in banking halls to assess services.

The use of electronic banking has also proved to be an effective way to reduce the financial institutions' operating costs. Electronic banking services, for example, will allow banks to cut physical structure expenditure. Larger banks maintaining costly networks tend to be most motivated to take advantage of e-banking services. Smaller banks in comparison to the larger banks have higher start - up costs and are prone to high start - up technology costs in the development of e - banking services (Treadwell 2000). In fact, in order to save potential costs in future and gain competitive edge, most small banks had been motivated to develop electronic banking systems. Currently, e-banking is mainly concentrated on business lending and credit

card companies other than deposits. This is consistent with recent reports for smaller community banks that the traditional sources of financing are a matter of concern to smaller banks and see adding e-banking as a way of providing products to reduce their dependence on core deposits.

Banks operate vigorously in developed countries and this contributes to their competitiveness with increased productivity, reduction in transaction costs and better customer services. However, despite its advantages, developed countries remain lagging behind in adopting e-banking.

The study seeks to analyze empirically the challenges and benefits of electronic banking in Ghana's rural and community banks. The study is justified on the basis of its capacity to meet the literature gap.

1.3 Aim and Objectives of the Study

The main aim of the study was to assess the adoption of electronic banking by Rural and Community Banks and its effect on the livelihood of the people of Bogoso. The objectives of the study are enumerated below.

1. To identify the services provided by rural and community banks through electronic banking
2. To identify the benefits RCBs and their customers derive from electronic banking
3. To identify the critical success factors for RCBs to introduce electronic banking
4. Identify the challenges faced by RCBs in the adoption of electronic banking in Ghana

1.4 Research Question

1. What are the services provided by rural and community banks through e-banking?
2. What are the benefits RCBs and their customers derive from e-banking?
3. What are the critical success factors for RCBs to introduce e-banking?
4. What challenges do RCBs face in the adoption of e-banking in Ghana?

1.5 Significance of the Study

The findings of this study among other things will;

1. Help policy makers and regulators of RCBs to develop the appropriate framework to enhance the adoption and implementation of electronic banking
2. In connection with electronic banking adoption in Ghana, the study will add to the current knowledge and literature.

1.6 Limitation of the study

As noted above, this research will focus on discussing electronic banking adoption among RCBs in Ghana. This study is limited to RCBs only and there was no inclusion of commercial and universal banks.

1.7 Structure of the Study

The study is structured into five separate chapters to facilitate reading and understanding of the report. The focus of Chapter One is on introduction of the research topic, a vivid problem statement, and the goals of the study, research questions as well as the significance and the limitations of the study. Chapter Two reviews current publications on the adoption, implementation as well as the critical success factors of implementing electronic banking in the

rural communities in Ghana. The advantages and the challenges of electronic banking among RCBs were equally reviewed. The details of the research methodology will be discussed in Chapter Three. Chapter Four provides a better interpretation of and a discussion of the analyzed data. In Chapter Five, the study is summed up, recommendations and very helpful conclusions are drawn.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter examined the topic in relation to current literature and empirical study. There were theoretical reviews of theory of innovation diffusion (Rogers, 1962), the model of technological acceptance (Davis, 1989), the theory of resistance to innovation (Ram, 1987) and the theory of perceived risk (Bauer, 1960). Recommendations were made on future research directions. The reviews on empirical study were done on the forms of electronic banking as well as the benefits of electronic banking. Other factors looked at include the critical success factors of electronic banking as well as the challenges of electronic banking. A brief history of the case study company- Fiaseman Rural Bank as well as the characteristics of rural banks in Ghana were also reviewed.

2.2Theoretical Review

2.2.1 Innovation Diffusion Theory (Roger, 1962)

Innovation Diffusion Theory (IDT) is a pioneering theory that laid the groundwork for future research on innovation dissemination, postulated by Everett M. Rogers in 1962 (Roger, 1962). The Innovation diffusion theory (Roger, 1962) was based on the principles and theories derived from diverse fields such as communication, sociology and the field of economics. The theory identified five main characteristics. These are; Relative Advantage, compatibility, Complexity, Triability and finally Observability.

Relative Advantage (RA) means a consumer's belief that electronic banking is better than conventional banking methods. Relative advantage has also been identified as an important driver for the adoption of electronic banking. (Tan and Teo, 2000).

Compatability (CO) is a person's perception that Electronic banking is consistent with their current understanding, values, needs and experience. Electronic banking can equally be defined as meeting the social and technological needs of the consumer. The acceptance of Electronic banking covers the acquisition of a range of complementary technologies such as informational knowledge, internet skills and computer related communication and transactions. The impact of one technology on the next generation in this innovation is expected to be positive, especially when the relationship between the two technologies is compatible (Lee et al., 2005). This means that the readiness to adopt a new technology is largely affected by previous experience with an earlier technology. This enhance the understanding and interpretation of the new technology. (Puschel et al., 2010).

Complexity (CP) is regarded as the difficulty and or ease to understand and to use electronic banking. While CP and CO are closely related, CP has a stronger focus on the real expertise and competence involved in the use of Electronic banking, while CO has general perceptions regarding the use of Electronic banking. Previous studies have shown the negative impact of CP on the use of electronic banking (Black et al., 2001). In contrast, Tan and Teo (2000) have not supported the negative impact of CP on Electronic banking intent.

Triability is the bank giving the customer the chance to pretest the electronic banking service before signing on to it. A number of studies have shown TR to play an important role in electronic banking adoption because people have greater comfort in using the technology and are most likely to use it when giving the chance to pretest the service to ensure it has no inherent risk

attached to it (Black et al. 2001). On the contrary, Puschel et al. (2010) did not establish any significant relationship between triability and electronic banking.

Observability (OB) refers to the degree to which a person can see the availability of Electronic banking in relation to other users. Rogers (1962) says that the more viselectronic bankingle and positive innovation is, the greater the probability of adoption because adoption makes it easier to recognize its advantages. Most of these IDT - focused researchers have found, however, that OB is either marginal or that OB does not have it in prediction of electronic banking behaviors (Lee et al., 2004), which says that Electronic banking is mostly used in the private environment and it is therefore not only difficult but also unacceptable to observe individuals performing Electronic banking (Keonig - Lewis et al., 2010; Tan and Teo, 2000).

The influence of IDT and its integration into other theories were either explicitly or implicitly used for studying Electronic banking behavior. However, only very few electronic banking diffusion studies specifically measure the character of Rogers 5, most of which suggest that electronic banking adoption alone is consistently linked to RA, CO and CP (Black et al. 2001 ; Köig Lewis et al. 2010). Black et al (2001) noted the need to incorporate different social problems in this context in order to gain a better understanding of phenomena, even if IDT is a valuable base for electronic banking diffusion research.

things being the equal. Furthermore, TAM suggests that PEOU has a direct effect only during early phases of use on behavioral intent (Venkatesh et al., 2003). Over the long term, PU has an indirect effect on the experience of the customer. TAM has been the most frequently used Electronic banking study model. Previous TAM research have been based on ELECTRONIC BANKING - based model replication (e.g., McKechnie etc., 2006). The model expands by adding extra builds in order to directly determine the attitude, purpose or application (Chong et al. 2010). The lack of recognition of individual differences is another prominent criticism of TAM (Agarwal and Prasad 1999).

In the original TAM, the experience, age, gender and many other personal characteristics which affect technological attitudes influencing the intent of use are not taken into account. Many and different studies, like those based on the TPB PBC, Mathieson et al, (2001) have added ' perceived resources ' to TAM to overcome this limitation. The perceived resources are as far as a person believes he or she has the necessary personal and organizational resources for use of technology, such as competences, hardware, software, money, documentation, data, human assistance and time. With regard to the introduction of mobile banking, Luarn and Lin (2005) found that a considerable improvement in TAM's predictive power was achieved by incorporating perceived costs along with self-efficiency and credibility. However, mixed investigations of this variable have found that the costs perceived had no impact on the mobile banking behavior (Koenig - Lewis, 2010).

Venkatesh and Davis (2000) have suggested that the TAM (TAM2) be extended by identifying and theorizing the social impact and cognitive instrumental processes (employment relevance, quality of production, demonstrable results and PEOU) as PU determinants. They have also added to this new model experience and volunteerism. In the same vein, Venkatesh (2000)

suggested the determinants of PEOUs to be computer self - efficacy, computer anxiety, and computer playfulness. Recently, by combining TAM2 with Venkatesh's (2000) PEOU determinants. A new model (TAM 3) has been postulated by Venkatesh and Bala (2008). TAM3 is the latest version of TAM and has not been tested in the Electronic banking framework to date by any study.

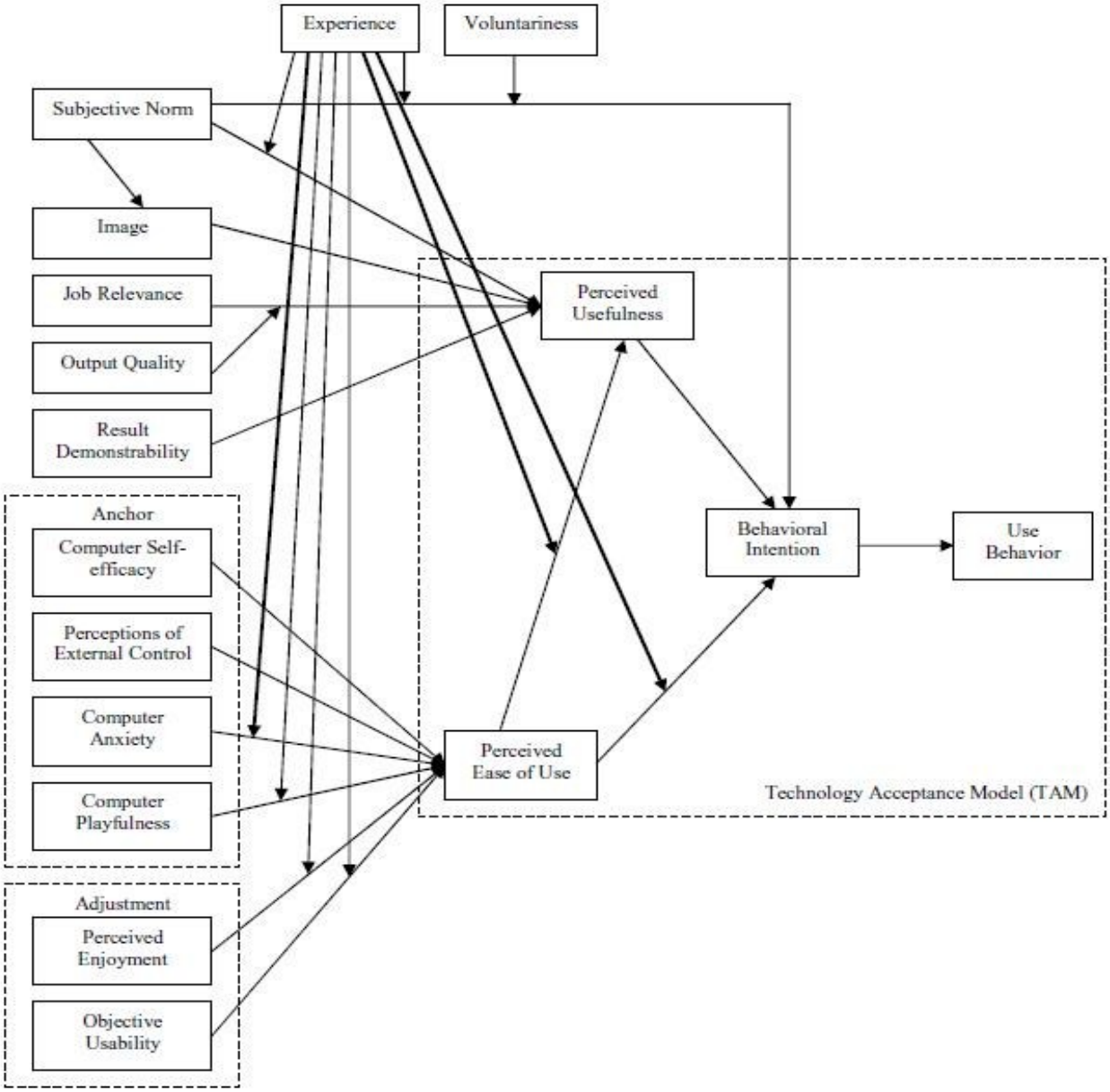

Figure 2: Technology acceptance model (Davis, 1989)

2.2.3 Theory of Innovation Resistance

The resistance to change coexist with adoptive behavior, and both marketing experts and academics need to understand why it can cause delay, opposition or denial and must be overcome before a process of adoption is initiated (Ram, 1987). Researchers on innovation dissemination argued that literature in this area has pro - change bias, that it is assumed that all innovations are and should be implemented as improvements to existing technologies (Ram and Sheth 1989). Although the majority of Electronic banking theories and models have been concerned with the reasons for adoption, the Theory of Innovation Resistance explains further the factors that inhibit the adoption process. Laukkanen et al. (2008) argued that the Electronic banking literature fails to provide a valued source of information that is crucial for the successful development of Electronic banking. The most important obstacles to innovation acceptance were the existing customs and practices and the perceived social, financial and physical risks posed by innovation (Ram and Sheth 1989). Ram and Sheth (1989) argued that people resist using new technologies by creating barriers to both electronic banking psychology (tradition and image barriers) and functionalities (use, value and risk) to understand the basic motive or obstacles that underlie electronic banking adoption. Studies aimed at understanding the reasons for the resistance of electronic banking show that barriers (usable electronic banking and customer changes and PIN coding disadvantages), value obstacles (practical, cheap, pleasure - orientated, value for money, computer purchases, internet connectivity costs and increased response to electronic banking), Risks obstacles (errors in the conduct of electronic banking transactions, input and output mechanisms, failures in Internet connection, and security concerns), traditional

barriers (fear that electronic banking usage will change customary practices and reduce control and preference in dealing with banking staff) and image barriers (negative beliefs, attitudes to the Internet channel, and the difficulty of - using). Electronic banking technology can realize its entire potential through adequate marketing campaigns, communication strategies, customer training packages and website designs by identifying areas resistant to electronic banking.

2.2.4 The Theory of Perceived Risk

The perceived risk theory of Raymonds A. Bauer in 1960 indicates that benefits are often associated with consumer risk (Bauer, 1960). Perceived risk (PR) is seen as an impediment to new innovative development (Ostlund 1974). The results from Lee (2009) show that the PR's influence on an individual's choice to use the electronic banking is greater than the benefit factor. The study included six types of electronic banking PR: security, data security, financial, social, time and the risk of performance. Risk in terms of security and privacy refers to the threat electronic banking poses to customers losing personal or financial information (identity theft) by means of network and dataset attacks, or by unauthorized access to the account, that threatens the safety of the website for Electronic banking (Lee, 2009). Financial risk is related to potential monetary losses and creates an insecurity sensation because the transaction or bank account is misused. Research shows that many customers are resistant to use electronic banking and fear losing money during electronic banking transactions due to lack of human contacts and the absence of physical checks (Kuisma et al. 2007). The risk of loss due to website deficiencies or malfunctioning and system server failure or Internet disconnection, has been identified as a performance risk and this has reduced the willingness of customers to use electronic banking (Kuisma et al., 2007, 2007; Lee, 2009; Yiu et al., 2007).

2.2.5 Future Research Direction

The review presented in the preceding section indicates that Electronic banking adoption research at each level is mature and creates a coherent theoretical body with a clear understanding of the determinants of adoption and use. A further analysis will lead to the conclusion that continuing replication and limited theoretical progress added to the difficulty of incorporating the results of these studies and articulating the drivers of adoption by the Electronic banking, despite the application of a diverse set of theoretic models and the abundance of Electronic banking study. Most of the studies have, in the hope to increase their forecasting and explanatory power, either adopted structures from one or more models to adopt and disseminate technology, or added to these models other structures. However, a significant increase in the explanatory power of the models was restricted by multi - collinearity between the additional and existing buildings (Hernandez and Mazzon 2007). Moreover, without a rigorous and robust theoretical basis for these new relationships, this approach does not necessarily guarantee a substantial theoretical background for electronic banking. The state of research on technology adoption is also characterized by comments by Venksh et al. (2007) as saturated with applications, replications, competitive models, refined models, extensions and a minor effect. Although numerous existing studies had been carried out, electronic banking research did not end with unanimous approaches, concepts and variables which determined the implementation of electronic banking were not well understood (Hernandez and Mazzon, 2006). (Hernandez and Mazzon, 2007).

The lack of research on measures to minimize initial customer resistance and to maximize acceptance and use of Electronic banking is a potentially vacuum in Electronic banking literature. For instance, TAM, the most common model in Electronic banking literature, does not

provide practitioners with practical guidance (Lee et al., 2003). It provides practitioners with insufficient systematic guidance on how to influence perceptions which can lead to increased adoption despite its predictive ability. This is apparent from Alan Dennis, a leading IS scholar: "Tell a manger that technology should be useful and easy to use. It'll be ' Duh, I imagine the reaction! ‘What makes technology useful and easy to use is most important questions "(Lee et al., 2003, p. 766). Some Electronic banking studies have nonetheless dealt with this limitation by identifying a history of key TAM variables.

Because Sisyphus has condemned him for eternity to only roll a mountain upwards, average banking customers are constantly struggling to implement new technologies. The technology adoption process in the banking sector has become an ongoing upward battle for customers, starting with telephone banking, home banking and moving to Internet and now mobile banking. When they are comfortable with current technology, they need to begin a new acceptance cycle by developing and introducing new technology. Electronic banking is a learning technology that is intensive and resources must be constantly used to adopt and learn. The literature on services gives persuasive reason that customers must change their behavior as each change of the electronic banking system requires the will to change and the capacity of customers to successfully implement new systems (Bateson and Hoffman, 1999). In addition to understanding the acceptability of bank customers to current technology, additional research is necessary to understand how this ongoing adoption and re - adoption will affect the new wave of technological introduction. There are conflicting points of view from past research on this subject. One research stream shows the interference of previous experiments with similar technologies, which negatively affects the use of current technology (a better understanding of

current technology is detrimental to the development of new technology) (Lippert and Forman, 2005).

In addition, UTAUT suggests that there is a critical period in the process of adoption of technology when the process ceases to be quite easy and the cognitive use of electronic banking towards technology decreases. Rogers ' IDT and TAM, on the other hand, suggest that similar technology experience facilitates and speeds the process of adoption. These contradictory perspectives clearly suggest disparities in existing research and require further research into the effects of ongoing adoption cycles as a key location for future research.

This review also emphasizes that comprehensive, multidisciplinary knowledge - and - understanding processes in technology acceptance, especially electronic banking conduct, have gradually evolved over time. The final decision to take or reject Electronic banking is influenced by personal, social, psychological, utilitarian and behavioral aspects that interact with each other constantly. Social interactions, social standards, peer and organizational pressures and changing agents influence this decision. Perceptions, attitudes and beliefs about electronic banking (which are unique to people) play an important role in determining behavior. These beliefs are based on personal factors, including past experience, personality characteristics and beliefs of particular, general and final behavioral capacity.

The study of one factor alone does not guarantee full comprehension of electronic banking behavior. Together, the prediction of adoptive behavior will improve the accuracy of the customers' personal characteristics and their beliefs in electronic banking' utilitarian, social and psychological aspects. It is therefore argued that electronic banking behavior should be addressed by a combination of emotional, cognitive, personal, and social aspects due to its complex nature. Currently, no model or theory is accountable for all these aspects, except TAM3

to a certain extent. The individual affective responses and the role of emotions in electronic banking adoption are also a neglected area of research. The emotional attachment by the customer to paper books recently has been shown in Read et al, (2010) to act as a barrier to the adoption of e - books. Social cognitive theory also shows that our beliefs, contexts and culture influence emotions (Bandura, 1986).

In conclusion, bank managers and system developers should adopt a customer - centered approach while developing new technology - based on electronic banking chains and focus more on managing belief information than on influencing behavior. Adoption does not necessarily equate acceptance, according to Jaffee (1998). The understanding and ultimately leading behavior of the customer's cognitive, emotional and contextual processes is more important than adoption itself.

2.3 Empirical studies

2.3.1 Fiaseman Rural Bank

Since November 1983, Fiaseman Rural Bank Limited (FRBL) has been licensed as one of the leading banks in Ghana. This bank, with its Head Office in Bogoso, is an integrated rural and community bank in the Western Region of Ghana. After its commencement in November, 1983 the bank extended its operations to Prestea, Ateiku, Tarkwa, Aboso, Huni Valley, Darmang and Asankrangwa.

FRBL espouses a financial intermediation approach that gives value to its cherished clients and other stakeholders. FRBL leverages the expertise of its cadre to provide various products and services for individuals, enterprises, companies and both private and public institutions. FRBL is

managed by experienced professionals and business executives who share a commitment to providing quality services to individuals and firms requiring financial intermediation in the catchment area in a particular and Ghana in general and other emerging markets.

2.3.1.1 Vision Statement

To be an established leader in Rural and Community Banking in Ghana.

2.3.1.2 Mission statement

FRBL is dedicated to provide a full range of cost-efficient and high quality products and services through a cohesive team of quality and well-motivated staff. The bank seeks to deliver competitive, timely and customer-focused services to their target markets, better than their competitors through the optimization of information technology and efficient branch network. The bank intends to continue to strive to satisfy the expectations of customers and stakeholders.

2.3.1.3 Corporate Values

FRBL is about promoting the social and economic development of people through the provision of timely financial intermediation, business education, advice and providing opportunities for personal and professional growth.

The bank aims to achieve this by pursuing and upholding to the tenets of:

F -Friendliness;

I -Integrity;

A -Accountability;

S -Selfless and Teamwork;

E -Excellence;

M -Motivational Drive;

A -Accommodating and

N -Nobility.

2.3.1.4 Achievements

The bank has consistently been one of the few Rural Banks in the ***Strong*** category of the Efficiency Monitoring Unit (EMU) ranking of rural banks in the Country. It is however currently ranked as the number one Rural Bank out of the total of 138. The bank first entered the prestigious Club 100 ranking in the year 2005. It has steadily improved upon its performances ever the years culminating in the current position of 36 in the year 2012 rankings. The position also happened to be the 2nd best in the Rural and Community Banks fraternity.

Fiaseman Rural Bank Ltd in the year 2011 was adjudged the most efficient Rural Bank in Ghana during the Business and Financial Service Excellence Award organized by the Ministry of Trade.

Table 1: FINANCIAL PERFORMANCE FOR THE LAST THREE YEARS (AUDITED FIGURES)

	2017	2016	2015
	GHS	GHS	
Total Assets	105,114,665.00	89,147,674.00	67,167,865.00
Deposits	85,095,260.00	68,962,985.00	51,692,788.00
Investments	47,190,458.00	39,289,682.00	29,304,537.00
Advances	38,352,688.00	29,045,938.00	22,061,358.00
Shareholders Fund	12,349,498.00	10,752,080.00	8,044,988.00
Profit Before Tax	5,457,966.00	4,448,142.00	3,374,887.00

Source: Website of Fiaseman Rural Bank

2.3.2 Characteristics of Rural Banks

According to the Association of Rural Banks (1992), "Rural Banks ' aim is to stimulate banking habits among rural residents, mobilize resources locked up in rural areas into banking systems to facilitate development and identify viable industries for investment and development in their respective catchment areas."

Rural banks are mainly unit banks with a structure of ownership and rural community membership through the acquisition of shares. Rural banks in Ghana are the largest providers of formal financial services in rural areas in recent times and hold a large proportion of the country's total banking outlets (IFAD, 2008). There are currently 144 RCBs across the country with more than 800 branches.

The ARB Apex Bank Limited is the RCBs ' "mini "- central bank. In January 2000, the Bank had been registered with the RCBs as shareholders as a public liability company. The ARB Apex Bank is in charge of maintaining the main RCB cash reserves and its accounts. The ARB Apex Bank is responsible for the establishment of electronic banking for monitoring, inspection and ensuring compliance of the activities of the rural banks. In addition, the ARB Apex Bank loans funds, manages cheaque clearing activities, providing specialist services, supplying cash and receiving excess cash, providing management services to the funds, guaranteeing payment instruments, providing audit and inspection services, developing lending and credit assessment procedures and monitoring of loans and progress, providing ICT services, provide training for staff and directors and provide a deposit insurance scheme to protect deposits of customers of the RCBs.

With their activities being coordinated and supervised by the ARB Apex Bank limited as enshrined in L. I. 1852 (Apex Bank Regulations, 2006), the RCBs are positioned as a major contributor to the socio-economic development of the rural economy of Ghana. With total assets of RCBs standing at GH¢3.8 billion as at June 2018, the RCBs would typically have been considered to contribute marginally to the banking sector, especially comparing this to the total assets of GH¢100.3 billion at the same period. Meanwhile total deposits of RCBs stood at GH¢3.02 billion compared to GH¢61.7 billion for major banks. However, RCBs were estimated to be serving a total number of over 5 million customers as at end-June 2018. This makes the RCBs a central vehicle for financial inclusion, which has been strongly linked to poverty reduction, in Ghana. The RCBs also have a total of over 15,000 employees.

Rural banks provide primary services, such as savings, loans and payment as well as acting as financial intermediaries. In each of these categories, several products are offered.

RCBs play a significant role in the Ghanaian economy as evidenced in the indicators recorded by the RCBs as at June, 2018 as in table 2 below:

Table 2: RCBs Indicators (Apex Bank, June, 2018)

Indicator	**GHS**
Cash holdings and balance due from other banks and financial institution	454,031,020.76
a. Cash on hand	99,464,758.74
i. Currency Notes	96,993,202.52
ii. Coins	2,471,556.22
b. Claims on ARB Apex /Bank of Ghana	289,650,793.93
i. 5% ARB Apex Deposit	147,982,168.50
ii. Current Account with ARB Apex Bank (MRB 102)	97,449,334.45
iii. Others - ACOD	44,219,290.98
c. Clams on other banks and institutions (MRB 103)	64,915,468.09
i. Commercial Banks and Institutions (MRB 103)	43,942,188.03
ii. Rural Banks	636,757.22

iii. Discount houses	2,708,478.18
iv. Money at call	6,738,172.00
v. Other Balances-Like placements	9,523,948.57
d. Cheques for clearing drawn on other banks and any other cash items	1,365,924.09
Investments (Short term)	1,442,733,263.46
i. Government Treasury Bills and Notes	553,413,706.87
ii. Bank of Ghana Bills	92,360,898.13
iii. Other Bills and Notes ACOD91	796,958,658.46
Investments (Long term)	26,317,445.88
i. Government Stocks/Bonds	14,366,197.93
ii. Shares and other	11,951,247.95
Loans, Overdrafts and other advances	1,257,934,660.49
a. Individuals	924,348,096.26
b. Private enterprises	159,451,605.98
c. Public enterprises and institutions	40,358,788.91
d. Others	253,750,661.75
e. Sub Total	1,377,909,152.90
Less:	
f. Total Bad Debt Provision	107,649,569.99
g. Interest Suspended	12,324,922.42
Other Assets	386,389,445.35
i. Interest & Commission Accrued	60,736,741.78
ii. Preliminary Expenses	13,393,608.37
iii. Plot Development Cost	7,979,965.31
iv. Office Account (DR) (MRB 107)	111,238,039.40
v. Insurance Prepaid	4,560,043.56
vi. Stationery Stock	13,449,002.08
vii. Interagency Account	25,642,074.99
viii. Rent prepaid	43,424,817.01
ix. Tax prepaid	24,209,131.53
x. Others	81,756,021.32
6. Property, Plant and Equipment (Net)	233,261,853.42
a. Bank Premises	127,641,407.44
b. Other Premises	26,662,303.89
c. Furniture and Fixtures	51,726,629.22
d. Office Equipment	44,863,560.63
e. Computers	48,268,882.29
f. Motor Vehicle	51,157,833.00
g.Other Property Acquired by Legal Right	25,060,740.53
h. Gross Property, Plant & Equipment	375,381,357.00
i. Less Depreciation	142,119,503.58

Total Assets	3,800,667,689.36
Shareholder' Fund & Liabilities	
Paid-up Capital	170,453,871.13
a. Ordinary Shares	156,770,151.93
b. Preference Share	13,683,719.20
Reserves	329,934,788.69
a. Statutory Reserve Fund	86,613,806.85
b. Profit/Loss Account brought forward / Income Surplus	107,344,507.20
c. Profit/Loss for the year to date (MRB 108)	50,590,898.88
d. Revaluation Reserves	12,332,758.05
e. Other Reserves	73,052,817.71
Shareholders Funds (Net worth)	500,388,659.82
Other amounts allowed as capital	507,538.74
a. Subordinated Term Debt	118,436.50
b. Hybrid Capital (e.g. Grants)	190,258.46
c. Others	198,843.78
Short Term Borrowings	39,673,599.31
a. ARB Apex Bank	16,196,959.81
b. Central Bank	203,692.33
c. Commercial Banks	3,506,044.48
d. Other Financial Institutions	10,853,689.50
e. Other Sources	8,913,213.19
Long Term Borrowings	43,560,775.92
a. ARB Apex Bank	21,137,373.69
b. Central Bank	2,224,718.28
c. Commercial Banks	1,474,010.00
d. Others Financial Institution	9,314,205.02
e. Other Sources *(Details attached)*	9,410,468.93
Cheques for Clearing Presented by Other Banks	3,198,831.44
a. Depository Institutions	2,960,269.94
i. Commercial Banks	223,809.36
ii. Discount House	0.00
iii .Others	2,736,460.58
b. Other Financial Institution	238,561.50
Deposits	3,024,427,005.64
a. Demand Deposits	552,697,628.35
i. Individuals	391,965,763.92
ii. Other Private Enterprises	75,634,576.89
iii. Pubic Enterprises etc.	25,365,316.77

iv. Others	59,731,970.77
b. Savings Account	1,453,054,896.55
i. Individuals	1,189,389,043.99
ii. Other Private Enterprises	75,378,478.89
iii. Pubic Enterprises etc.	34,975,865.13
iv. Others	153,311,508.54
c. Time Deposits	634,750,149.30
i. Individuals	563,395,544.64
ii. Other Private Enterprises	23,752,332.67
iii. Pubic Enterprises etc.	8,259,386.27
iv. Others	39,342,885.72
d. Other Deposits	383,924,331.44
Other Liabilities	188,911,278.47
a. Investments income not earned	36,390,421.78
i. Unearned Interest	8,121,285.54
ii. Unearned Commission	616,148.86
iii. Unearned Discount on T/Bills	27,652,987.38
b. Provision	28,855,733.98
i. Audit Fees	1,388,196.07
ii. Police Guard	6,194,527.48
iii. Taxation	3,120,543.23
iv. Annual General Meeting	4,351,368.94
v. Dividend	13,801,098.26
c. Others	123,665,122.71
i. Office Account (CR) (MRB 107)	52,218,650.59
ii. Bills Payable (MRB 106)	16,443,108.30
iii. Accrued Interest	20,278,731.78
iv. Others	21,240,945.78
v. Interagency	6,906,432.27
vii. Provident fund	6,577,253.99
Total Liabilities	3,800,667,689.34
Off-balance Sheet Liabilities	0.00
i. Guarantees Issued	0.00
ii. Other Commitments	0.00
Managed Funds	3,747.98

To ensure that, RCBs and their clients are not left out of the digital finance era, the ARB Apex Bank has developed and rolled out a range of electronic channels tailored to suit the banking and financial needs of customers of all RCBs'. These products are:

a) U-Connect – a bouquet of various e-products hosted on a common platform. The products hosted have functionalities related to Customer Enquiries, Third Party Payments, GPS – Online monitoring of Agents location and funds transfer between own accounts in the same RCB. Others include Funds transfer between other accounts throughout all RCB, Funds transfer to predefined Beneficiaries, Transfer to mobile numbers, Mini statement request, Balance enquiry on Own Account as well as the On-boarding of Merchants and Agents for the purposes of Collection services, Loading money onto Mobile wallets (Accounts) and other mobile network services.

b) E - zwich (E - zwich Smart Cardholder enables RCB customers to transact business electronically at any e - zwich sales point or ATM terminal. The e - zwich smart cardholder can access banking services throughout Ghana at any bank, regardless of whether or not the bank issued the smart card)

c) E-zwich – PDS (An electronic payment system which facilitates secure and convenient distrelectronic bankingution of SALARY, WAGE, or PENSIONs. This product is especially suited for employers who currently pay cash to their unbanked staff. Agreed salaries or wages are loaded by the employer at his convenience even on the premises of his business without moving all the way to the bank),

d) e – Alert (automatic notifications and early warning via SMS and email to suscribed customers. The customer is immediately sent a notification of any transaction that may

affect the account balance as a result of debit and credit balances processed on the account) and Automated Clearing House (ACH) services.

e) ATM Services – the ARB Apex Bank has rolled out ATMs that are compatelectronic bankingle with Europay Mastercard Visa (EMV) for transactions to facilitate payments on the Gh-Link platform. The ARB Apex Bank has deployed a system where ATM Cards are issued instantly to the customers of the RCBs.

The level of uptake by the RCBs in terms of product type and diversity, volumes and number of transactions has however not been encouraging. There is a significant gap between e-banking activities by the universal and commercial banks as compared to that of the RCBs. Comparative statistics as at May, 2018 from GhIPPS is summarized in table 2 below:

Table 3: Gaps between Universal and RCBs on Electronic banking

PRODUCT	DETAILS	ARB APEX BANK (RCBs)	INDUSTRY (WITHOUT RCBs)	RCBs MARKET SHARE (%)
ACH 36 Banks	Total Transaction Value (GH¢)	399,093,147.29	20,121,774,539.41	1.98
	Total Transaction Volume (#)	17,315	1,268,655	1.36
e-Zwich 30 Banks, 10 S&L	Total Transaction Value (GH¢)	93,051,836.62	432,384,891.06	21.52
	Total Transaction Volume (#)	354,036	982,941	36.02
gh-Link	Total Transaction	94,920.00	50,187,948.12	0.19

33 Banks, 1 Non-Bank, 10 S&L	Value (GH¢)			
	Total Transaction Volume (#)	305	174,197	0.18

According to Afful, Cleland & Hejkrlik, Jiri & Doucha, Tomas (2015), the impact of rural banks is manifested in the area of employment generation, increase in incomes, savings and education.

Rural Banks have performed inadequately in the development of agriculture in the rural areas even though there cannot be any meaningful development in the rural areas without expansion and improvement in agriculture. Their contributions to the cottage industries as well as income generation activities within the rural areas have been average whiles contributing to employment in the communities has been insignificant. Meanwhile RCBs' contribution to rural infrastructure has been minimal. Almost all the Rural Banks are socially responsible; there seems to be a positive relationship between net worth and social responsibility as the banks in the performing and averagely performing categories are contributing to the development of their catchment areas by way of social responsibility. (Mary Anti, 2012)

2.3.3 Forms of electronic banking

2.3.3.1 Automated Teller Machine

Rose (2009) describes ATMs in the following terms: "ATM is a combination of a terminal computer, a database system and a cash vault, which allows clients to enter the book holding system of the bank with a plastic PIN card, or by punching in a computer terminal with the computerized recordings of the bank 24 hours a day. When access is acquired, it provides

customers with several retail banking services. It is located mostly outside banks and can also be found in airports, business centers and areas far from the customer's home bank. They were first introduced to work as cash dispensers. Due to technology advances, however, ATMs can offer a broad range of services, such as receiving deposits, transfer of funds between two or more accounts and bill payments. The banks, like all others, tend to take advantage of this electronic banking device to gain competitive advantage. The combined services of both automated and human tellers imply greater productivity for the bank during banking hours. As a result of saving customers time in service delivery, customers can invest such savings of time in other productive activities as an alternative to queuing in banking halls. ATMs are a cost - effective way of yielding higher productivity per time (an average of around 6,400 transactions per month for ATMs as compared with 4,300 for human tellers). Moreover, with the ATMs continuing when human tellers stop, even after bank hours, there is constant productivity for banks.

2.3.3.2 Telephone Banking

Telebanking can, essentially through telecommunications devices, be regarded as a form of remote or virtual banking, in which the banking customer can conduct retail banking transactions by dialing a touch - tone telephone or mobile communications unit connected to an automated system of the bank by using Automated Voice Respond (AVR) technology (Balachandher et al, 2001). Telebanking has many advantages for both the customer and bank Leow (2009). For customers, it makes it more comfortable, more accessible and saves considerable time. On the other hand, the cost of providing telephone - based services is significantly lower from the banks ' perspective than that of branch based activities. Because it increases the bank's continued productivity as a delivery channel which delivers retail banking services even after 24 hours a

day. It offers retail banking services as an alternative to going to the bank branch / ATM for clients at their offices / homes. This saves time for customers and makes for greater productivity.

2.3.3.3 Personal Computer Banking

Personal Computer (PC) Banking is a service that enables bank customers to access their account information through a proprietary network, usually using proprietary software installed on their personal computer. 'Upon access, customers can perform a number of functions in retail banking. The growing awareness of the importance of computer literacy has led to the use of personal computers increasingly. This certainly helps to grow PC banking that establishes a branch in the home or office of its customers, and offers 24/7 service. It also has the advantages of both Telebanking and ATMs (Abor, 2005).

2.3.4 Benefits of e-Banking

The services industry is mainly client - driven and the banking industry is a competitive industry with an ongoing upgrade of skills, products and technology for retaining and growing customers. Given the nature of competition, banks rely heavily on quality of service and efficiency for survival and profitability. Mols (2008).

For banks and customers, electronic banking services have offered a number of advantages. The first advantage for banks offering electronic banking service is better branding and better market responsiveness. Banks offering such services would be perceived as leaders in the implementation of technology. Therefore, a better brand image would benefit them. The other

benefits can be measured in monetary terms. Every company's principal objective is to maximize profit for shareholders banks inclusive.

The Internet revolution is much cheaper than industry transactions or even telephone transactions in e - banking. This could spur the competitive advantage of yesterday to comparative drawback for bigger banks still engulf in the bricks and mortar banking.

Jen and Michael (2006) indicate that e - banking has provided Banks and companies worldwide with unprecedented opportunities to develop, deliver and market financial products via the Web. It provides banks with new opportunities and poses a range of challenges, including the innovation of IT applications, blurring market frontiers, breaking industrial barriers, new competitor entry and new business models (Liao and Cheung 2003).

Studies by Rikya (2007) and Han (2008) on the introduction of electronic banking in Bangladesh prospects show that technology has truly brought an information revolution in society and internet technology is rightly seen after agricultural and industrial revolutions as a third wave of revolution. Industries have taken over the Internet and eliminated time, distance and communication constraints, which make the globe a small village.

In addition, Han (2008) found the positive effect of information technology application on SME financing. He said online SMEs are more profitable and have greater income than small and medium - sized enterprises that use just traditional channels. Using e - banking reduces the number of visits a customer is required to make to a bank.

Electronic banking provides many advantages for the banks, investors, and individual banking clients, according to Rotchanakitumnuai and Speece (2003), which enables checking accounts balances, transfer money, payment bills, collecting receivables and ultimately reducing

transaction charges and increasing the monitoring of bank accounts. Customers do not need to visit banks for round - the - clock banking services (Cheng et al., 2006). Customer loans and other banking services may be requested online by customers (Smith and Rupp 2003).

E-banking plays a major role in the economy through the exchange of information, goods / services and payments by avoiding physical contacts, allowing sellers and buyers to build economic value (Bakos, 2018). Furthermore, e - banking enables banks to attract mobile customers, providing mobile financial services that offers tremendous profitability. Many banks are encouraged by forces related to maximizing their revenue, as indicated by Wind (2001) through an increase in market scope and enhanced customer connections due to convenience of product delivery and customization of service.

E-banking is responsible for the increase in the use of credit cards. Now a customer can shop around the world without paper.

Banks are available 24/7, and only one mouse click away. The survey conducted by the Cedar Group Consulting Company (2014) indicated that the internet can play a major role in transforming work place by reducing operational costs and enhancing the relationship between employees by providing better services. The researchers noted that the level of sophisticated services also increased with the transformation in the workplace.

"Customers in banks that are actively using the e - banking system use this system because it is efficient, convenient to operate and time - saving and adapted to their transaction requirements" Aderonke and Charles (2010). Network security and system security are also the main concerns of users and are obstacles to the intended users.

The positive link between convenience and online banking was found by Gerrard and Cunningham (2003), who noted the main benefits for the bank are cost savings and the primary advantages for the consumer is convenience. Another feature which meets customer requirements is the multi functionality of an IT - based service (Gerson, 2018).

Reducing the percentage of customers visiting banks with an increase in alternative distribution channels will also minimize branch queues as postulated by Thornton and White (2011). Greater availability and access to more self - service distribution channels help banks to reduce the costly branch network and the overhead of their staff. Bank staff and office space so freed up can be used for other lucrative ventures (Birch and Youth, 2017).

A major research paper by Boateng and Molla (2016) examined the use of the Internet in Ghanaian banks to develop e - bank capacity. Nevertheless, the study was based on an exploratory case study and focused in particular on the bank's approach to developing e - bank capacity and was relatively unclear on consumer perceptions and expectations of e - banking services and products.

2.3.5 Critical success factors of implementing e- banking

The critical success factors in introducing an e - banking approach represent an accepted top - down methodology in corporate strategic planning and can emphasize key information requirements of the top management while identifying few success factors (Rockart, 1979). In addition, management can take certain steps to improve their potential for success if key success factors are identified and controlled (Chen, 1999). There is a growing demand worldwide for e - banking services, while some banking companies have been able to meet the necessary

requirements in their countries to introduce e - banking; it has not worked well elsewhere. As Emor (2012) has pointed out, while countries such as the USA, Canada and other developed countries have played a major part in this development, other success stories have also been recorded in less developed countries such as India, Malaysia, Southeast Africa among others.

Another study carried out by Khan (2011) found that consumers regard better prices, information protection, and better service as factors that ensure the introduction of e - banking successfully. The banks ' marketing initiatives and personal recommendations of friends and colleagues were two of the least factors considered for e - banking. In order to switch channels, customers demand a minimum relative benefit. It means that it must be seen that the new innovative service is better than its predecessor.

According to Janice (2012), customer - related problems require special attention to developments and potential channel conflicts. A critical assessment of these issues may allow a bank to identify the targets for entering e - banking services, to make strategic decisions about the services to be provided and to use and manage them efficiently.

Safety, including the protection of personal data of consumers and safe transactions against fraud, is paramount to the development of any kind of online business such as e - banking (Enos, 2011). In this context, safe transactions and secure front and back - end systems are part of security. In order to provide each customer with unique services, security also requires improved trust, simplification and integrated fundamental services like banking and lending, personalization and customization capacity.

Other equally renowned researchers, such as Owens and Robertson (2000), confirms that collaborative effectiveness increases if stakeholders ' common goals eventually open up the

exchange of information. The product designed must take the culture of people into consideration, in particular the beliefs and the best ways in which the product can be easily associated without much doubt.

Another important point to be addressed is customer awareness, customer readiness, the specific nature of the broader ICT market and experience with electronic transactions (Jasimuddin 2011). A critical evaluation of these issues can enable the bank to formulate e - banking services objectives, make strategic decisions on the services that need to be delivered, and provide adequate delivery channels for the efficient deployment and management of these services.

2.3.6 Challenges of e- Banking

Studies carried out by Daft (2012) revealed that e - banking can be a good idea but are more risky for customers in relation to the specific type of innovation. Daft (2012) identified what he described as a strategic risk by implication that the management and board of the financial institution should understand the risks associated with e - banking and should assess the resultant risk management costs against a potential return on investment before providing e - banking services.

Poor e - bank planning and investment decisions can increase the strategic risk of a financial institution. E - banking is relatively new to strategic risk and therefore senior management may have little understanding of its potential and impacts. Technologically competent people may eventually drive the initiatives, but not individuals with banking skills. Incoherent and fragmented e - initiatives may emerge in companies, this can be very costly and have dire consequences on the financial survival of the company.

Perhaps one of the biggest problems for customers to engage in electronic enterprises is that the institution cannot deliver products or services, because of fraud, processing errors, system disorders or other unexpected events. Each product and service offered may be exposed to this risk (Earl, 2000).

Earl further commented that banking activities are likely to increase the institution's complexity and the amount of risk of its transactions / operations, in particular if the institution provides non - standardized, innovative services. Since customers expect e - banking services to be available 24/7, financial organizations should provide sufficient capacity and redundancy in their e - banking infrastructure to ensure reliable services. Even institutions not considering e - banking as a vital financial service because alternative processing channels are accessible should take into account customer expectations and the possible impacts on customer satisfaction and loyalty of service disruptions. E- Banking potentially exposes previously isolated systems to open and risky environments, which is a security problem associated with electronic banking. Security violations are essentially in three categories; violations of a severe criminal intent (fraud, theft of commercially sensitive or financial information), violations of ' casual hackers ' (defacing or ' denial of service ' - crashing Web sites) and faults in the design and/or set - up of systems that result in security violations. All of these threats could have serious financial, legal and reputational consequences.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research process. It provides information on the method used and the justification for using such method. The Chapter also outlines the different stages of research, involving participant selection, data collection and data analysis. The chapter concludes with a discussion on validity and reliability for quantitative research and discusses how the present study fulfilled those two requirements.

3.2 Research Methodology

Research Methodology according to Denzin and Lincoln (2005) is determined by the nature of the research question as well as the subject under investigation. In lieu of this, the format of the research should be geared towards responding to the research question. The current research did not aim to provide the ultimate truth on the subject matter but rather to derive meaning on the phenomenon under study. The study was guided by the research questions as enumerated in chapter one.

3.3 Research Design

The study adopted the descriptive case study design. The case study method helps in a close examination of data within a specific context as it involves the procedures of investigating and properly understanding the dynamics of a particular system. In most cases, the choice of a case

study research design is based on a small geographical area or a very limited number of individuals as the subjects of the study. In their true essence, case studies explore and investigate contemporary real - life phenomena through detailed contextual analysis and their relationships of a limited number of events and conditions. Yin (2003) defines the case study research method as an empirical investigation that investigates a contemporary phenomenon within its real - life context; where the boundaries between phenomenon and context are not clearly evident; and where multiple sources of evidence are used. This was adopted because it is the best approach to studying contemporary issues and where the limits between phenomena and context are not clearly visible, as is the case with rural banks, and how they improve livelihoods through the adoption of new technology like Electronic banking.

In the current study, electronic banking is considered as the independent variable whilst livelihood is the dependent variable. Electronic banking is considered as the variable that is induced to cause a change in the livelihood of the people of Bogoso.

3.4 Population and Sampling

The target population for a study is the entire set of units for which inferences can be drawn from the data collected. In the current study, the target population is the community of Bogoso.

Bogoso is a mining town and is the capital of Prestea-Huni Valley district, a district in the Western Region of Ghana. With an estimated population of 159,304 (80,493 males and 78,811 females) key economic activities include mining, farming, transport services and artisans. There are several financial services providers in the area. These include savings and loans companies,

microfinance companies and commercial banks. Fiaseman Rural bank Limited is the only rural bank in Bogoso.

The accessible population is the population in research to which the researcher can apply his conclusions. This population is a subset of the target population. The researcher drew his sample from the accessible population.

For the current study, the accessible population were the customers of Fiaseman Rural Bank in Bogoso.

3.4.1 Sample selection

The method of purposive sampling which is a non-probability sampling techniques was adopted in the sampling procedure for the current study. Sample members are selected on the basis of their knowledge, relationships and expertise regarding the research topic (Freedman et al., 2007). In the current study, the sample members who were selected had special relationship with the phenomenon under investigation, sufficient and relevant work experience in the field of banking and thoroughly understood the phenomenon under study.

The researcher in the current study relied on his personal judgement in selecting members of the population to participate in the study (Black, 2010). The researcher believed he can obtain a representative sample by using a sound judgement which will result in saving time and money. The participants of study were purposively selected on their knowledge and adoption of the banks electronic systems.

3.5 Data Collection

For the current study, a self-administered questionnaire was used. A gate keeper was used in the administration of the study. In the current study, the General Manager for the Fiaseman Rural Bank was the gatekeeper. He helped in the administration of the questionnaire to his staff and the customers of the bank. The questionnaires to the staff were dropped and picked up later whilst that of the customers were filled instantly. It takes 10 minutes maximum to complete a questionnaire. The filled questionnaires were mailed through courier services to the researcher for further analysis.

3.6 Research Setting

The setting of the research refers to the place where the study was carried out. In the present study, the data was collected at Fiaseman Rural bank in Bogoso.

3.7 Instrument

A structured questionnaire was adopted for this study. The questionnaire takes approximately 10 minutes to complete. The use of the self-administered questionnaire was to encourage easy participation in the study. According to Malhotra (2004), the advantages of a questionnaire to collect data are enormous. It is simple to administer, the data collected is reliable and coding and interpretation of data is relatively simple and straight forward. The questionnaire was in three parts, part one was on the demographics of the participants part two was on the electronic banking adoption by the rural bank and part three was on the customers of the bank. The

questions were both open ended and close ended questions. The close ended questions were in a five point likert scale. The construct were easy to understood and economic in terms of space.

3.8 Ethical considerations

The current study was subject to certain ethical issues. All participants reported their written acceptance regarding their participation in the research, through a signed Consent and Briefing Letter. At the same time, participants were asked to sign a Debriefing and Withdrawal Letter. The aim of both letters was to reassure participants that their participation in the research is voluntary and that they were free to withdraw from it at any point and for any reason. Next to this, participants were fully informed regarding the objectives of the study, while they were reassured that their answers were treated as confidential and used only for academic purposes.

Except from the above, participants were not harmed or abused, both physically and psychologically, during the conduction of the research. In contrast, the researcher attempted to create and maintain a climate of comfort.

3.9 Reliability

Reliability is the degree of consistency with which the instrument measures an attribute (Polit & Hungler, 2009). It further refers to the extent to which independent administration of the same instrument yields the same results under comparable conditions (De Vos & Fouche, 2015). The less variation the instrument produces in repeated measurements of an attribute the higher the reliability.

Cronbach's alpha was used to measure the internal consistency. That is, how closely related a set of items are as a group. In social science research, a reliability coefficient of .50 or higher is considered ―acceptable.

3.10 Validity

Validity is defined as a measure of truth or falsity of the data obtained through using the research instrument. It is classified as internal and external validity of the measuring instrument (Burns & Grove, 2010). Content validity is the extent to which the content of the instrument appears to comprehensively examine the scope it is intended to measure (Bowling 2017). This was ensured by a thorough review of literature, the basis of which the research instrument (questionnaire) was developed. Other steps were taken to ensure the validity of the study. Firstly, the questionnaire was pilot tested, which enabled the researcher to make the necessary adjustments for the final questions.

3.11 Method of Data Analysis

The method of data analysis used in this study include frequency distribution, arithmetic measurements and the simple linear regression.

3.11.1 Frequency Distribution

The data collected answered some of the issues raised in the study. The analysis of the data was performed through descriptive statistics. One of the initial steps was to perform frequency distribution, which summarizes the data and displays the number of the observations into distinct

classes or categories for each distribution. For the purpose of this research, graphical and data analysis techniques were used (Creswell, 2008; Cavana et al., 2011).

3.11.2 Arithmetic Measurements

Arithmetic measurements include the everyday measures used to describe the distribution of daily personal and business activities, for example, the arithmetic mean, which is the most useful measure in business statistics (Bryman, 2004). In this study, the mean was used in the evaluation of the measurement for answering the issues raised in the research questions.

3.11.3 Simple linear regression analysis

This model is appropriate to establish the effect of electronic banking on the livelihood of the people of Bogoso.

This model is appropriate to establish the effect of electronic banking on the livelihood of the people of Bogoso. Simple linear regression is a statistical method that allows us to summarize and study relationships between two continuous (quantitative) variables. Electronic banking in the current research is considered as the independent variable (x) and livelihood of the people of Bogoso is the dependent variable (y). The formula $Y_i = \beta_0 + \beta_1 X_i + \varepsilon_i$ where

Y is the dependent variable

X is the independent variable

ε_i is the error term which is to cater for omitted variables as well as measurement error in the study.

An improvement in the livelihood of the customers on the adoption of electronic systems will be measured by a positive correlation between the variables.

CHAPTER FOUR

PRESENTATION OF RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the findings from the current study. Data was collected from both the customers and staff of the Fiaseman Rural Bank in Bogoso. A structured questionnaire was used in the collection of data. Out of the 70 questionnaires that was deployed, only 60 were correctly filled and returned representing 81.67 percent return rate. One sample t-test, mean, standard deviations, percentages and simple linear regression were used in the analysis and presenting data. The Cronbach alpha was run to establish the validity of the data through the use of SPSS version 25.

Table 4: Reliability Statistics

Cronbach's Alpha	No. of Items
.805	34

Source: Field Data

All questionnaires were individually examined to ensure the objectives of the study as outlined in chapter one were met. To assess the reliability and the interval validity, the Cronbach Alpha was calculated using SPSS Version 25. There were 34 items and the output gave an alpha of .805 indicating the subscales were highly reliable.

4.2 Demographics of Customers of the Bank

The demographics analysed on the customers of the bank were the gender, age, education and the occupation of the respondents.

64.7 percent (22) of the respondents were males whilst 35.3 percent (12) were females.

Table 5: Gender of Respondents

Gender	Frequency	Percentage
Male	12	35.3
Female	22	64.7
Total	34	100

Source: Field Data

38.2 (13) percent of the respondents were between the ages of 31-40 years, 29.4 percent (10) were between the ages of 20 to 30 years, 26.3 percent (9) were between the ages of 41-45 years and 5.9 percent (2) were 40 years and above.

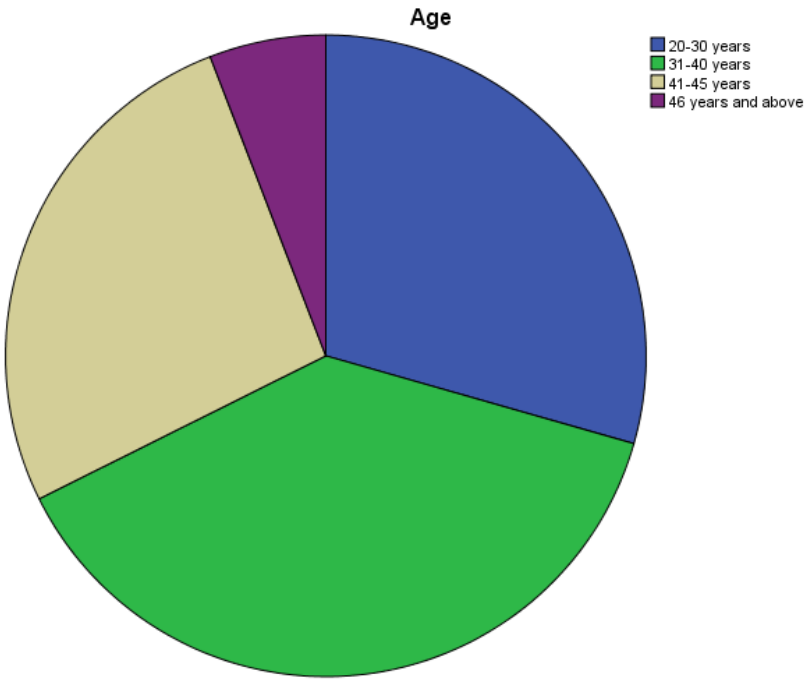

Figure 3: Age of respondents

In terms of the education of the respondents, 44.1 percent were Senior High School graduates, 17.6 percent were first degree holders, 11.8 percent (4) of the respondents both had HND and post first degree certificates whilst 14.7 (5) percent of the respondents had no educational background.

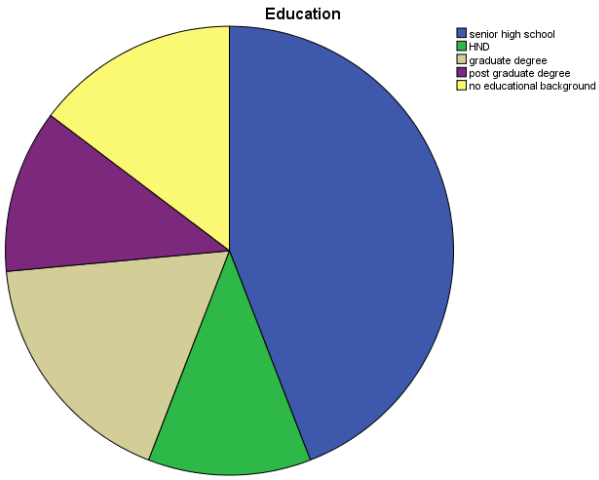

Figure 5: Education of respondents

In terms of the educational background of the respondents, 32.4 percent (11) were traders, 29.4 percent (10), 2.9 percent (1), 8.8 percent (3) and of the respondents were teachers, farmers, security officers respectively whilst 26.5 percent (9) were from various professions.

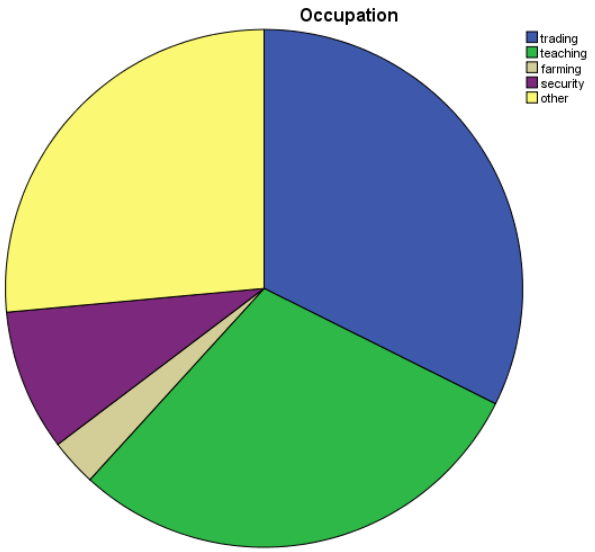

Figure 6: Occupation of Respondents

Table 6: Occupation of Respondents

occupation	Frequency	Percent
trading	11	32.4
teaching	10	29.4
farming	1	2.9
security	3	8.8
other	9	26.5
Total	34	100

Source: Field Data

The effect of e-banking on the livelihood of customers

On the use of e banking, 97.1 percent of the customers use at least one of the e-banking product of the bank

Table 7: The use of Electronic banking products

		Frequency	Percent
	yes	33	97.1
	no	1	2.9
	Total	34	100

Table 8: The use of E-banking product by customers

item	Frequency	Percent
sms	20	58.8
trans	1	2.9
e-zwich	9	26.5
ATM	4	11.8
Total	34	100

Source: Field Data

58.8 percent of the customers use SMS 26.5 percent uses the e-zwich, 11.8 percent uses the ATM services whilst 2.9 uses the i-trans services of the bank.

Table 9: I can use my time for more productive activities

item	Frequency	Percent
strongly agree	12	35.3
agree	19	55.9
neutral	3	8.8
Total	34	100

Source: Field Data

In accessing the effect on the livelihood of the customers, the researcher intends to ascertain how the adoption of electronic banking has helped the customers to dedicate time to other useful activities. As indicated in the table above, 91.2 percent of the customers agree that the introduction of e-banking has greatly helped them to judiciously use their time as they do not need to go and form very long queues in banking halls for services.

Table 10: Reliability of the services

item	Frequency	Percent
strongly agree	8	23.5
agree	18	52.9
neutral	6	17.6
disagree	2	5.9
Total	34	100

As indicated in the table above, the customers of the bank has concurred that services from the bank in terms of the reliability of e- banking is very liable and services are fast. They access the services without much hustle and without any difficulties. This is indicated by 76.4 percent of the respondents.

Table 11: Convenience of e-banking

	Frequency	Percent
strongly agree	11	32.4
agree	21	61.8
neutral	1	2.9
disagree	1	2.9
Total	34	100

Source: Field Data

As indicated in the table above, 94.2 percent of the respondents have unanimously agreed that the have easy access to the banking services. They get easy access to their transactions, check their account balances at any time and also receive updates on their accounts and transactions.

Table 12: E-banking has raised my standard of living

	Frequency	Percent
strongly agree	3	8.8
agree	16	47.1
neutral	13	38.2
disagree	2	5.9
Total	34	100

Source: Field Data

55.9 percent of the respondents believe the introduction and adoption of electronic banking by the bank has affected their livelihood positively whilst 38.2 percent of the respondents cannot really tell how the services have affected their lives positively.

Table 13: Recommendation of e-banking services

	Frequency	Percent
safety	10	29.4
time saving	10	29.4
reliable	7	20.6
transparent	3	8.8
no	4	11.8
Total	34	100

Source: Field Data

88.2 percent of respondents agree they will recommend the banks e-banking services to others. 29.4 percent of the respondents agree to recommend the services due to its safety, 29.4 percent of the respondents will recommend because it save times and 20.6 and 8.8 percent of the respondents will recommend it because it is reliable and transparent respectively. Only 4 percent of the respondents have agreed not to recommend the services due to security reasons.

Table 14: Reasons for not adopting electronic banking

item	Frequency	Percent
it is not secure	30	88.2
the bank has not given any training on it	2	5.9
traditional banking is better and safer	2	5.9
Total	34	100

Source: Field Data

On the reasons for not adopting e-banking, 88.2 percent of the respondents believe the system is not safe and secure, 5.9 percent each of the respondents will not adopt the system because they have not receive any training on it and traditional banking is better and safer respectively.

Demographics for staff of the bank

The demographic characteristics of the respondents include sex, age, educational level, and department.

Table 15: Gender of Bank respondents

	Frequency	Percent
male	14	41.2
female	12	35.3
missing value	8	23.5
Total	34	100

Source: Field Data

The table above indicates that the 53.8 percent of the respondents were males whilst 46.2 percent were females. The data is not skewed in favor of any of the sexes.

Table 16: Age of Bank respondents

Age	Frequency	Percent
20-30yrs	12	35.3
31-40yrs	14	41.2
missing value	8	23.5
total	34	100

Source: Field Data

46.2 percent (12) were between the ages of 20 to 30 years whilst 53.8 percent (14) were between the ages of 31-40 years.

Table 17: Education of bank Respondents

Educational level	Frequency	Percent
senior high	6	17.6
HND	6	17.6
graduate degree	11	32.4
post graduate degree	3	8.8
missing value	8	23.5
Total	34	100

Source: Field Data

23.1 percent (6) of the respondents were had SHS qualification, 23.1 percent (6) of the respondents had HND qualifications, 42.3 percent (11) of the respondents were first degree holders whilst 11.5 percent (3) of the respondents were post first degree holders.

In terms of the various departments of the respondents, 3.8 percent worked in the ICT department, 7.7 percent in the customer services, 15.4 percent with audit, 11.5 percent with operations, 15.4 percent with credit department, 34.6 percent with the microfinance department and 11.5 percent with marketing and public relations.

Table 18: Departments of the Respondents

Departments	Frequency	Percent
ICT	1	2.9
Customer service	2	5.9
audit	4	11.8
operations	3	8.8
credit	4	11.8
micro finance	9	26.5
Marketing and public relations	3	8.8
missing value	8	23.5
Total	34	100

Source: Field Data

Adoption of e-banking

Most of the staff (53.8 percent) believes the adoption of electronic banking by the bank some 7 years ago was to enhance the services they render to their customers whilst 26.9 percent believes the emergence of technology account for the adoption of the electronic banking. 19.2 percent of the staff equally believe the adoption of electronic banking will make working easier. The easier the work, the more effective they are in rendering quality services to their clients. This will enhance the image of the bank as the needs of the customers will be met.

Table 19: Reasons for the adoption of electronic banking

adoption of e-banking	Frequency	Percent
to make working easier	5	14.7
due to the technological changes	7	20.6
to enhance our services to our customers	14	41.2
Missing Value	8	23.5
Total	34	100

Challenges of electronic banking adoption

The electronic banking system is fraught with a lot challenges at Fiaseman Rural Bank. According to the respondents who are workers of the bank and have access to the system, the majority of the challenges they face in the use of the electronic banking system is the constant and continuous network failure. 84.6 percent of the respondents assert to the fact that the system is always failing, this leads to poor services to customers. Moreover, the constant deductions on customers account due to the use of the services (3.8 percent) and the inability of staff in understanding and using the software (3.8 percent) and the low patronage of customers (7.7 percent) perhaps due to low publicity are other challenges the bank faces in its adoption of the electronic system of banking.

Table 20: Challenges of electronic banking

challenges	Frequency	Percent
network breakdown	22	64.7
customers complaining of too much deductions	1	2.9
difficulty in using the software	1	2.9
customers do not patronise	2	5.9
Missing Value	8	23.5
Total	34	100

Source: Field Data

Table 21: Controlling of overhead and operating cost

	Frequency	Percent
strongly agree	8	23.5
agree	8	23.5
neutral	8	23.5
disagree	2	5.9
Missing Value	8	23.5
Total	34	100

Source: Field Data

It is the desire of every business to reduce cost and increase revenue to meet the demands of the stakeholders. Whilst 30.8 percent of the staff were not sure how the adoption of electronic banking affects the operations and profit of the bank, 61.5 percent agree that the adoption of electronic banking helps in controlling of the overhead and operating cost of the bank.

Table 22: Quality of service

	Frequency	Percent
strongly agree	8	23.5
agree	12	35.3
neutral	4	11.8
disagree	2	5.9
Missing Value	8	23.5
Total	34	100

Source: Field Data

On the nexus between the quality of service of the bank and electronic banking, the 76.9 percent of the staff agree that the introduction and adoption of electronic banking by the bank has improved the quality of services they have been rendering to their customers. However, 7.7 percent think otherwise.

Table 23: Increase in revenue

	Frequency	Percent
strongly agree	7	20.6
agree	10	29.4
neutral	6	17.6
disagree	3	8.8
Missing Value	8	23.5
Total	34	100

Source: Field Data

In line with the majority of staff believing that electronic system of banking has helped in cutting down overhead and operating cost, 65.4 percent of the staff believe that the adoption of electronic banking has led to an increase in the revenue of the bank.

Table 24: Efficiency of operations

	Frequency	Percent
strongly agree	5	14.7
agree	15	44.1
neutral	4	11.8
disagree	2	5.9
Missing Value	8	23.5
Total	34	100

Source: Field Data

76.9 percent of the respondent believes that greater efficiency has been achieved through the introduction of electronic system of banking at Fiaseman. 7.7 percent believes otherwise.

4.3 Inferential Statistics

The main objective of the current study was to assess the impact of electronic banking on livelihood of the people of Bogoso. A simple linear regression was modelled to explain the effect and relationship. The results indicate that there is a weak correlation between electronic banking and livelihood. The R value.130. The R^2 indicates 17 percent of electronic banking affects the livelihood of the people of Bogoso. The B (coefficient) value was -.111. The regression equation was livelihood =2.850 -.111 (electronic banking). The findings of the study are in line with the findings of Wu (2005) who found a positive correlation between livelihood and electronic banking among the people of Ethekweni Metropolitan Region in South Africa. Meuter et al (2000) also corroborated these findings. According their findings, customers perceive how the quality of e-banking impact upon their livelihood, they perceive the quality of services of e-

banking based on how the online delivery system is functioning and performing, not how the processes which leads to the building of the system. This implies that the customer at the end of the day want quality service which will in the long run impact his livelihood positively. The customer care less on the processes that the rural banks adopt to make his live comfortable. The finding has managerial implications in that managers are to put systems in place to ensure that their e-banking systems are always optimal, not the usual rhetoric of the system is down. A well-functioning and active e-banking system is a catalyst to attracting and retaining more customers and increasing revenue of the bank.

Table 25: Regression Analysis

	R	R^2	B	sig	tscore
Constant			2.850	.000	7.288
Electronic Bank	.130	.017	-.111	-.641	.000

4.4 Discussion of Results

The banking sector has in recent times proved itself to be a major contributor of Ghana's economy. In recent times, the nature of competition among players within the industry has compelled most banks especially rural and community banks to adopt various technological platforms as a means of delivering effective and efficient quality of service to their customers.

The primary objective of the study was to explore the effect of electronic banking on livelihood of the people of Bogoso.

The results from the above statistical presentations draws attention to the fact that accessibility/availability plays a major role in the challenges of consumer adoption of electronic banking. Although previous literature (see Jahangir and Begum, 2008; Yuttapong et al. 2009) have suggested that easy accessibility of electronic devices by consumers facilitates their adoption of electronic banking, the antithesis of this factor could also pose a major barrier towards consumer adoption of the same electronic banking services. In the current study, accessibility problems faced by customers of electronic banking in Fiaseman Rural Bank in Bogoso includes their inability to access some services like the ATM, U connect and e-Zwich anytime they want to basically due to the constant breakdown of the system.

In addition, the study revealed that socio-cultural factors played a significant role in inhibiting consumers towards the patronage of electronic banking. In discussing this factor which some scholars refer to as ―compatibility this measured the degree to which the use of an innovation is considered by the individual as consistent with the user‘s values, socio-cultural beliefs, and past and present experiences. It also refers to the fact that an innovation is more likely to be adopted when it is compatible with an individual‘s culture and value systems (Tat et al, 2008; Matilla et al, 2003).

The current study found that within the socio-cultural make-up of bank customers of Fiaseman, most of them would prefer to do transactions in cash rather than the use of electronic banking services because they found the e-banking is inconsistent with their cultural values, beliefs and norms. Also the general issue of fraud and other social vices make it unattractive to use e-

banking services adding to the fact that there is lack of user protection laws making it difficult for several customers to use the services.

Furthermore, consumers' ability to become easily familiar with electronic banking platforms with a minimal degree of effort describes the ease of use (EOU) factor. Explaining and commenting on this, scholars (such as Pikkarainen et al., 2004; Jahangir and Begum, 2008; Hosein, 2010) have asserted that EOU is a major factor that affects acceptance of information system. Hence an application perceived to be easier to use than another is more likely to be accepted by users. Moon and Kim (2000) also revealed that ease of use and usefulness is believed to be fundamental in determining the acceptance and use of various corporate ITs. Later Shih (2004) also developed an extended model to predict consumer acceptance of electronic shopping based on the theory of reasoned action (TRA) and the TAM and found that, ―perceived ease of use of trading online and perceived usefulness significantly determine individual attitudes toward e-shopping. In line with these previous findings, the current study reveals that lack of information about the banks electronic product and its benefits makes it difficult for the customers to transact businesses. They consider the entire system to be difficult to use.

The degree to which a person believes that a particular system would enhance their performance is what some scholars define as perceived usefulness. A person's willingness to transact with a particular system is already considered as perceived usefulness. Embedded within this dimension is the point that electronic banking should be able to be used for transactions such as paying for goods and services when shopping. As hinted by Liao and Cheung (2002), these payments may range from physical products to utility bills such as telephone, electricity and water. However the current study found that consumers of E-banking could barely make use of the services due to

the constant breakdown of the system. The employees reported their frustration on the constant and continuous breakdown of the system. According to Pikkarainen et al (2004), TAM posits that perceived usefulness is a significant factor affecting acceptance of an information system. Furthermore, Yuttapong et al. (2009) stated that, ―perceived usefulness is an important factor in determining the adaptation of innovations. The perception of usefulness is formed in interaction with other individuals and a system‖. According to Liao and Cheung (2002), consumer attitudes toward the usefulness of and willingness to use electronic retail banking are positive if they derive maximum benefits from adopting the particular platform. People adopt a particular technology presuming that using this technology and information system would enhance their performance and livelihood.

Finally, with regards to security and privacy associated with electronic banking services, the study found this dimension as the least challenge hindering the adoption of electronic banking services with regards to the use of electronic banking, although it is considered a significant factor. In consonance with some scholars (for instance Howcroft et al., 2002; Laukkenan et al., 2008; Woldie et al, 2008), security and privacy issues relating to electronic banking adoption cannot be underestimated when it comes to consumers‘ interests. The feelings of trust for the electronic banking system coupled with the ability of the system to protect customers ‘private information are major factors considered by most customers who subscribe to electronic banking services. As the least factor found in this study, it presupposes that a lot of consumers of electronic banking services seem to have some trust in the security of the system.

Electronic banking has many challenges such as security threats, difficult operations and technology barriers. The findings indicate that the failure of service and the continuous breakdown of the system was one of the major concerns of the customers and the employees as

well. Grewal et al. (1994) termed this as a performance risk. This is the possibility that the product is malfunctioning and does not work as designed and announced, thus not providing the desired advantages. The benefit of an e-banking advent is its round - the-clock service supply, it is therefore disheartening when customers are unable to transact businesses due to breakdown of the system. The adoption of electronic systems have enormous advantages for both customers and the service providers. Electronic banking saves time, enhances the operations of the bank as well as provides services that a brick and mortar office could not provide such as the 24/7 services like ATM. Electronic banking equally helps customers to track and manage their finances very well as they receive constant alert on any transactions they carry out. This is line with the findings of Sheng and Liu (2010), Kuo and Wu (2012) who confirmed that customer satisfaction in the use of electronic banking favors future intention to purchase and use to use the service. It also increases customer loyalty.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND MANAGERIAL IMPLICATIONS

5.1 Summary of the findings

The study examined electronic banking adoption within the Ghanaian banking industry with specific attention on rural and community banking. More specifically, the study examined effect of electronic banking on livelihood of the people of Bogoso with Fiaseman rural bank as the company under study. This study sought answers to the question: What are the critical success factors for electronic banking in Ghana for rural and community banks in Ghana? The nature of competition among the main players in the banking sector is an important premise which makes this study not only timely but also very relevant. This competition obliged some players to adopt multiple technology platforms not only to satisfy existing customers, but also to reach prospective customers and be relevant in their operations.

According to the Bank of Ghana, as at 2018, there are 144 rural banks operating in the country. It is pertinent to understand how the adoption of the various technological platforms combined with the brick-and-mortar facilitate the achievement of organizational objectives of delivering excellent customer service to customers of the bank.

In order to find empirical answers to the questions posed and objectives set out in the study, literature was reviewed in areas related to electronic commerce, electronic banking adoption and theoretical areas within the Technology Acceptance Model (TAM) which served as the principal framework for this study. A greater portion of the respondents were within the ages of 18 – 45 years emphasizing the point that technology adoption is high among the youth.

A descriptive case study design approach was adopted in the methodology in which seventy questionnaires were administered through a gatekeeper, retrieved and used for analysis. The content of the questionnaire were formulated based on the discussions in the reviewed literature (primarily on the TAM) and with respect to the objectives outlined in the study. Furthermore, using statistical package for social sciences (SPSS) version 25, the data obtained was analyzed using descriptive statistics and simple linear regression analysis. This was premised on the fact that quantitative data analysis techniques enable numerical representation and manipulation of data for the purpose of describing and explaining the phenomenon under study.

The study further revealed that all the dimensions in the TAM had strong and positive significant relationships with electronic banking adoption. More explicitly, the factors contributing to electronic banking adoption among customers within the Ghanaian rural and community banking sector in terms of priorities were found to be:

- Availability/accessibility
- Socio-cultural factors
- Ease of usage of electronic banking
- Perceived usefulness and
- Security and privacy

These were found to be the key critical success factors affecting electronic banking adoption among electronic banking customers of rural and community banks in Ghana.

Accessibility was found to be the key determinant of electronic banking adoption among bank customers. The customers agitate the impossibility of accessing most of the services they have signed onto due mainly to continuous system failure.

Furthermore, our cultural orientation still makes Ghana a largely cash economy. Coupled with low IT literacy levels, the general IT policy in the country seem to be loose with respect to advocacy on the use of electronic banking platforms. Others also relates to the apathy with which customers embrace technological platforms especially when customers have heard about some past unfortunate situations regarding the inconveniences posed by these electronic systems to other customers.

With regards to the ease of usage, customers' belief that electronic banking will be free of effort culminates into their acceptance and adoption of electronic banking services. Hence if the application/system is perceived to be easier to use than another platform, customers of the bank are most likely ready to accept it. For Ghanaian rural and community bank customers, a system of banking devoid of associated complexities but offering simplicity in operation is most welcome.

Again, regarding Perceived usefulness, the study hints that the degree to which customers believe that using electronic banking will enhance their transactional activities was of prime concern. This perception is formed as the customers interact with the system with respect to its ability to lessen their efforts and enable customers save a lot of time for other productive endeavors. In this regard, customers' expectations of accuracy, security, network speed, user-friendliness, user involvement and convenience are quality attributes underlying perceived usefulness of using electronic banking However, the platform should also possess a highly secured feature which guarantees the safety of customers' information and finances. Thus electronic banking as found from the study should be highly fortified with features impregnable by other intruders.

5.2 Conclusion

In order to make electronic banking more attractive and to increase returns on investments, it is important for rural and community banks to understand the critical success factors that influence customers adoption of the service. Perceived usefulness and ease of use are factors which influence the adoption and use of information technology. The current study indicates that trust is the key factor that customers looked out for when they intent to use the system. It is recommended that the management of rural and community banks devise an effective strategy to increase the trust of customers in the electronic system of banking. An effective communication strategy to properly communicate the advantages and safety of the system will go a long way to build the confidence of the customers in the system.

5.3 Managerial Implications

The results of this study indicate that the customers of rural and community banks continue to have a serious concern about trust in electronic banking systems, and thus a serious setback in Ghana's widespread adoption and use of electronic banking systems. It is imperative that banks put in place tight security measures to safeguard the privacy and security of users. It is also important that banks lobby government to initiate and develop the appropriate legal structures to apprehend and prosecute people found culpable in internet fraud. The improvement in the security systems should be well communicated to customers to build their trust in the electronic banking system.

Another important reasons cited for not using the services is apathy towards e-banking, according to this study. Banks need to recognize that the absence of effective communication to sensitize and show the benefits of electronic banking leads to client indifference. It is therefore

essential that banks devise communication strategies and step up efforts in order to promote their customers ' electronic banking. Rural and community banks should promote the benefits of adopting electronic banking such as convenience and cutting down of cost of doing business. However, in doing so, the bank should prioritize the issue of trust in the system as the study has indicated it is the most concern of the customers

5.4 Limitations and directions for future research

The current study is limited in several ways. This offer enough scope for future studies. The study identified some critical success factors which influences the adoption of electronic banking by the customers of rural and community banks. The literature however contains additional factors which needs to be researched. Future studies should endeavor to investigate how factors such as perceived enjoyment, culture, internet and cellphone connectivity speed affects the adoption of electronic banking services.

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Appendices:

QUSTIONNAIRE

UNIVERSITY OF GHANA

GRADUATE SCHOOL OF BUSINESS

QUESTIONNNAIRE

We will like to invite your participation in this research. The purpose of the study is to understand the adoption of internet banking and its effect on the livelihood of the people of Bogoso.

This exercise is for academic purposes only. We assured you of confidentiality and you also have the free will to discontinue your participation in the research if you so wish at any time.

PART 1: FOR CUSTOMERS OF THE RURAL BANK (FIASEMAN RURAL BANK, BOGOSO)

DEMOGRAPHICS

1. Sex:
a. Male [ ] b. Female [ ]

2. Age: a. 20 – 30 years [ ] c. 31 – 40 [ ] b. 41 – 45 years [ ] d. 46 years and above [ ]

3. What is your higher level of education? Please select the most appropriate.
a. Senior High [ ] b. HND [ ] c. Graduate Degree [ ] d. Post Graduate Degree [ ]
e. Other (Please Specify) ……

4. What is your occupation? ……

Effect on e-banking on the livelihood of customers

1. Do you use any of Bank's electronic banking products?
   a. Yes b. No
2. If yes, Kindly kick which ones you normally use
   Sms i-Trans E-Zwich ATM
   U Connect
3. How frequently do you use any of the e-banking services in a month? Please specify ……..
4. The introduction of Internet banking by my bank has saved me a lot of time
   a. Strongly agree b. agree c. neutral d. disagree e. strongly disagree
5. I now can use my time for more productive activities
   a. Strongly agree b. agree c. neutral d. disagree e. strongly disagree
6. Internet banking from my bank is available at 24x7
   a. Strongly agree b. agree c. neutral d. disagree e. strongly disagree
7. The internet banking services from my bank is fast and reliable
   a. Strongly agree b. agree c. neutral d. disagree e. strongly disagree
8. All services that are usually available from the local bank can be found on a single website from home or office
   a. Strongly agree b. agree c. neutral d. disagree e. strongly disagree
9. I don't need to carry cash around
   a. Strongly Agree b. agree c. neutral d. disagree e. strongly disagree
10. I can check my account balance at any time
    a. Strongly agree b. agree c. neutral d. disagree e. strongly disagree
11. Any fraudulent activity on my account can be easily known
    a. Strongly agree b. agree c. neutral d. disagree e. strongly disagree
12. Internet banking from my bank provides easy access to bank transactions
    a. Strongly agree b. agree c. neutral d. disagree e. strongly disagree
13. The introduction of internet banking by my bank has raised my Standard of living
    a. Strongly agree b. agree c. neutral d. disagree e. strongly disagree

14. The e-banking services from my bank has Increase my confidence in the rural banking sector

    a. Strongly agree b. agree c. neutral d. disagree e. strongly disagree

15. Would you recommend e-banking to others?
    If yes please give reasons
    ...……
    ……
    ……
    ……..

    If no, please give reasons
    ……
    ……
    ……
    ……

16. Which of the following reasons will you not use e-banking?

    a. It is not secure

    b. The bank has not given any training on it

    c. I feel traditional banking is better and safer

Thank you for your time and candid opinion.

PART 2: THE BANK

Adoption of E-banking by rural banks

DEMOGRAPHICS

1. Sex:
a. Male [ ] b. Female [ ]

2. Age: a. 20 – 30 years [ ] c. 31 – 40 [ ] b. 41 – 45 years [ ] d. 46 years and above [ ]

3. What is your higher level of education? Please select the most appropriate.
a. Senior High [ ] b. HND [ ] c. Graduate Degree [ ] d. Post Graduate Degree [ ]
e. Other (Please Specify) ……

4. What is your department? ……

1. How long had the bank adopted E-banking?

   Please specify. …….

2. Why was E-banking adopted? Please Specify

   ……

   ……

   ……

3. What are some of your e-banking products?

   ……

   ……

   ……

4. What challenges has the Bank faced in its adoption of E-Banking?

……

……

…….

5. The growth of E-banking has greatly helped the banks in controlling their overheads and operating cost

    a. Strongly agree b. Agree C. Neutral d. Disagree e. Strongly disagree

6. Electronic banking has greatly helped the banking industry to reduce paper work, thus helping them to move the paper less environment.

    a. Strongly agree b. Agree c. Neutral d. disagree e. strongly disagree

7. Electronic banking helps to improve Social Status of rural people

    a. Strongly agree b. agree c. neutral d. disagree e. strongly disagree

8. Our Quality of service has improved through adoption of e-banking

    a. strongly agree b. agree c. neutral d. disagree e. Strongly disagree

9. The introduction of e-banking has increased the revenue of the bank

    a. strongly agree b. agree c. neutral d. disagree e. Strongly disagree

10. The rise of E-banking has made banks more competitive.

    a. strongly agree b. agree c. neutral d. disagree e. Strongly disagree

11. Many repetitive and tedious tasks have now been fully automated resulting in greater Efficiency

    a. strongly agree b. agree c. neutral d. disagree e. Strongly disagree

12. The introduction of E-banking has saved our time a great deal

a. strongly agree b. agree c. neutral d. disagree e. Strongly disagree

Thank you for your time and candid opinion

(The questionnaire items were adopted from the following prior studies (Reid et al., 2008; Jahangir et al., 2008; Muniruddeen 2007; Pikkarainen et al., 2004; Karjaluoto et al., 2002)