

**THE IMPACT OF INFORMATION COMMUNICATION TECHNOLOGY ON
GHANAIAN BANKS**

DAVID ASIEDU ASANTE

FAUSTINA AFREH NDUROH

AGYEPONG VINCENTIA BOATEMAA

LAGBLE ETORNAM KORKU

THOMAS ALAN AMANIE AGANEBA

**A PROJECT WORK PRESENTED TO THE DEPARTMENT OF BUSINESS
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ABSTRACT

The study sought to examine the impact of information communication technology (ICT) on Ghanaian banks. The high competition in the Ghanaian banking industry has forced rapid changes as a result of technological innovations, increased awareness and demands from customers. However, customers have expressed their disgust through customer feedback forums, about the frequent ATM breakdowns, breakdown in networks, the inability to access funds at other branches, referrals to branches due to breakdowns, identity theft and high charges on visa transactions. The question therefore is, how does ICT based products contribute to the customers satisfaction? In order to answer the question, 400 questionnaires were administered to retail customers of the Barclays Bank randomly selected from four branches. The ICT based products selected were ATM, Branch network and SMS Alerts. A Likert scale-typed questionnaire was used with responses ranging from strongly disagree, disagree, neutral, agree and strongly agree. Microsoft excel was used to analyse the responses and results indicated that majority of the respondents agree that ICT based products contributed to their satisfaction. In summary, customers are satisfied with ATM and SMS Alerts but still use the branch network at least once a month because the ATM withdrawal limit per day is 1,500 Ghana cedis. Also the ATMs cannot perform inter-account transfers. Following from the study, it is recommended, Barclays Bank enhances the performance of their ATMs to increase customer satisfaction.

DEDICATION

This work is dedicated to the Almighty God for His strength and guidance that we continue to receive from him. It is also dedicated to our Parents, Supervisor and the entire Institution.

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CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND TO THE STUDY

Banking industry in Ghana has gone through a lot of transformation with the introduction of ICT, and this have changed the processes and activities such as book keeping, retrieval of customers' information, keeping of records of customers, deposit and withdrawal, and cheque processing. (Marilyn 1986).

The application of computer networks (WAN, LAN, Internet etc.) is a vital part of ICT enabled system, which is especially true in the case of banks with a branch network. Networks are among other things used by banks to facilitate collaboration across functions, to advance productivity and efficiency by supporting business operations and decision making across the inter-networked enterprise (Marilyn 1986).

Previously, the provision of banking services in Ghana was basically manual. However, over time, Information and Communication Technology (ICT) has been deployed to influence serviced livery in the banking sector. Most Ghanaian banks are using ICT to penetrate the 'unbanked' sectors in the economy. Bank penetration has to do with the bank's incursion into the banking market as a result of competition. The liberalization of the banking sector has led to an increase in the number of banks in the country. The universal banking concept introduced by the Central Bank has thrown wide open the doors of the Ghanaian banking industry to investors who decide to establish banks. Competition has become keener due to technological inventions and the quality of customers and globalization of the market. This has resulted in a paradigm shift in the banking business.

In Ghana, the Bank of Ghana took hold initiative to integrate ICT into its payment systems development strategy. This strategy constitutes the National Electronic Payment System (NEPS) and is aimed at providing a framework for electronic delivery of financial service to every segment of the economy. The objective of this project was to deepen financial intermediaries by developing electronic payment products that will meet the needs of the “Banked”, “Unbanked”, and “Under banked” (Bank of Ghana 2006 Report).

The advantages of deployment of ICT in the banking sector have been seen in terms of its potential to increase customer base, reduce transaction costs, improve the quality and timeliness of response (turn-around time), enhance opportunities for advertising and branding, facilitate self-service and service customization and improve customer communication and relationships. The introduction of ICT has also served to streamline banking operations, improved competitiveness and increased the variety and quality of services provided.

As a result of the reform in the banking sector, the banks are expanding their branch networks through ICT which attest to the increasing competition among themselves and the demand for sophisticated banking services by the public. Banks are now making efforts to deepen financial intermediation through rapid introduction of innovative instruments and products to suit the needs of the public and improve the banking culture as well. Thus doing away with the old method of banking and coming in with a more advanced methods, for example joining long queues before being served, delays in preparing financial statements, cheque clearing processing etc. (Barua, 1995)

The introduction of information and communication technology (ICT) has therefore brought a lot of benefits to banks and has also boost the performances of businesses. Although this theme has been widely investigated, there have been different results. Some researchers assert a positive impact of ICT use on business performance (Barua, 1995, Stratopounlos, 2000), others consider it insignificant (Strassmann,1990; Yosri, 1992) or even assume a negative impact (Brynojolfsson, 1995; Holland, 1997; Setzekorn, 1998). In any case, it is still not clear which factors influenced or determined this contribution (Weill, 1992; Mukhopadlyay, 1996). Thus, it is crucial to discover the impact of ICT on banking activities and to improve the business performance through ICT leverage in Ghana with special emphasis on the three commercial banks and one rural bank in order to make ICT “a good servant rather than a bad master”, (Revell, 1997).

1.2 PROBLEM STATEMENT

Most banks in Ghana are now offering ICT-based services with various levels of sophistication. ICT is expected to enhance service delivery and efficiency in banks. This is expected to have appreciable positive effects on bank productivity, cashiers’ work, and banking transaction, bank patronage, bank services delivery, customers and bank services. This in the long run is expected to improve on financial inclusiveness through reduction of transaction cost increasing convenience, availability and timeliness of transactions, and improving accessibility for better fund administration. However customers have expressed their disgust through customer feedback forums, about the frequent ATM breakdowns, breakdown in network, the inability to access funds at other branches, referrals to branches due to breakdown, identity theft and high charges on visa-transactions.

It is in this light that the researcher seeks to investigate the impact of ICT and how is considered by Ghanaian banks to tailor-make it offers to the satisfaction or delight of its customers, and to cross-check from the opinions of its customers on how well the ICT products are tailored to fit the customer.

1.3 OBJECTIVES OF STUDY

By the end of this research work, set of issues will be raised and workable solutions will be suggested where possible to the benefit of the service provider in decision making and service improvement, and to the customer to whom the service is offered. Banks in Ghana currently operate in environment characterized by fluid customer loyalty and intense competition as they scramble to increase their market share and to look for ways of coping with significantly rising operating cost and dwindling profit.

This research project will examine the general impact of ICT on Ghanaian Banks. The following are specific objectives:

1. To access the various type of ICT based products used by Ghanaian Banks.
2. To measure performance through application of ICT
3. To find the contribution of ICT based products to customer satisfaction.
4. To compare Banking operations a decade ago with present day operation.

1.4 RESEARCHQUESTIONS

1. To what extent can the various types of ICT based products used by Ghanaian Banks be accessed?
2. How can performance be measured through the application of ICT?
3. To what extent can ICT based products contribute to customer satisfaction?

4. What is the different between decade banking operations and present banking operations?

1.5 SIGNIFICANCE OF STUDY

Upon its completion, this study will be very beneficial to the business community in particular and general public at large. Management, the business, and cherished customers will be the major stakeholders to gain from this research work.

An understanding of the adoption of ICT based products might be instrumental in helping improve customer satisfaction. It is argued that studies on ICT and bank operations are needed. Nevertheless, the growing role of ICT in service delivery has been largely ignored, and limited research has been conducted on bank penetration. Past studies of ICT adoption have mostly been based in the West. Therefore, the present research attempts to fill the theoretical gap. This work would be of great assistance to the management of Barclays Banks, the research findings will be of great importance to their strategic role of decision making. The findings of the research will inform them well and act as a guideline for good decisions that will well position the bank on a good pedestal for the achievement of their primary aim, and on behalf of their.

Better still, the management of the bank will be able, as a control measure or check-points, compare their current performance with the ideal desired services level that the research work proposes. This will help them to identify their short falls and take steps to improve upon them. By this, antidote will be found to iron out any customer dissatisfactions where they exist.

1.6 SCOPE OF STUDY

The study is designed essentially to research into ‘Impact of Information Communication Technology on Ghanaian Banks’. Due to the numerous banking institutions that operate in the country, the study was limited to the Barclays Bank Retail Customers in Kumasi, one of the well-known banks in the Ashanti region of Ghana. With regard to time constraints and the combination of the research work with normal academic activities, the research at the Barclays Bank was limited to Batama, Santasi and Kejetia.

1.7 ORGANIZATION OF STUDY

The project work is structured into five(5) chapters. Chapter one covers the background of study, statement of problem, objectives of study, research questions, significance of study scope and organization of study. Chapter two presents the general overview of ICT applications, service quality and customer satisfaction. Chapter three presents the research methodology, chapter four looks at data analysis, research investigation, discussion and findings and Chapter five draws conclusion, and provides recommendations, including the summary of the dissertation.

CHAPTER TWO

LITERATURE REVIEW ON ICT IN GHANAIAN BANKS

2.0 THE GENERAL OVERVIEW OF INFORMATION TECHNOLOGY

Innovations in information processing, telecommunications, and related technologies – known collectively as “information technology” (IT) – are often credited with helping fuel strong growth in the many economies (Coombs *et al*, 1987). It seems apparent then that, technological innovation affects not just banking and financial services, but also the direction of an economy and its capacity for continued growth.

IT is defined as the modern handling of information by electronic means, which involves its access, storage, processing, transportation or transfer and delivery (Ige, 1995). Oliver and Chapman (1996) defined information communication technology as the technology which supports activities involving the creation, storage, manipulation and communication of information, together with their related methods, management and application.

French (1998) also defined ICT as the technology of computers, telecommunications, and other devices that integrate data, equipment, personnel and problem-solving methods in planning and controlling business activities. French goes on to say that information technology provides the means for collecting, storing, encoding, processing, analyzing, transmitting, receiving and printing text, audio or video information.

These two definitions point out the fact that informationcommunication technology may be seen as the broadly based technology needed to support information system. These writers try to classify ICT as collecting, storing and processing data into information. This can only be

achieved through the use of technology. Seeing ICT as a broadly based technology is the study of systems like computers and telecommunication for storing, retrieving and sending information (French 1998). French's definition goes deeply into telecommunication while Oliver and Chapman are more concerned about the methods, management and applications used in bringing about change in how activities are created.

In recent decades, investment in IT by commercial banks has served to streamline operations, improve competitiveness, and increase the variety and quality of services provided. According to Yasuharu (2003), implementation of information technology and communication networking has brought revolution in the functioning of the banks and the financial institutions. It is argued that dramatic structural changes are in store for financial services industry as a result of the Internet revolution; others see a continuation of trends already under way.

Many banks are making what seem like huge investments in technology to maintain and upgrade their infrastructure, in order not only to provide new electronic information-based services, but also to manage their risk positions and pricing. At the same time, new off-the-shelf electronic services such as online retail banking are making it possible for very small institutions to take advantage of new technologies at quite reasonable costs. These developments may ultimately change the competitive landscape in the financial services.

According to (Balachandheret *al*, 2001; Idowuet *al*, 2002; Hunter, 1991; Whaling, 1995; Yasuharu, 2003), a number of studies have concluded that IT has appreciable positive effects on bank productivity, cashiers' work, banking transaction, bank patronage, bank services delivery, customers' services and bank services. They concluded that, these have positive effects on the growth of banking. This paper evaluates the perceptions of banking customers regarding the effect of technological innovations on banking services in Ghana.

2.1 CONCEPT OF ICT AND BANKING ACTIVITIES

ICT (information and communications technology - or technologies) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in banking, education, health care, or libraries (Beck et al 2000).

According to the European Commission, the importance of ICTs lies less in the technology itself than in its ability to create greater access to information and communication in underserved populations. Many countries around the world have established organizations for the promotion of ICTs, because it is feared that unless less technologically advanced areas have a chance to catch up, the increasing technological advances in developed nations will only serve to exacerbate the already-existing economic gap between technological “have” and “have not” areas (Levine, 2003).

Fortunately, the technology has caught up with Ghana, Information and Communication Technology (ICT) is of late becoming a household name. We are always collecting data, consciously and sometimes unconsciously. The names, addresses, and telephone numbers of customers; items in stock, items purchased; marks scored in assignments and examination, number of students in the university, the number and classification of books in a library etc. are examples of data that is collected by various establishments. Moreover, these pose a lot of problems for organizations in terms of storage, access, analysis, and presentation.

Analysis is critical in that it reduces data to information which intend aid decision making process. A collection of two hundred sets of marks is part of data. If this is analyzed properly it will generate averages and other statistical information from it. If the end results obtained from the analysis is poor performance, management will investigate to establish the cause of the poor performance and corrective measures are implemented.

The use of Information and Communication Technology (ICT) helps in the efficient management and execution of transaction since it could be designed to suit ones operations. The success of Information and Communication Technology (ICT) is not the technology per se, but the ability to manage it well. The view of Caruse (2003) is the implementation of security policy to safeguard the IT infrastructure.

In the management of Information and Communication Technology (ICT), many tools have been developed, including the use of different best practices presented in framework such as Information Technology Infrastructure Library (ITIL), Control Objectives for Information and Related Technology (COBIT), Capability Maturity Model (CMM) and International Organization for Standardization (ISO) 1779. These four frameworks are some of the different frameworks that incorporate useful best practices used in managing ICT infrastructure in different business sectors including the banking sector, which is the focus of this research (Rousseau and Wachtel, 1998).

In Ghana, the earliest forms of electronic and communications technologies used were mainly office automation devices. Telephone, telex and facsimile were employed to speed up and make more efficient, the process of serving clients. For decades, they remained the main information and communication technologies used for transacting bank business (Banahene,

2002).

Later in the 1980s, as competition intensified and the personal computer (PC) got proletarian, Ghanaian banks began to use them in back-office operations and later tellers used them to serve clients. Advancement in computer technology saw the banks networking their branches and operations thereby making the one-branch philosophy a reality. Barclays Bank Ghana Limited and Standard Chartered Bank Ghana limited pioneered this very important electronic novelty, which changed the banking landscape in the country.

The most revolutionary electronic innovation in this country and the world over has been the ATM. In Ghana, banks offering ATM services have increased their utility to customers. The Trust Bank Ghana Limited, in 1995 installed the first ATM. Ghana Commercial Bank and Agricultural Development Bank started their ATM offering in 2001. All the banks currently operate ATMs in Ghana. The ATM has been the most successful delivery medium for consumer banking in banks and banks that delayed the implementation of their ATM system, have suffered irreparably. (Banahene,2002).

Another technological innovation in Ghanaian banking is the various electronic cards, which the banks have developed over the years. The first major cash card is a product of Social Security Bank, now SoceteGenerale SSB, introduced in May 1997. Their card 'Sika Card' is a value card, onto which a cash amount is electronically loaded. In the earlier part of year 2001 Standard Chartered Bank launched the first ever debit card in this country. A consortium of three (3) banks Ecobank, Cal Bank and The Trust Bank Ghana Limited introduced a further development in electronic cards in November 2001 (AgyeiMensah, 2009).

Ghana government fully engaged in the internet in August 1995 by the 1st internet service provider (ISP), Network Computer System. Since then many other internet service providers have joined. It is estimated that over 90,000 people use the internet in Ghana. An increasing number of organizations including Banks have been engaged in as well (Boahen, 2002).

2.2 TECHNOLOGICAL HISTORY OF GHANAIAN BANKS

Over time, technology has increased in importance in Ghanaian banks. Traditionally, banks have always sought media through which they would serve their clients more cost-effectively as well as increase the utility to their clientele. Their main concern has been to serve clients more conveniently, and in the process increase profits and competitiveness. Electronic and communications technologies have been used extensively in banking for many years to advance agenda of banks

Arguably, the most revolutionary electronic innovation in this country and the world over has been the ATM. In Ghana, banks with ATM offerings have them networked and this has increased their utility to customers. The Trust Bank Ghana, in 1995 installed the first ATM. Not long after, most of the major banks began their ATM networks at competitive positions. Ghana Commercial Bank started its ATM offering in 2001 in collaboration with Agricultural Development Bank. Five (5) banks currently operate ATMs in Ghana. The ATM has been the most successful delivery medium for consumer banking in this county. Customers consider it as important in their choice of banks, and banks that delayed the implementation of their ATM systems, have suffered irreparably. ATMs have been able to entrench the one-branch philosophy in this county, by being networked, so people do not necessarily have to go to their branch to do some banking.

Another technological innovation in Ghanaian banking is the various electronic cards, which the banks have developed over the years. The first major cash card is a product of Social Security Bank, now SoceiteGenerale SSB, introduced in May 1997. Their card, 'Sika Card' is a value card, onto which a cash amount is electronically loaded. In the earlier part of year 2001 Standard Chartered Bank launched the first ever debit card in this country. Its functions have recently been integrated with the customers' ATM cards, which have increased its availability to the public since a separate application process is not needed to access it. A consortium of three (3) banks (Ecobank, Cal Merchant Bank and The Trust Bank) introduced a further development in electronic cards in November 2001, called 'E-Card'. This card is online in real time, so anytime a client uses the card, or changes occur in their account balance, their card automatically reflects the change.

Though ATMs have enjoyed great success because of their great utility, it has been recognized that it is possible for banks to improve their competitive stance and profitability by providing their clients with even more convenience. Once again ICT was what saved the day, making it possible for home and office banking services to become a reality. In Ghana, some banks started to offer PC banking services, mainly to corporate clients. The banks provide the customers with the proprietary software, which they use to access their bank accounts, sometimes via the World Wide Web (WWW). This is on a more limited scale though, as it has been targeted largely at corporate clients. Ghana Commercial Bank, Ecobank (Gh.) Ltd, Standard Chartered Bank (Gh.) Ltd. and Barclays Bank (Gh.) Ltd and Stanbic Bank (Gh.) are the main banks known to offer PC banking services.

Banks have recognized the internet as representing an opportunity to increase profits and their competitiveness. Currently, no bank is offering internet banking (i-banking) in Ghana, but some have well laid plans to start. Ecobank (Gh.) Ltd, Standard Chartered Bank (Gh.) Ltd. and Barclays Bank (Gh.) Ltd, also have plans for doing so in the not-too-distant future.

Telephone banking, has also taken a big leap with its convenience and time. Barclays Bank (Gh.) launched its telephone banking services in August 28, 2002. SSB Bank also launched its “Sikatel” or “SSB Call Centre” (telephone banking) in September 19, 2002. The services available with this system are ascertaining credible information about the bank’s products, the customers’ complaints, bank statements and cheque book request and any other complaints and inquiry.

2.3. ICT BASED PRODUCTS AND INNOVATIONS BY GHANAIAN BANKS

There are many forms of technological innovations or electronic delivery channels adopted by banks. Technological innovations have been identified to contribute to the distribution channels of Banks. The electronic delivery channels are collectively referred to as Electronic Banking. Electronic Banking is really not one technology, but an attempt to merge several different technologies. Each of these evolved in different ways, but in recent years different groups and industries have recognized the importance of working together. Bankers now see a kind of evolution in their business, partly, because the world has taken a quantum leap in the use in the use of technologies in the last several years. The various electronic delivery channels are discussed below:

2.3.1 Automated Teller Machines (ATMs)

Rose (1999), describes ATMs as follows: “an ATM combines a computer terminal, record-keeping system and cash vault in one unit, permitting customers to enter the bank’s book

keeping system with a plastic card containing a Personal Identification Number (PIN) or by punching a special code number into the computer terminal linked to the bank's computerized records 24 hours a day". Once access is gained, it offers several retail banking services to customers. They are mostly located outside of banks, and are also found at airports, malls, and places far away from the home bank of customers. They were introduced first to function as cash dispensing machines. However, due to advancements in technology, ATMs are able to provide a wide range of services, such as making deposits, funds transfer between two or accounts and bill payments. Banks tend to utilize this electronic banking device, as all others for competitive advantage.

The combined services of both the Automated and human tellers imply more productivity for the bank during banking hours. Also, as it saves customers time in service delivery as alternative to queuing in bank halls, customers can invest such time saved into other productive activities. ATMs are a cost-efficient way of yielding higher productivity as they achieve higher productivity per period of time than human tellers (an average of about 6,400 transactions per month for ATMs compared to 4,300 for human tellers (Rose, 1999). Furthermore, as the ATMs continue when human tellers stop, there is continual productivity for the banks even after banking hours.

2.3.2 Telephone Banking

"Telebanking (telephone banking) can be considered as a form of remote or virtual banking, which is essentially the delivery of branch financial services via telecommunication devices where the bank customers can perform retail banking transactions by dialing a touch-tone telephone or mobile communication unit, which is connected to an automated system of the bank by utilizing Automated Voice Response (AVR) technology" (Balachandher *et al*, 2001).

According to Leow (1999), telebanking has numerous benefits for both customers and banks. As far as the customers are concerned, it provides increased convenience, expanded access and significant time saving. On the other hand, from the banks' perspective, the costs of delivering telephone-based services are substantially lower than those of branch based services. It has almost all the impact on productivity of ATMs, except that it lacks the productivity generated from cash dispensing by the ATMs. For, as a delivery conduit that provides retail banking services even after banking hours (24 hours a day) it accrues continual productivity for the bank. It offers retail banking services to customers at their offices/homes as an alternative to going to the bank branch/ATM. This saves customers time, and gives more convenience for higher productivity.

2.3.3 Personal Computer Banking

“PC-Banking is a service which allows the bank’s customers to access information about their accounts via a proprietary network, usually with the help of proprietary software installed on their personal computer”. Once access is gained, the customer can perform a lot of retail banking functions. The increasing awareness of the importance of computer literacy has resulted in increasing the use of personal computers. This certainly supports the growth of PC banking which virtually establishes a branch in the customers’ home or office, and offers 24-hour service, seven days a week. It also has the benefits of Telephone Banking and ATMs.

2.3.4 Internet Banking

The idea of Internet banking according to Essinger (1999) is: “to give customers access to their bank accounts via a web site and to enable them to enact certain transactions on their account, given compliance with stringent security checks”. To the Federal Reserve Board of

Chicago's Office of the Comptroller of the Currency (OCC) Internet Banking Handbook (2001), Internet Banking is described as "the provision of traditional (banking) services over the internet". Internet banking by its nature offers more convenience and flexibility to customers coupled with a virtually absolute control over their banking. Service delivery is informational (informing customers on bank's products, etc) and transactional (conducting retail banking services).

As an alternative delivery conduit for retail banking, it has all the impact on productivity imputed to Telebanking and PC-Banking. Aside that it is the most cost-efficient technological means of yielding higher productivity. Furthermore, it eliminates the barriers of distance / time and provides continual productivity for the bank to unimaginable distant customers.

2.3.5 Branch Networking

Networking of branches is the computerization and inter-connecting of geographically scattered stand-alone bank branches, into one unified system in the form of a Wide Area Network (WAN) or Enterprise Network (EN); for the creating and sharing of consolidated customer information/records.

It offers quicker rate of inter-branch transactions as the consequence of distance and time are eliminated. Hence, there is more productivity per time period. Also, with the several networked branches serving the customer populace as one system, there is simulated division of labour among bank branches with its associated positive impact on productivity among the branches. Furthermore, as it curtails customer travel distance to bank branches it offers more time for customers' productive activities.

2.3.6 Electronic Funds Transfer at Point of Sale (EFTPoS)

An Electronic Funds Transfer at the Point of Sale is an on-line system that allows customers to transfer funds instantaneously from their bank accounts to merchant accounts when making purchases (at purchase points). A POS uses a debit card to activate an Electronic Fund Transfer Process (Chorafas, 1988). Increased banking productivity results from the use of EFTPoS to service customers shopping payment requirements instead of clerical duties in handling cheques and cash withdrawals for shopping. Furthermore, the system continues after banking hours, hence continual productivity for the bank even after banking hours. It also saves customers time and energy in getting to bank branches or ATMs for cash withdrawals which can be harnessed into other productive activities.

In Ghana, the earliest forms of electronic and communications technologies used were mainly office automation devices. Telephones, telex and facsimile were employed to speed up and make more efficient, the process of servicing clients. For decades, they remained the main information and communication technologies used for transacting bank business. Later in the 1980s, as competition intensified and the personal computer (PC) got proletarian, Ghanaian banks begun to use them in back-office operations and later tellers used them to service clients. Advancements in computer technology saw the banks networking their branches and operations thereby making the one-branch philosophy a reality. Barclays Bank and Standard Chartered Bank pioneered this very important electronic novelty, which changed the banking landscape in the country.

2.4 SERVICE QUALITY AND CUSTOMER SATISFACTION

Quality inservice organization is a measure of the extent to which the service delivered meets the customer's expectations. The nature of most services is such that the customer is present

in the delivery process. This means that the perception of quality is influenced not only by the “service outcome” but also by the “service process”. The “perceived quality” lies along a continuum.

Customer satisfaction is the extent to which a firm fulfils consumer’s needs, desires and expectation (William, Pererault, and McCarthy 2004). According to Janould and Zinkhan (2007), customer satisfaction is a judgment of pleasurable level of consumption related to fulfilment including under fulfilment and over fulfilment. Customer satisfaction is important because it helps companies to know what is important because, what customer’s expectations are, and how well those expectations are being satisfied or met.

Kotler P. (2004) defined satisfaction as a person’s feelings of pleasure or disappointment resulting from comparing a product’s perceived performance (or outcome) in relation to his or her expectations.

As the definition makes clear, satisfaction is a function of perceived performance and expectations. If the performance falls short of expectations, the customer is dissatisfied. If the performance exceeds expectations, the customer is highly satisfied or delighted.

In contrast, it is now clear that many companies are aiming for high satisfaction because customers who are just satisfied still find it easy to switch when a better offer comes along. High satisfaction or delight creates an emotional bond with the brand, not high customer loyalty.

If marketers raise expectations too high, the buyers are likely to be disappointed. However, if the company set expectations too low, it won't attract enough buyers (although it will satisfy those buy). Today, most successful companies are raising expectations and delivering performances to match. These companies are aiming for what Kotler P. (2004) refers to as TCS- Total Customer Satisfaction.

A customer's decision to be loyal or to defect is the sum of many small encounters with the company. The key to generating high customer loyalty is to deliver high customer value. Michael Lanning (2006) in his *Delivering Profitable Value* says a company must develop a competitively superior value position and superior value delivery system. A company's value proposition is much more than it's positioning on a single attribute, it is a statement about the resulting experience customers will have from the offering and their relationship with the supplier. The brand must represent a promise about the total resulting experience that customers can expect. Whether the promise is kept depends upon the company's ability to manage its value delivery system. The value delivery system includes all the communications and channel experiences the customer will have on the way to obtain the offering.

For customer- centered companies, customer satisfaction is both a goal and a marketing tool; notes (Kotler P. 2004). Companies that achieve high customer satisfaction rating make sure that their target market knows it.

In addition to tracking customer value expectations and satisfaction, companies need to monitor their competitor's performance in these areas. (ibid) Although the customer-centered firm seeks to create high customer satisfaction, its main goal is not to maximize customer satisfaction (Peck, J. 2005). It may lower prices or increase service resulting in lower profits.

It will so doing divert funds from increasing the satisfaction of other “partners”. Kotler P (2004) suggests that, ultimately, the company must operate on the philosophy that it is trying to deliver a high level of customer satisfaction subject to delivering acceptable levels of satisfaction to the other stakeholders within the constraints of its total resources.

According to Peck, J. (2005) Customer satisfaction refers to the extent to which customers are happy with the products and services provided by a business. Customer satisfaction levels can be measured using survey techniques and questionnaires. Gaining high levels of customer satisfaction is very important to a business because satisfied customers are most likely to be loyal and to make repeated orders and to use a wide range of services offered by a business.

He further emphasizes that the need to satisfy customer for success in any commercial enterprises is very obvious. The income of all commercial enterprises is derived from the payments received for the products and services to its external customers. Customers are the sole reason for the existence of commercial establishments (ibid).

Palmer A. (2004) noted that since sales are the most important goal of any commercial enterprise, it becomes necessary to satisfy customers. For customer satisfaction it is necessary to establish and maintain certain important characteristics like:

- Quality
- Fair prices
- Good customer handling skills
- Efficient delivery
- Serious consideration of consumer complaints.

It is obvious from the above context that when customers rate their satisfaction with an element of the company's performance- say, delivery- the company needs to recognize that customers vary in how they define good delivery. It could mean early delivery or on-time delivery or order completeness and so on. Companies should also note that managers and sales people can manipulate customer satisfaction ratings: continues Kotler P. (2004). They can try to exclude unhappy customers from the survey. They can also be especially nice to customers just before the survey. Some companies navigate all these pitfalls to reach their customer value and satisfaction goals.

2.5 CONCLUSION

ICT is now thought to hold the promise of a new commercial revolution by offering an inexpensive and direct way to exchange information and to buy products and services. This uprising in the financial industry has activated a new signal of change in the banking sector for the provision of service and products that is well-matched with demands of ICT. Without doubt, the advances in ICT have introduced new delivery channels in the Ghanaian banking sector.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 INTRODUCTION

This chapter presents the methods and procedures used to explore, investigate and evaluate the impact of ICT on Ghanaian Banks. The methodology specifically describes the research model, research instruments, data collection process and the procedure for the data analysis.

3.1 RESEARCH DESIGN

In this research a single approach was used, that was the survey research which is one of the most common types of quantitative in social science research. Survey research is a method used to obtain information needed by giving out questionnaires to the related population. Survey research can be used for explorative intention, explanatory or confirmatory, evaluation, prediction, operational research and development of social indicator. It allows the collection of data about subjects that are exclusively internal to the participant, such as attitudes, opinions, expectations and intentions, and data on these areas are important for the study. Furthermore, it is often obtained by using a questionnaire, these data are standardized allowing easy comparison (Saundeerset *al*, 2009).

3.2 POPULATION AND SAMPLING

Retail customers of Barclays bank were used as the population for the study. This research adopted sampling, which according to Newman (2004) is a set of cases a researcher selects from a larger pool and generalizes to the population. Using sampling in this way reduces cost and makes it possible to gather useful information quickly and where the samples are properly selected accurate result are guaranteed. Due to the focus of this study, 400 questionnaires were administered to 400 customers in four different branches of the bank,

total 100 respondents from each branch. The selected branches were Santasi, Batam and Kejetia.

3.3 SAMPLING TECHNIQUE

The researcher employed simple random sampling technique in all cases to select the customers at the various branches. This was to enable the researcher access all the respondents at the time of data collection exercise.

3.4 RESEARCH INSTRUMENT

The researched used the structured technique in order to get the appropriate information needed to meet the objectives of this study. This mode uses the structured questionnaire. The questionnaire was the main research instrument used in collecting the data for the study in order to achieve the specific objectives, and taking into consideration the sample size. For an easy understanding and reading, the questionnaire was designed into three parts. The first part of the questionnaire took consideration in the demographic factor of the respondents. The second part of the questionnaire looked at the service quality and customer satisfaction. The third part looked at the impact of ICT based products to customer satisfaction. The items on the questionnaire were closed ended-questions making it easier for respondents to understand and answer. Besides, it facilitated interpretation of data by standardizing alternative responses. A Likert scale-typed questionnaire was used with responses ranging from strongly disagree, disagree, neutral, agree and strongly agree.

3.5 ANALYSIS AND PRESENTATION OF DATA

Data for the analysis was extracted from the field survey. Descriptive analysis was mainly used for the analysis. In order to ascertain the customer satisfaction with respect to ICT based

products, descriptive statistics were employed in the analysis of results. The study employed Microsoft EXCEL programme to generate the results. Since this study is exploratory in nature, no rigorous statistical technique was used in analyzing the data.

3.6 SOURCES OF DATA

This study utilized both primary and secondary sources of data.

3.6.1 Primary Data

The primary data is the data obtained directly from source which is analyzed and recorded by the researcher at the time it is taken. The primary data in this research are taken from questionnaires given to the respondents.

3.6.2 Secondary Data

Secondary data were collected through the internet, journals and reports from the banks premises.

3.7 LIMITATION OF METHODOLOGY

The study was restricted to retail customers of Barclays bank of Ghana.

Challenges encountered included respondents refusing to answer questionnaires due to fear of compromised confidentiality and others not presenting the true information.

CHAPTER FOUR

ANALYSIS, DISCUSSION AND PRESENTATION OF RESULT

4.0 INTRODUCTION

The purpose of this study was to assess the impact of ICT on Ghanaian banks. This chapter presents the test results of the data collected, as indicated by the research questions.

This chapter is organized around the research in chapter one. This chapter presents a brief analysis of the data, results of the survey instrument along with a discussion of each research question with corresponding statistical analysis.

The objectives of the study were used by the researchers as a guide in analysing the findings obtained from the field work. With the research objectives, the findings of the study were categorized into the following:

- Socio-demographic data
- service quality and customer satisfaction
- Impact of ICT based products on customer satisfaction

Tables and charts were utilized by the researchers to assist in interpreting the findings.

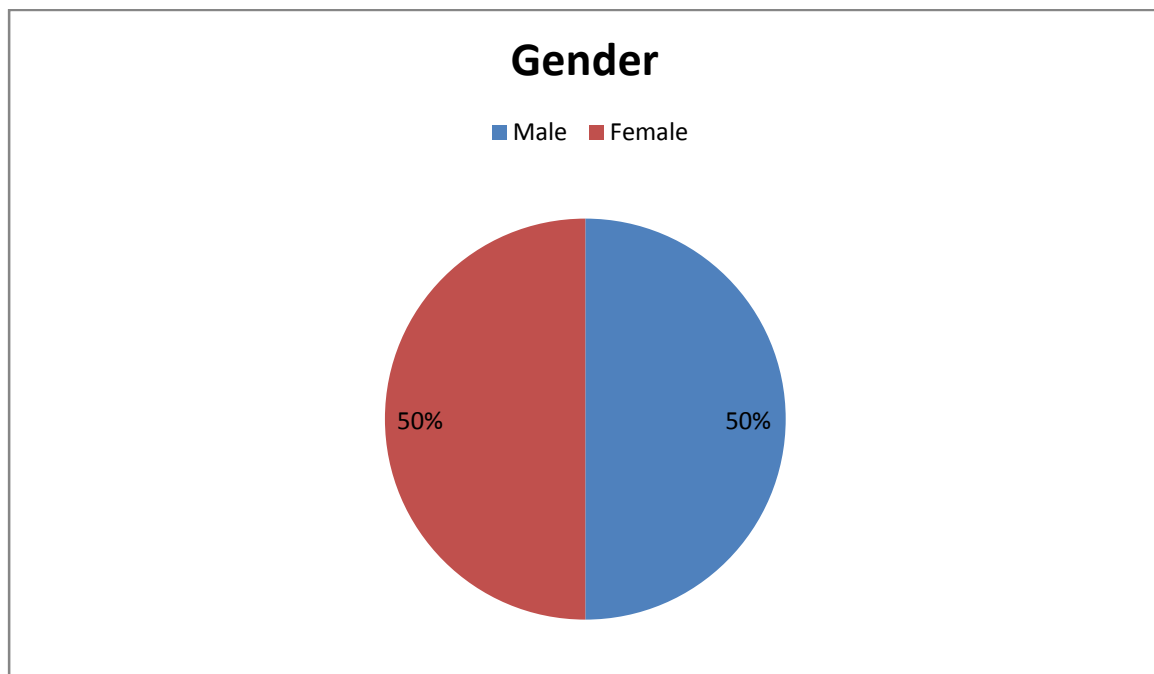
4.1 SOCIO-DEMOGRAPHIC DATA

The socio-demographic data was taken to know certain characteristics personal to the respondents but could be useful in understanding their satisfaction of the bank's ICT innovations. The areas covered included gender of the respondent, their age distribution, marital status, religious background, educational level and income level.

4.1.1 Gender of Respondents

The results as indicated by figure 4.1 shows that out of the 400 respondents 200 were males and 200 females which depicts total representation of both sexes at the branches. This clearly shows that sexes' ideas were equally represented.

Figure 4.1 Gender of Respondents



Source: Field Work (May 2013)

4.1.2 Age of Respondents

The age of respondents ranged from 18-25, 26-29, 30-39, 40-49, 50-59, 60 and above. The table 4.1 shows that the majority of the respondents fell within the range of 30-39 which represents 33% of the total sample size. The next range of age is 26-29 which represents 29% followed by 16% of the age 40-49, 13% of age range 18-25, 6% of age range 50-59 and 3% of age range 60 and above.

Table 4.1 Ages of Respondents

Response	Frequency	Percentage
18 - 25 years	54	13
26 - 29 years	116	29
30 - 39 years	131	33
40 - 49 years	66	16
50 - 59 years	23	6
60 and Above	10	3
Total	400	100

Source: Field Work (May 2013)

4.1.3 Marital Status of Respondents

Table 4.2 Marital Status of Respondents

Response	Frequency	Percentage
Single	139	34.8
Married	181	45.3
Separated	21	5.2
Divorced	26	6.5
Window/Widower	13	3.2
Not Stated	20	5.0
Total	400	100

Source: Field Work (May 2013)

As indicated by the table above, majority of the respondents were married representing 45.3%, followed by single's with 34.8%, 6.5% were divorced, 3.2% were windows or widowers, 5.2% were separated and 5% did not state their status.

4.1.4 Types of Jobs Of Respondents

Table 4.3 Job of Respondents

Response	Frequency	Percentage
No paid job	63	15.8
Unskilled or semi-skilled worker	73	18.2
Trained office worker	136	34
Vocationally trained craftsperson, technician, nurse, artist etc.	72	18
Manager	56	14
Total	400	100

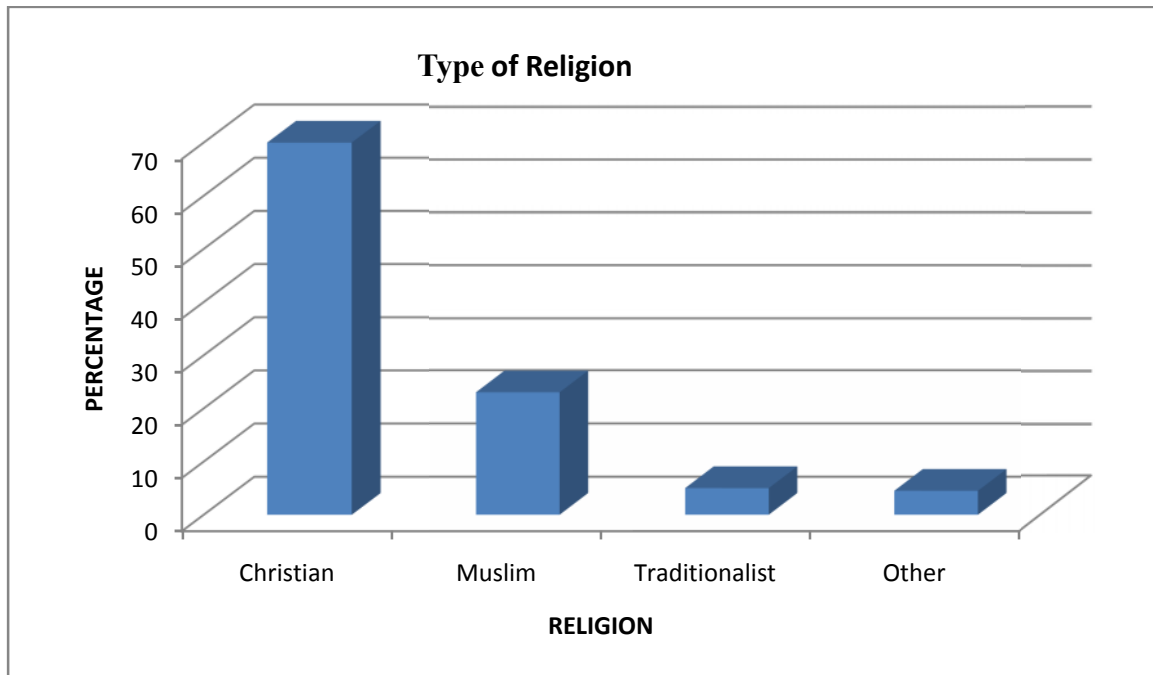
Source: Field Work (May 2013)

From the table 5.3 above, majority of the respondents were office workers representing 34%, followed by 18.2% who were unskilled or semi-skilled, 18% being vocationally trained, 15.8% without any paid jobs and 14% being managers. Overall, the majority of them are working and this would have significant impact on the bank's fee income if most of them take their salary through the bank.

4.1.5 Religion of Respondents

The religious beliefs of the respondents as depicted by figure 4.2 shows that 70% of the respondents being the majority were Christian, followed by 23% Muslims, 5% belonging to other religions and 2% being traditionalist.

Figure 4.2: Religions of Respondents



Source: Field Work (May 2013)

4.1.6 Educational level of Respondents

The BECE/SSCE certificate holders from the table 5.4 below representing 35% were majority which clearly shows the bank is not for the elite but open to all no matter the educational level. They were followed by degree holders with 30%, diploma with 24% and 11% having post graduate degree.

Table 4.4 Educational level of Respondents

Response	Frequency	Percentage
BECE/SSCE Certificate	138	35
Diploma	96	24
Degree	119	30
Post Graduate Degree	47	11
Total	400	100

Source: Field Work (May 2013)

4.1.7 Income level of Respondents

Table 4.5 Income level of Respondents

Response	Frequency	Percentage
Below 1,000	247	62
1,100 - 5,000	109	27
5,100 - 10,000	40	10
10,100 - 20,000	3	0.8
Above 50,100	1	0.2
Total	400	100

Source: Field Work (May 2013)

The income level data showed that majority of the respondents earned income less than Gh 1,000 representing 62%, followed by Gh 1,100-5,000 representing 27%, 5,100-10,000 representing 10%, 10,100-20,000 representing 0.8% and above 50,100 representing 0.2%.

4.2 SERVICE QUALITY AND CUSTOMER SATISFACTION

In accessing the service quality and customer satisfaction, the researchers combined some questions under the second objective to find out these reasons. The variables included:

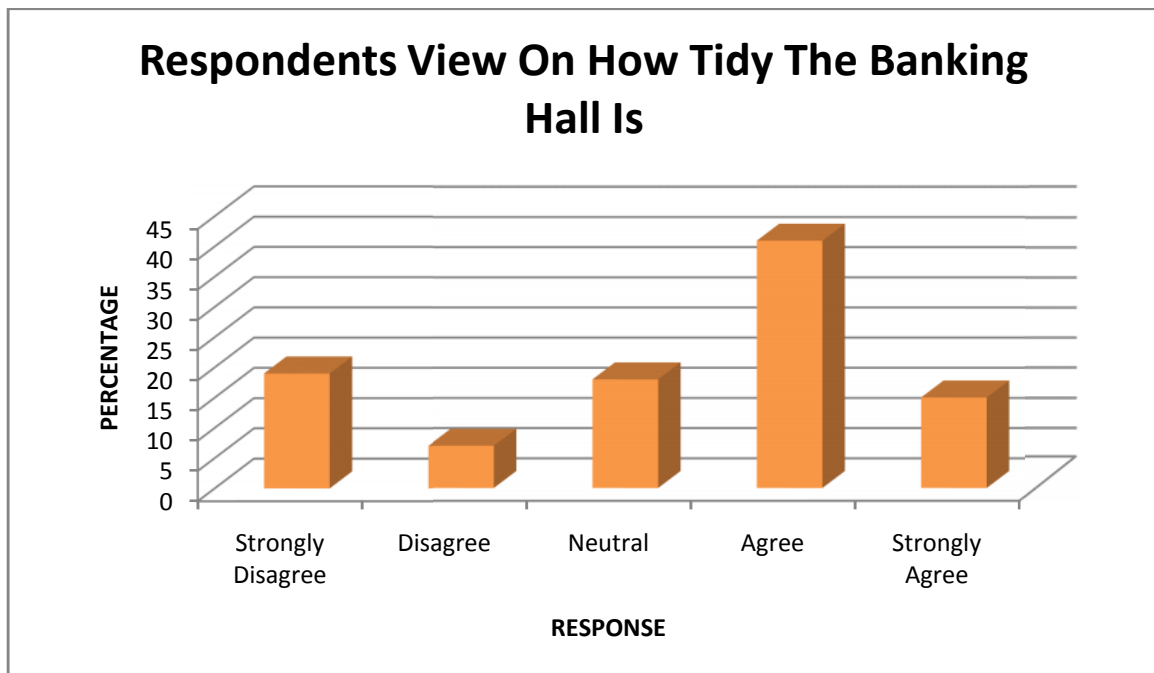
- a) Banking environment
- b) Service
- c) Products
- d) Staff

4.2.1 Banking Environment

The customer satisfaction of the banking environment was examined by taking the responses of the respondent in areas such as the tidiness of the banking hall, easy accessibility to branches, spacious banking halls and parking lots.

As indicated by figures 4.3 below majority of the respondents representing 41% agreed that the banking halls were tidy, followed by 19% who strongly disagreed, 18% also were neutral, 15% strongly agree and 7% disagreed that the banking halls were tidy.

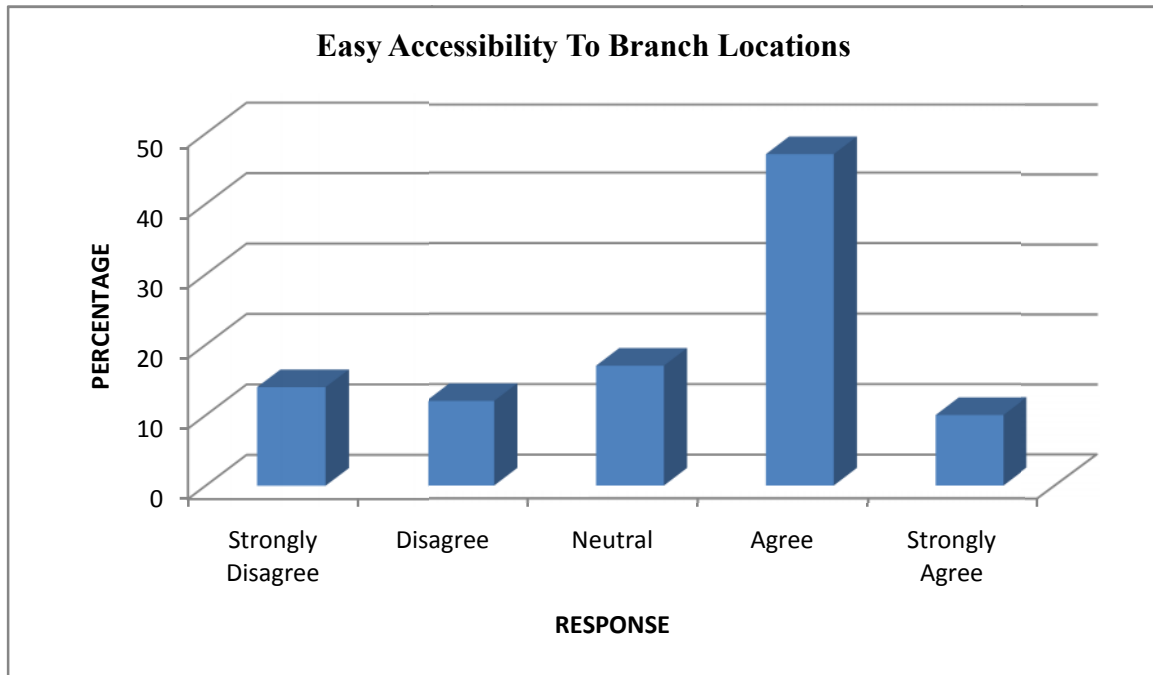
Figure 4.3: Tidiness of Banking Halls



Source: Field Work (May 2013)

Location of branches can cause inconvenience to customers when they are not well positioned. The result from figure 4.4 shows majority of the respondents representing 47% agreed that the branch locations were easily accessible, followed by 17% who were neutral, 14% also strongly disagreed, 12% disagreed and 10% strongly disagreed that the branch locations were easily accessible.

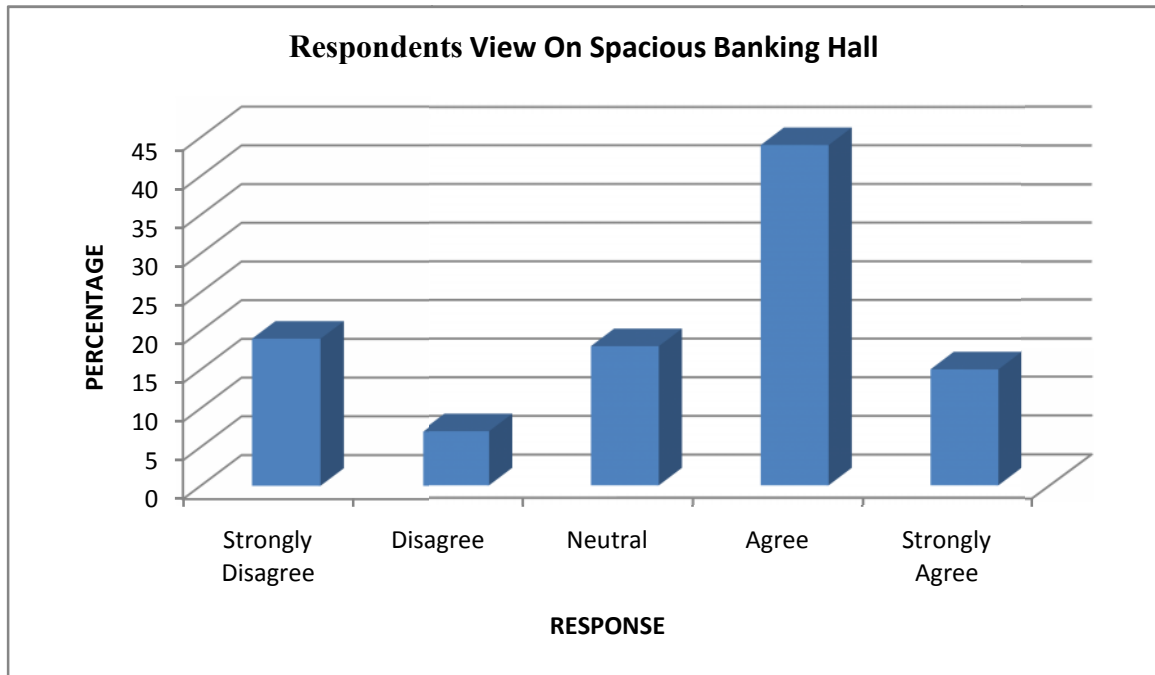
Figure 4.4: Branch Location Accessibility



Source: Field Work (May 2013)

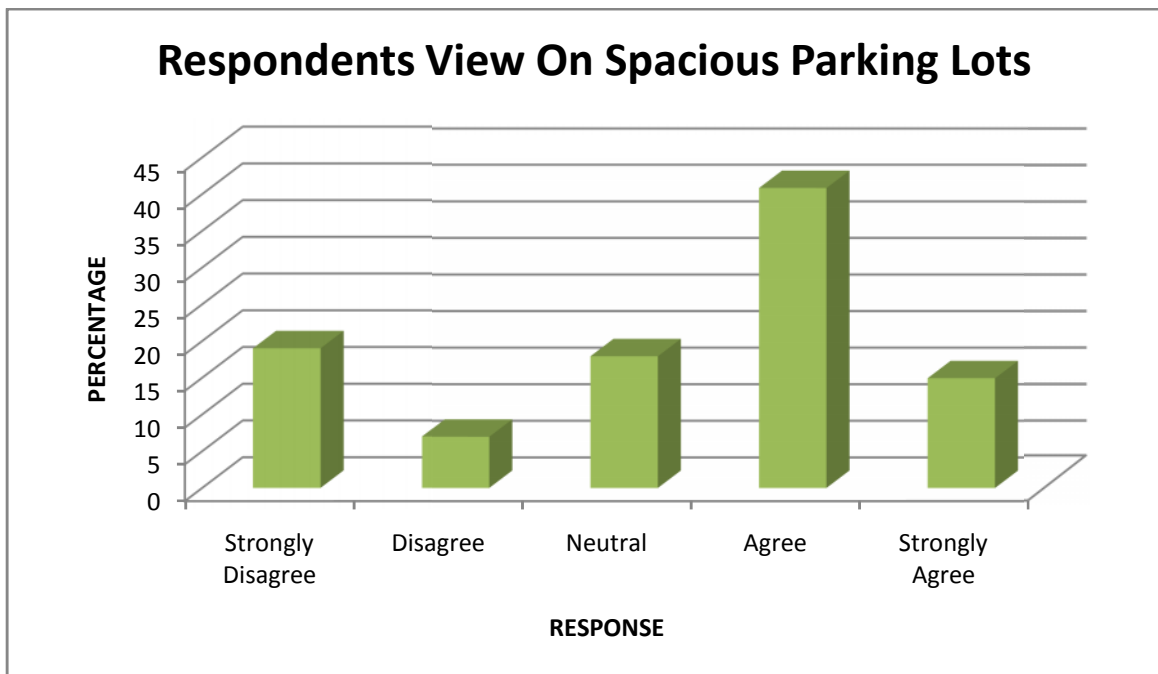
How spacious banking halls and parking lots are influence greatly customer satisfaction of banking environment. The majority of the respondent agreed the bank's banking hall and parking lots were spacious representing 44% and 39% respectively. This is shown in figures 4.5 and 4.6 respectively.

Figure 4.5: Spacious Banking Hall



Source: Field Work (May 2013)

Figure 4.6: Spacious Parking Lots

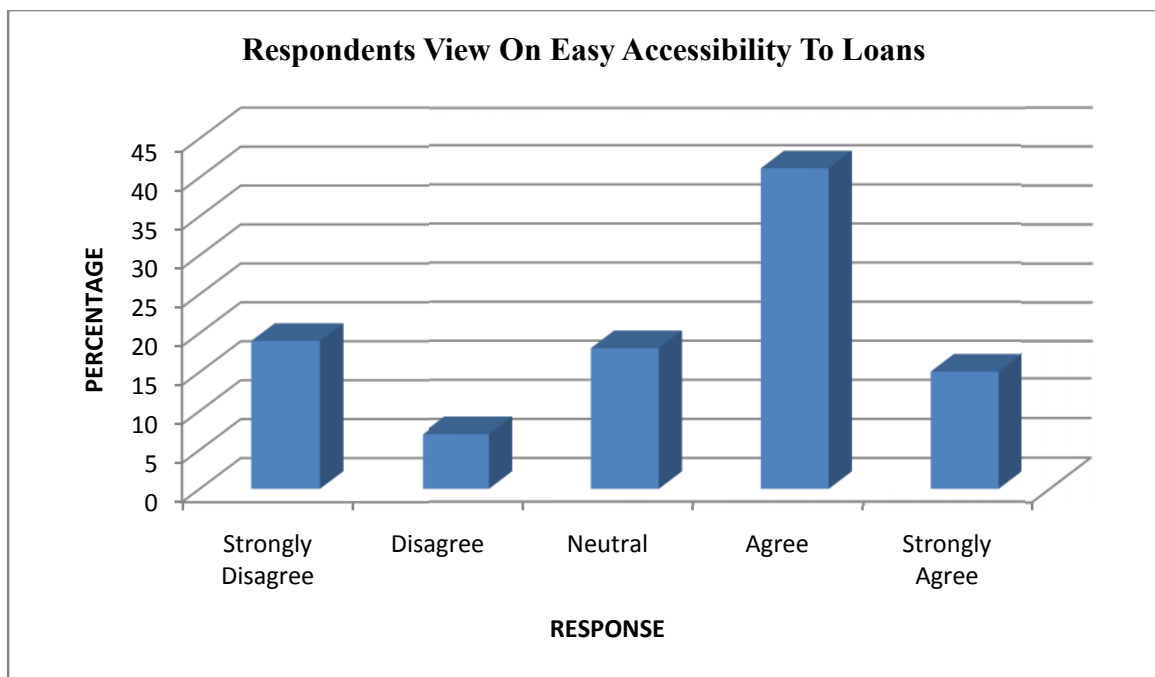


Source: Field Work (May 2013)

4.1.2 Service

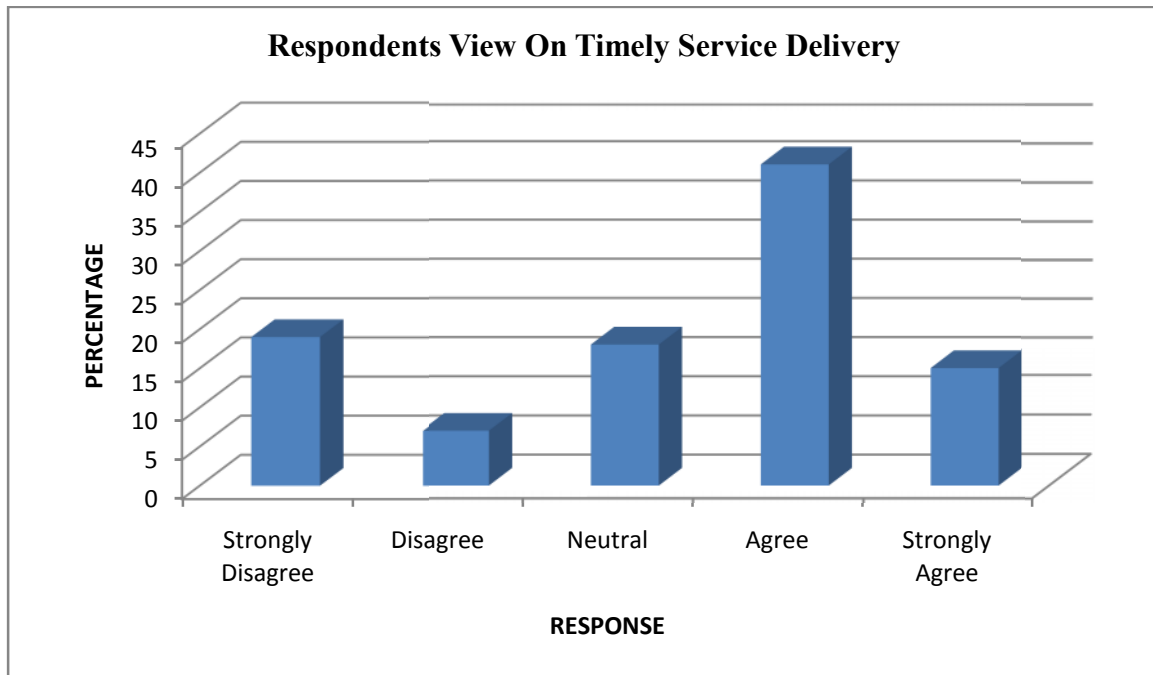
Service is one area that has so much bearing on how a customer satisfaction of any institution. It may come in diverse ways but for the purposes of this study, easy accessibility to loans, timely service delivery and swiftness of response to customer complaint. Better handling of customer complains enhance customer satisfaction and retention. Majority of the respondents agreed that there easy accessibility to loans, timely service delivery and swift response to customer complaints representing 38%, 43% and 42% respectively. Nevertheless, 17%, 10% and 8% also respectively disagreed. This is shown in figure 4.7, 4.8 and 4.9 below.

Figure 4.7: Easy Accessibility to Loans



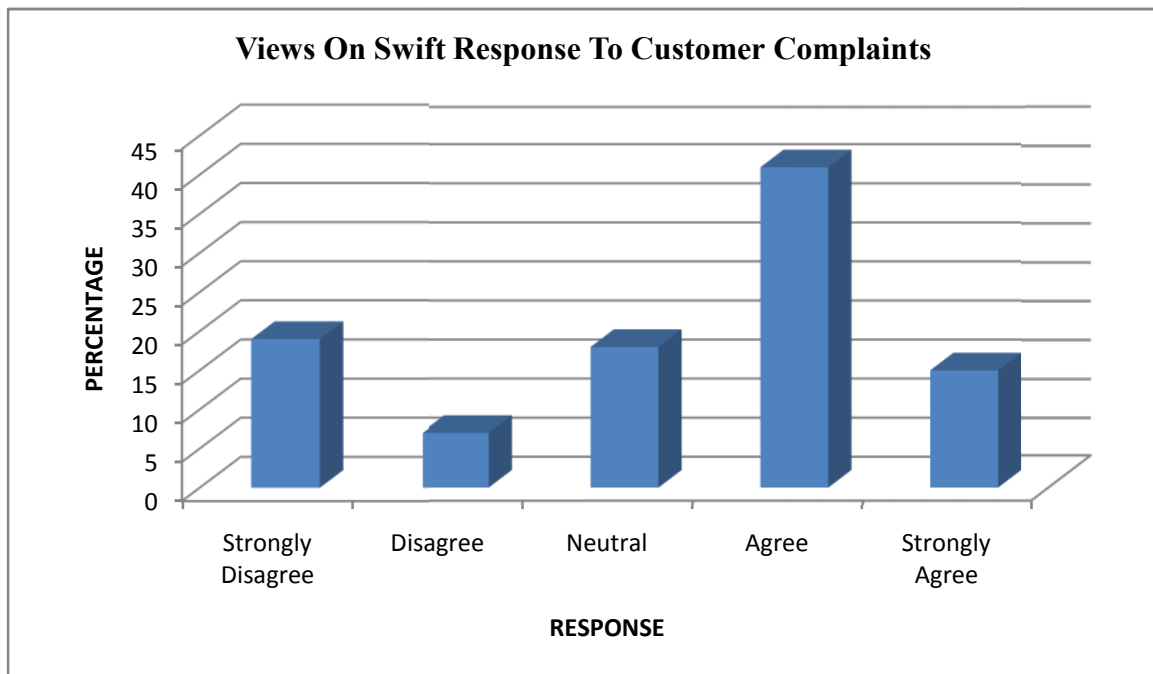
Source: Field Work (May 2013)

Figure 4.8: Timely Service Delivery



Source: Field Work (May 2013)

Figure 4.9: Swift Response to Customer Complaints



Source: Field Work (May 2013)

4.2.3 Products

Products are designed to meet the needs and wants of customers and therefore they must meet their specifications.

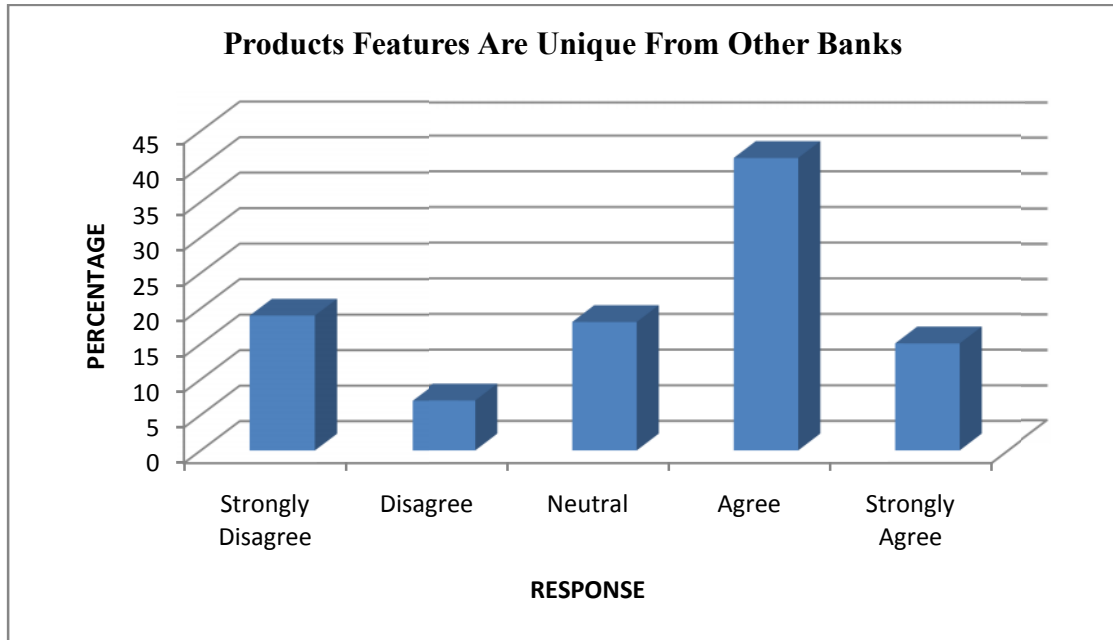
Table 4.6: Products meet their Need

Response	Frequency	Percentage
Strongly disagree	30	8
Disagree	38	10
Neutral	100	25
Agree	189	47
Strongly Agree	43	10
Total	400	100

Source: Field Work (May 2013)

From the table above, majority of the respondents representing 47% agreed that the products met their needs, followed by 25% who were neutral. Also, 10% strongly agreed, 10% disagreed and 8% strongly disagreed that products met their needs. The majority also agreed that the features of the products were unique from the banks.

Figure 5.1: Product Features Are Unique From Others



Source: Field Work (May 2013)

4.2.4 Staff

The staff of banks with constant encounter with customers must have certain qualities that boost their customers' satisfaction. They should be able to execute their services with speed, be friendly and approachable, should have a better understanding of the needs of the customers and banking products suitable to meet those needs.

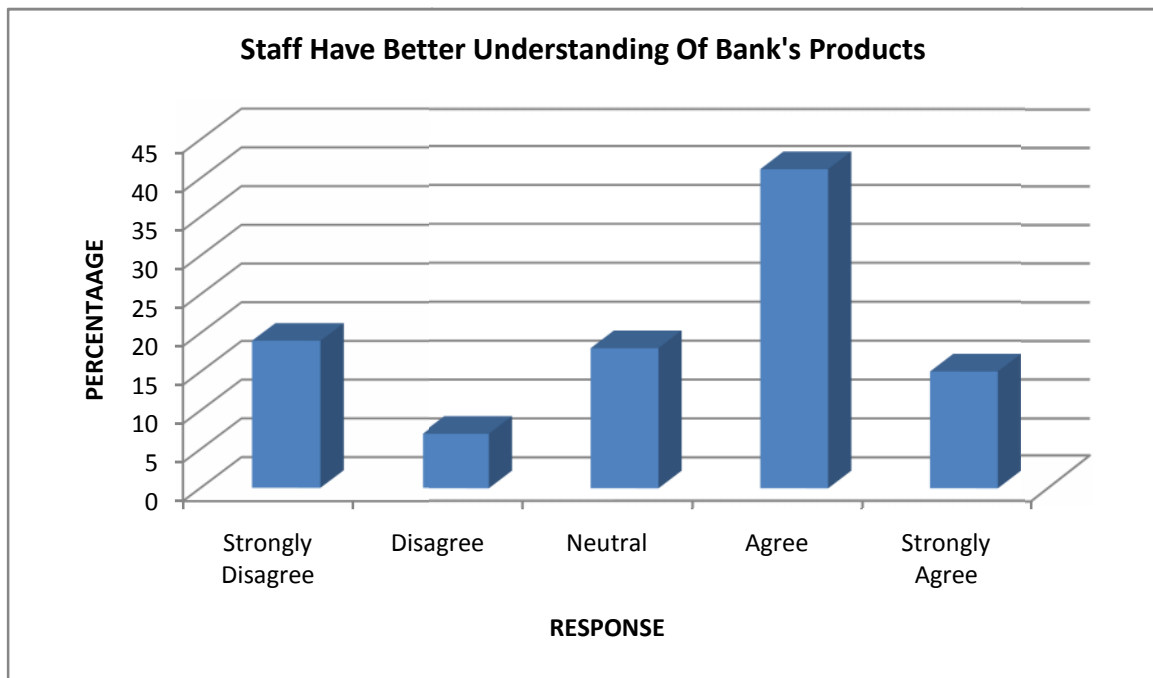
Table 4.7: Staff is friendly and Easy to Approach

Response	Frequency	Percentage
Strongly Disagree	26	7
Disagree	30	8
Neutral	77	19
Agree	197	49
Strongly Agree	70	17
Total	400	100

Source: Field Work (May 2013)

As indicated by table 4.7 above, the staffs were seen to be friendly and approachable as represented 49% being the majority. Majority also agreed that staff had better understanding of bank's products, they also understood customer needs and wants and executed service with speed. This is shown in the diagrams below:

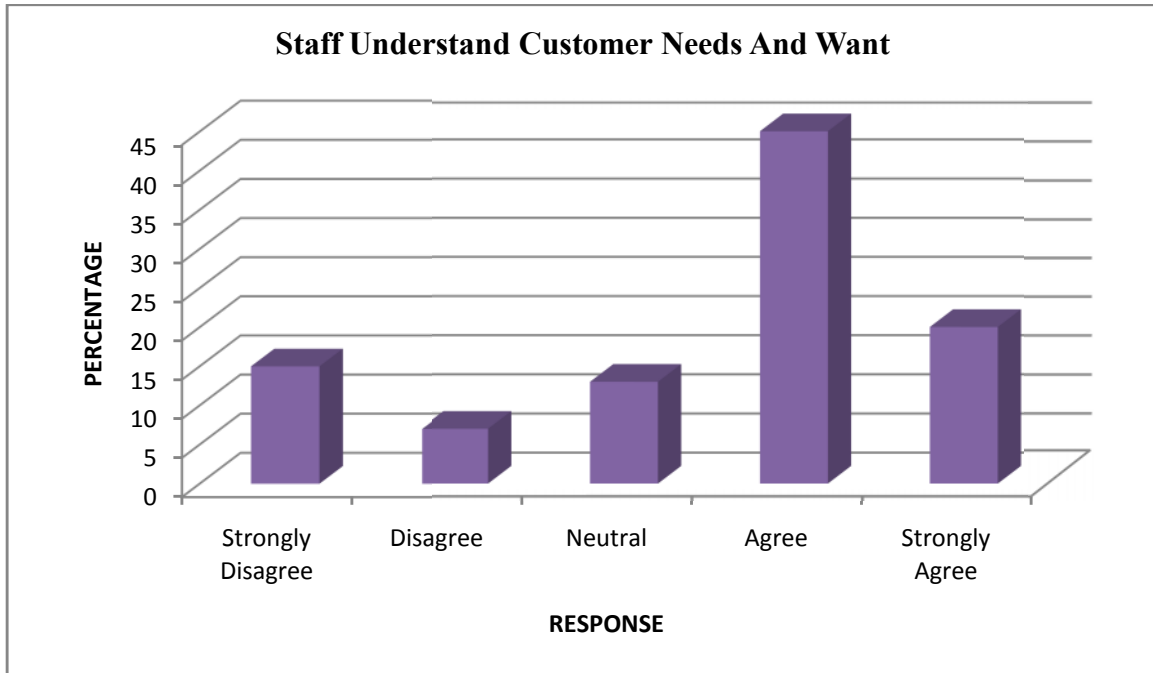
Figure 5.2: Understanding of Bank's Products



Source: Field Work (May 2013)

From the figure 5.2 above, 41% of the respondents agreed that staff have better understanding of bank products, 7% of them disagreed, 18% are neutral, 15% also strongly agreed that staff do well understand the bank's products and 19% strongly disagreed that fact.

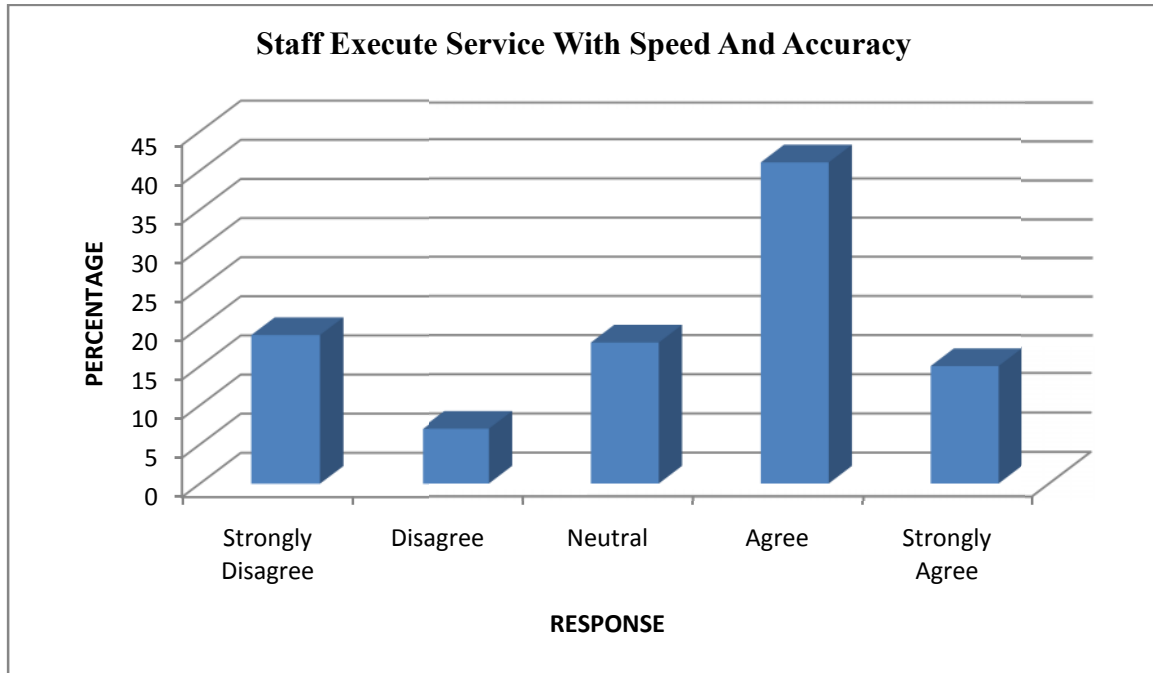
Figure 5.3: Staff Understand Customer Needs and Wants



Source: Field Work (May 2013)

Customer needs and wants are very important to every service organization. Therefore, management put measures to go beyond and delight their customers by providing them about what they need and want. The figure 5.3 above shows that when respondents are being asked about how staffs understand their needs and wants, 45%, 20% agreed and strongly agreed respectively that they do understand their needs and wants. 15%, 7% strongly disagreed and disagreed respectively. But 13% were neutral about the issue.

Figure 5.4: Staff Execute Service with Speed and Accuracy



Source: Field Work (May 2013)

Figure 5.4 depict that 41%, 15% of the respondents agreed and strongly agreed that indeed staff do well to execute service with speed and accuracy respectively. Whilst 7% and 19% of the respondents disagreed and strongly disagreed respectively to the fact that they do so. In all 18% of the respondents were neutral

4.3 IMPACT OF ICT BASED PRODUCTS TO CUSTOMER SATISFACTION

Table 4.8: Impact of ICT based Products on Customer Satisfaction

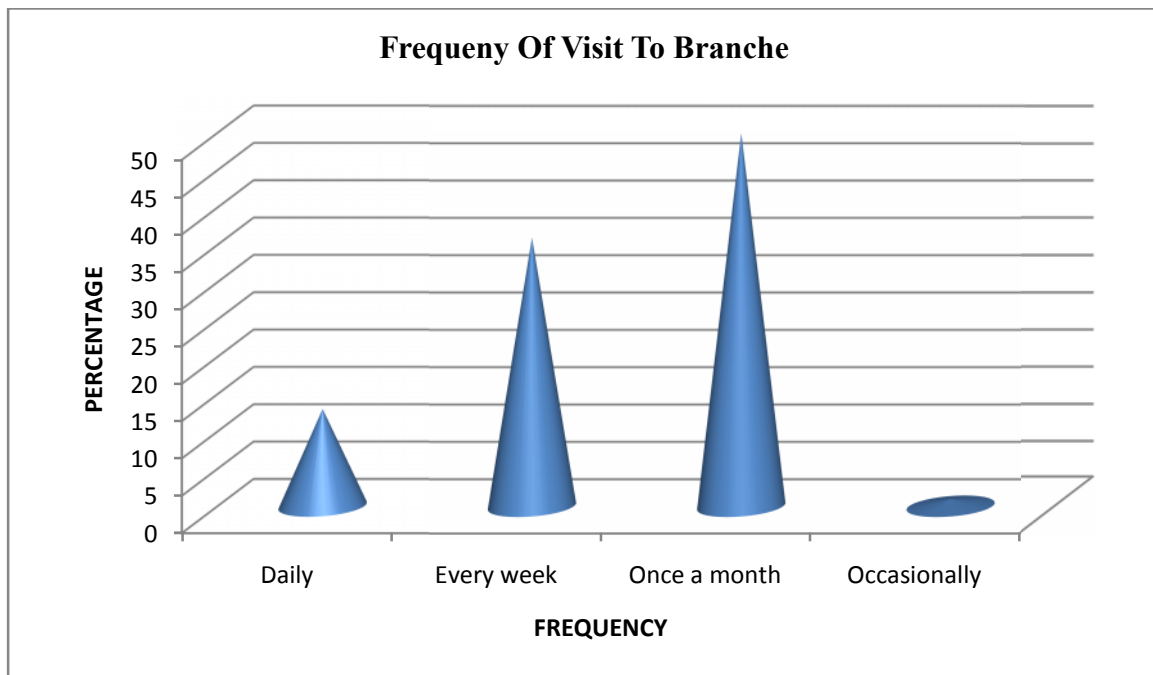
Response	Frequency	Percentage
ATM	150	37.5
SMS Alert	50	12.5
Branch Network	200	50
Total	400	100

Source: Field Work (May 2013)

With respect to the type of ICT product used by customers, branch networking appears to be the most widely accepted and highly used electronic delivery tool as presented in the table above. This is followed by ATMs representing and SMS alert. SMS Alert which is a new electronic banking innovation seems to be the least used electronic delivery channel by bank customers. Since branch network are the widely accepted and highly delivery channel. It is important at this point to ascertain the frequency of its usage among bank customers.

4.3.1 Branch Network

Figure 5.5 Frequency of Visit to Branch

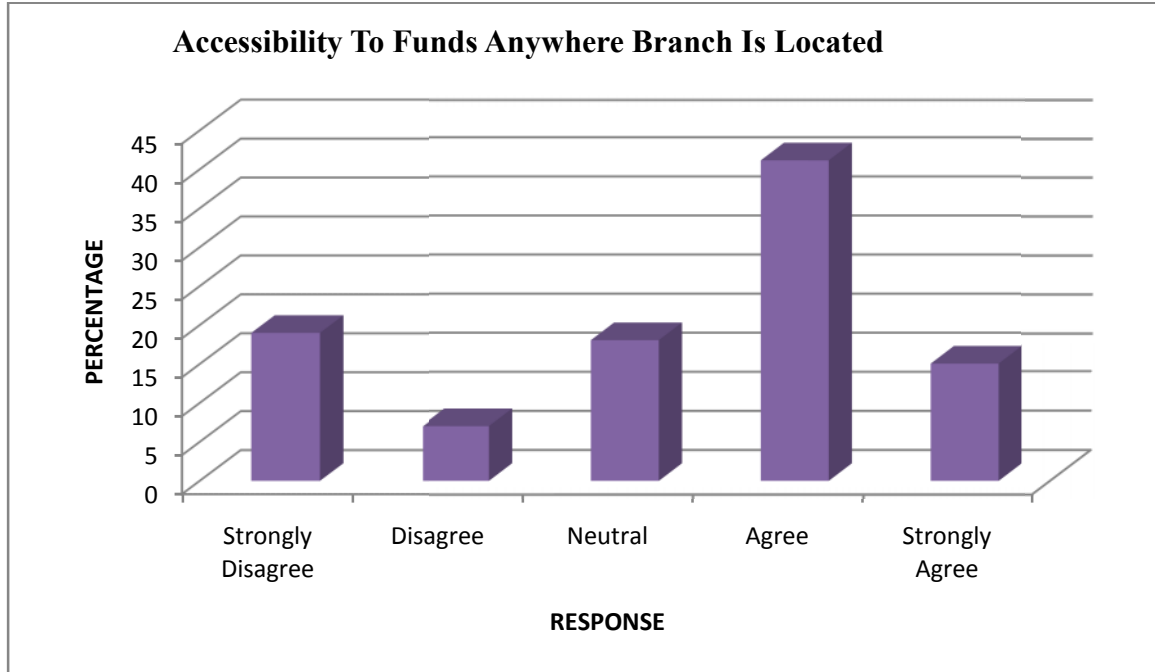


Source: Field Work (May 2013)

As indicated by the above, majority of the customers visit the branch every week. Even though, 1% visits occasionally, 36% visit the branches at least once a week and 13% visiting daily. The results indicate that customers of banking services in Ghana still find it useful to visit their bank branches regularly every month to transact some banking business such as detailed bank statement requests, loan applications, foreign funds transfer, deposits etc. for the ATMs cannot be used.

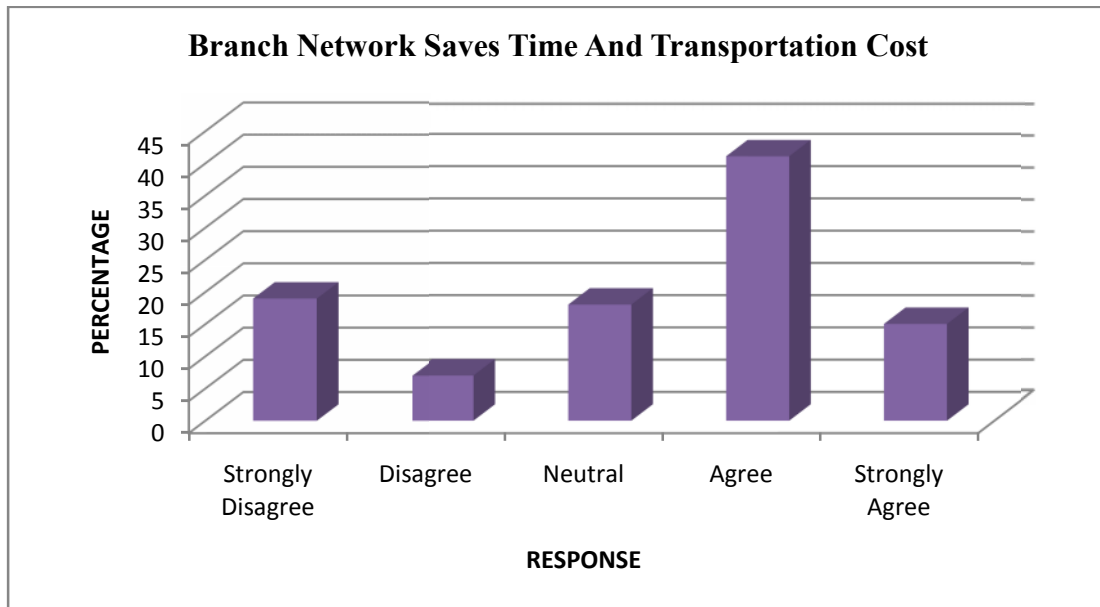
The respondents visited often or occasionally because the majority agreed that they have access to their fund anywhere a close branch and it saved them time and cost visiting their original branches. This is shown in the graphs 5.6 and 5.7 below.

Figure 5.6 Accessibility to Funds Anywhere Branch Is Located



Source: Field Work (May 2013)

Figure 5.7: Branch Network Saves Time and Transportation Cost



Source: Field Work (May 2013)

4.3.2.1 ATM

The ATM remains the most widely used ICT product after the branch network. The table 4.9 shows results on the frequency of ATM usage among bank customers. The results show that customers frequently use the ATMs for bank transactions such as cash transfers, checking account balance and printing mini statements. 34% of the respondents, who used ATMs, indicated that they visit ATM points twice in a week. They had varied use of the ATM machine like for mini statement, checking account balances and making cash withdrawal. However, those who visited one to three times in a month were mainly for cash withdrawal purposes.

4.3.2.2 Frequency of ATM Visits

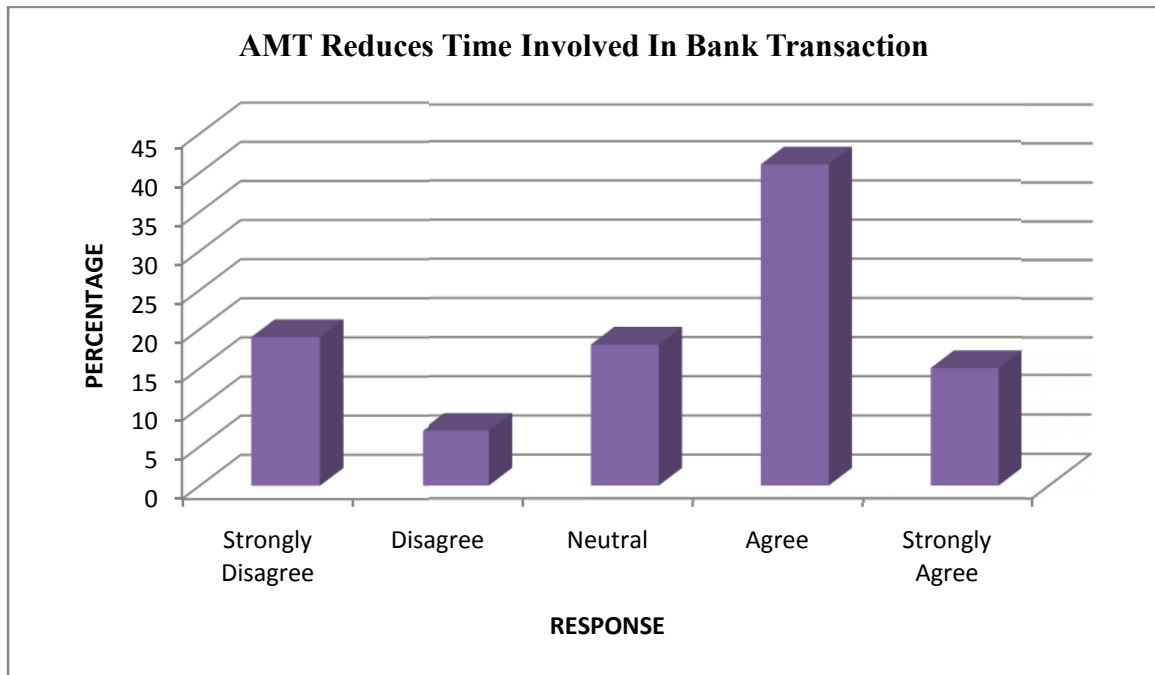
Table 4.9: Frequency of ATM Visits

Response	Frequency	Percentage
Once a week	73	19
Twice a week	132	34
Once a month	85	22
Occasionally	98	25
Total	400	100

Source: Field Work (May 2013)

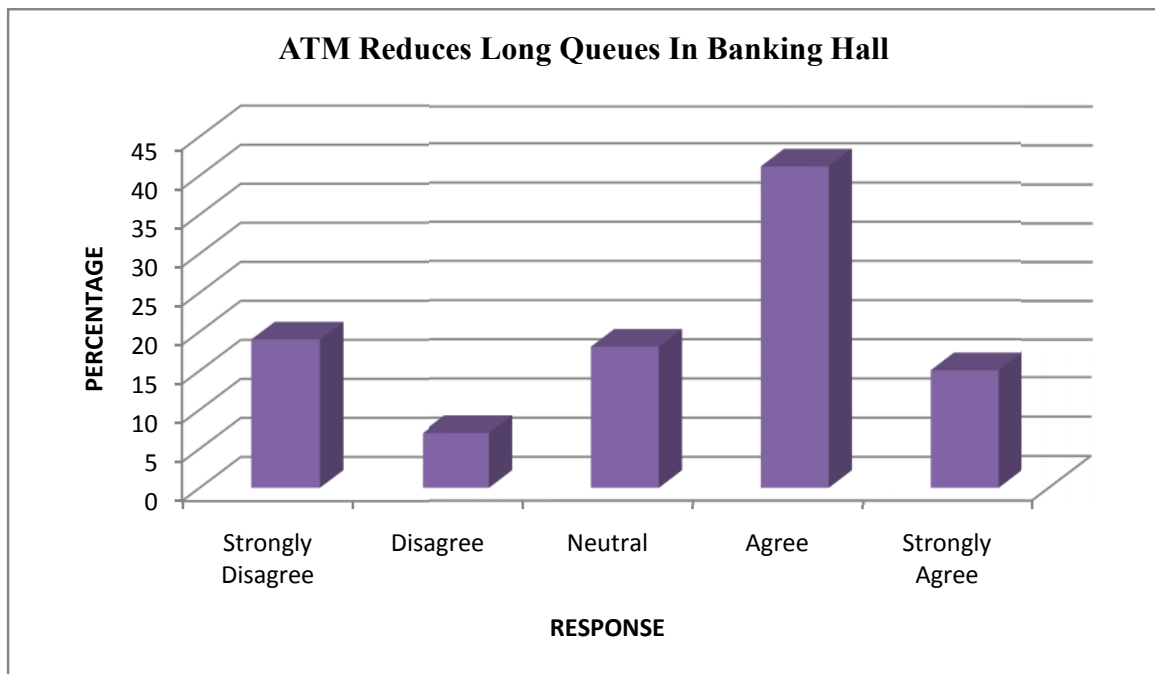
The frequent visits also was due to the fact the respondents believed that the ATM reduced the time involved in the bank transactions, reduced long queues in the banking hall and enhanced access to funds anywhere the ATMs were located. This is shown in the diagrams 5.8, 5.9 and 6.1 below.

Figure 5.8: AMT Reduces Time Involved in Bank Transaction



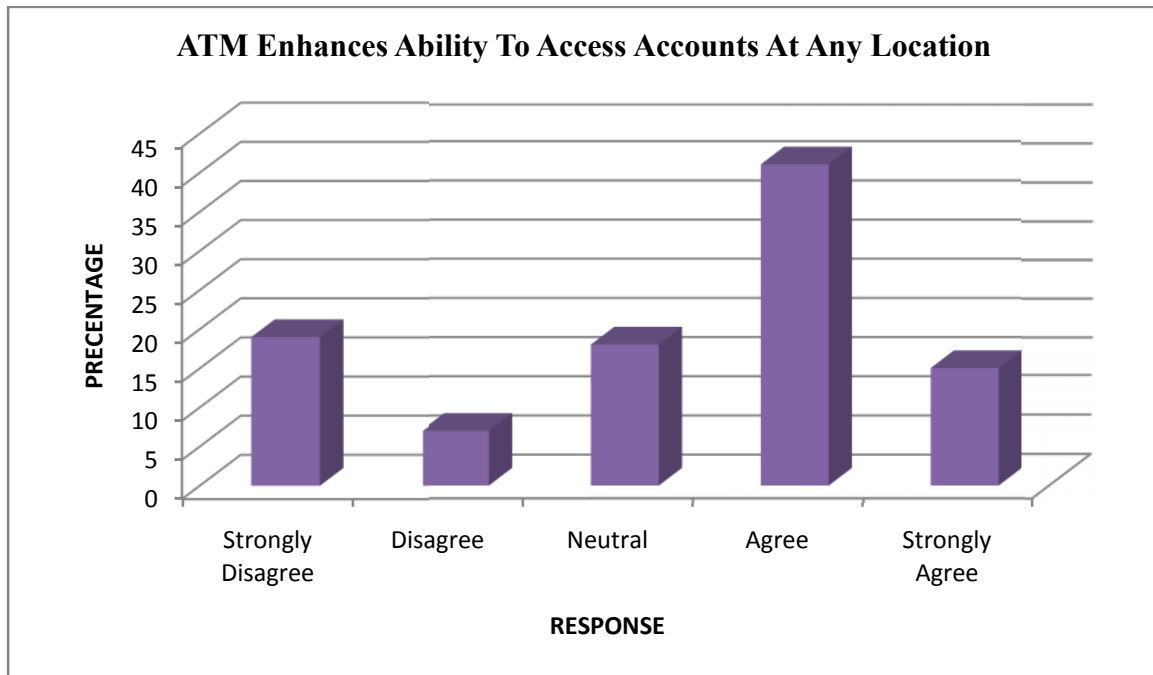
Source: Field Work (May 2013)

Figure 5.9 ATM Reduces Long Queues in Banking Hall



Source: Field Work (May 2013)

Figure 6.1: ATM Enhances Ability to Access Accounts at Any Location

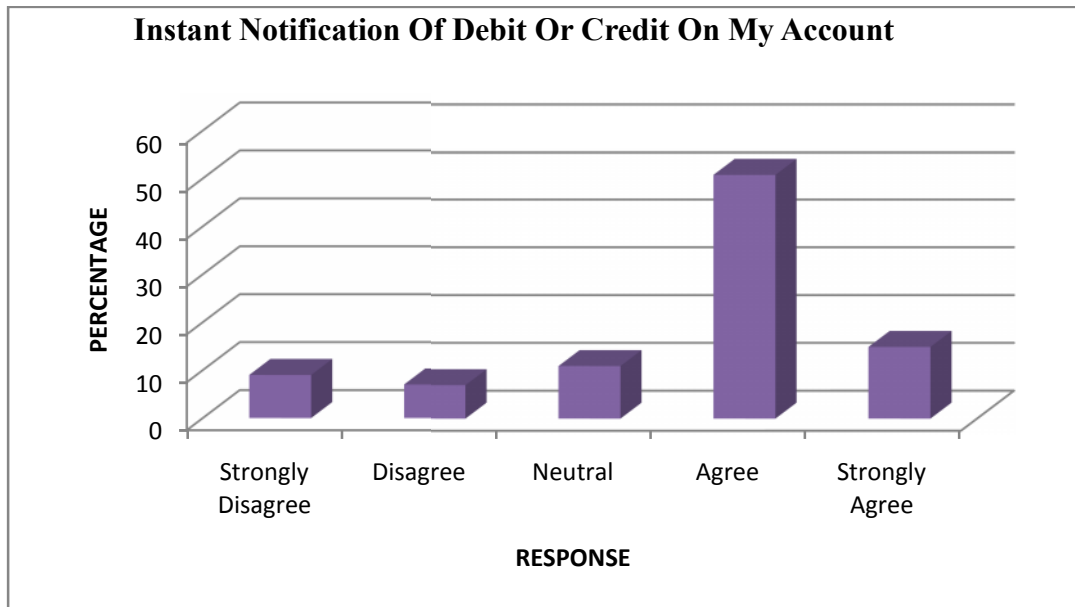


Source: Field Work (May 2013)

4.3.3 SMS ALERT

The SMS alert though a fairly new product by the bank, majority of the respondents agreed that it give them instant notification of debit or credit on their accounts. This is indicated in the diagram below

Figure 6.2: Instant Notification of Debit or Credit in My Account

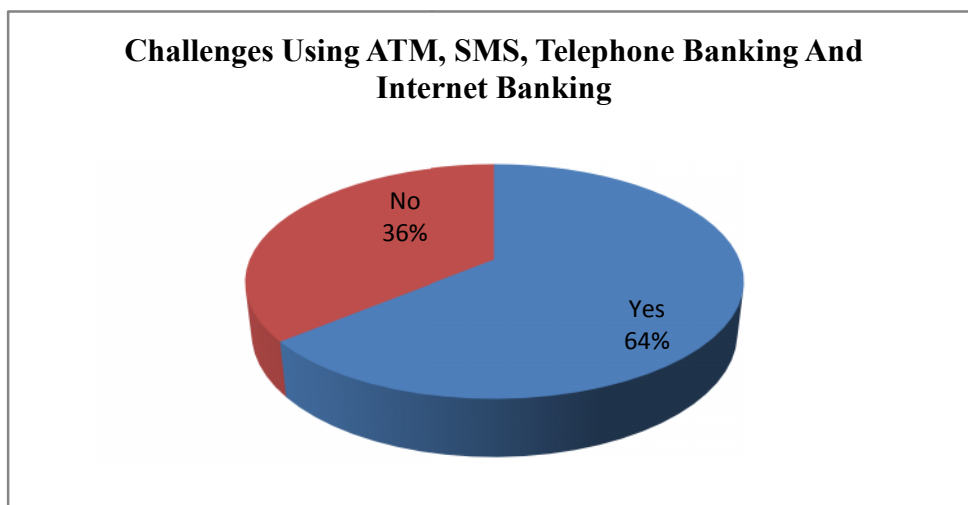


Source: Field Work (May 2013)

Figure 6.2 depicts that 51%, 15% of the respondents agreed and strongly agreed respectively that instant notifications of debit or credit are given to them on their account. But 7%, 16% disagreed and strongly disagreed respectively that the bank do not send them any instant notification of debit or credit on their account. In all, 11% of them were neutral.

4.4 CHALLENGES USING ICT BASED PRODUCTS

Figure 6.3 Challenges using ATM, SMS, Telephone Banking and Internet



Source: Field Work (May 2013)

From the figure 6.3 above, 64% respondents representing yes said they face a lot of challenges using the products (ATM, SMS, Telephone Banking and Internet Banking). But 36% says otherwise because they feel comfortable using the products.

CHAPTER FIVE

SUMMARY OF FINDINGS CONCLUSION AND RECOMMENDATION

5.1 SUMMARY OF FINDINGS

Management of Barclays understands that providing quality service through ICT is a key strategic component in firm profitability. The importance of service delivery and its impact on improving satisfaction and retention of customers, improving sales and market share, and improving corporate image cannot be overlooked.

The study revealed that ICT based products has an appreciable positive effects on customer service. This affects the growth of Barclays positively because customers can now collect money from any branch of the bank. Also, customers do not need to move about with large sums of money, and customers are being attended to within a short period of time.

ICT is now thought to hold the promise of a new commercial revolution by offering an inexpensive. This revolution in the market place has set in motion a revolution in the banking sector for the provision of a payment system that is compatible with the demands of the electronic market place. The advances in ICT have certainly introduced new delivery channels in Barclays.

With respect to the type of ICT based product used by customers, branch network appears to be the most widely accepted and highly used electronic delivery tool. This is followed by ATM and SMS alert which seems to be the least used electronic delivery channel by the bank's customers. It was found that most Barclays' customers still visit their bank branches regularly and find interaction with human tellers very important.

5.2 CONCLUSION

The results suggest that improving the service quality through ICT experience will improve the overall customer perception of the quality of service provided by the bank. What emerges from the present study is that the customers of the bank appear generally satisfied with the technological aspects of Barclays. This implies Barclays should concentrate their efforts on those areas customers feel are most important (i.e accuracy, timeliness, and convenience).

These are areas in which technology (capital expense) has been well utilized to replace more costly labour resources to accomplish essentially those services that the customer is accustomed to doing for himself. In other words, most customers are now familiar with the basic service provided by ATMs and bank website and thus expect that these service will be user-friendly, and in the case of ATMS, conveniently located and in secure positions. While some banks have already started implementing the sort of 'augmenting' electronic bank delivery services that customers have come to expect. Barclays has taken their electronic service delivery to the next in order to stay one step ahead of the competition.

Barclays bank management should determine the parameters of their customers' service zone of tolerance. In other words, managers need to know the approximate threshold between satisfaction and dissatisfaction with the core service they are receiving from ICT innovations. Understanding of the service level zone of tolerance would then allow banks to allocate their service fund resources accordingly. While access, location, security and ease of use of ATM machines to be the most pressing issue for the majority of the bank customer, it will become increasingly important to determine the level of importance that future bank customers place on telephone and online banking services.

Finally, the trend toward greater Internet usage, especially among younger users, suggests that Barclays may need to re-evaluate their customer base on a more frequent and routine basis.

5.3 RECOMMENDATIONS

The study suggests that Barclay's provision of banking service through ICT need to concentrate its efforts in the following areas.

1. Barclays Bank Limited should find ways of making their electronic service more accessible. Installing more ATMs outlets is an issue, which customers consider very important and which is not being addressed to the customers' satisfaction. Barclays Bank Limited should also provide customers with toll free number. This number could handle customer complaints and general feedback about electronic banking services. This would not only provide a service to customers that are free, but also provide the banks with valuable trends for future development on electronic services.
2. Barclays Bank Limited should also improve the security of ATMs by making well lit at night.
3. Barclays Bank Limited should develop their electronic facilities to cater for the elderly and disabled. ATMs that read out the keys pressed would aid the sight impaired as well as lowering the height of the ATM screens making the service available to people in wheel chairs.
4. Customer feedback is an established concept of strategic planning. It is therefore recommended that the performance of Barclays Bank Limited be monitored on a regular basis. This is important as isolated monitoring could give snapshots only and not accurately depict trends.

5. The management of Barclays Bank Limited should be well advised to conduct periodic marketing research studies on their own customers, to include developing a database containing both the demographic and psychographic profile of its customer base. Such a database would then allow the management to make a more informed decision about the level of personal staff to insure adequate service delivery. Although much additional study needs to be conducted to address the lack of information in the area, the current study hopefully provides future researchers with some basic areas in which to begin.

5.4 DIRECTION FOR FUTURE RESEARCH

Future research should aim to improve impact of, ICT by examining whether ICT usage or adoption varies in importance across technology types, including ATMs, telephone call centres and internet banking. The study neglects the likely impact of respondents' characteristics on perception of ICT adoption. Future research should seek informed answers to such characteristic-related questions.

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APPENDIX

CHRISTIAN SERVICE UNIVERSITY COLLAGE

QUESTIONNAIRES FOR CUSTOMERS

TOPIC: THE IMPACT OF ICT ON GHANAIAIAN BANKS

Your assistance is being sought as contribution to the above topic. This questionnaire is strictly for academic purposes only. It is partial fulfillment of the requirement of the award degree in banking and finance. Any information provided will be treated with utmost confidentiality.

Instructions: Please provide appropriate answer(s) or tick (√) where necessary

SECTION A: (SOCIO-DEMOGRAPHIC DATA)

1. Gender: Male Female

2. How old are you?

18 – 25 26 – 29 30 – 39 40 – 49 50– 59

60 above

3. Marital status: Single Married Separated

Divorced Widow/Widower

4. Religion: Christian Muslim Traditionalist

Other

5. Highest Education Level: BECE/SSCE Certificate

Diploma Degree Post Graduate Degree

6. Income level: GH¢ Below 1,000 1,100 – 5,000 5,100–10,000

10,100 – 20,000 20,100 – 50,000 Above 50,100

SECTION B (SERVICE QUALITY AND CUSTOMER SATISFACTION)

7. BANKING ENVIRONMENT	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Banking hall are tidy					
Branch location are easily accessible					
Spacious banking hall					
Parking lots are spacious					
8. SERVICE					
Easy accessibility to loan					
Timely service delivery					
Customer complaints receive swift response					
9. PRODUCTS					
Products are well tailored to meet my needs					
Products are easily accessible by anyone					
Product features are unique from other banks					
10. STAFF					
Staff are friendly and easy to approach					
Staff have better understanding of Bank's product					
Staff understand customer needs and want					
Staff execute service with speed and accuracy					

SECTION C IMPACT OF ICT BASED PRODUCTS TO CUSTOMER SATISFACTION

11. Which of the ICT products do you use? ATM SMS Alert Branch Network

12. How often do you visit branch? Daily Every week Once a month.

More than once, specify.....

13. BRANCH NETWORK	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Accessibility to funds anywhere branch is located					
Saves time and transportation cost					
14. SMS ALERT					
Instant notification of debit or credit on my account					
Instant access to account details					
15. ATM					
Reduce time involved in bank transactions					
Reduces long queues in banking halls					
Enhances ability to access accounts at any location					

16. Do you face any challenges using ATM, SMS, Telephone Banking and Internet Banking?

Yes

No

The Impact of Information Communication Technology on Ghanaian Banks