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Evaluation of the Effects of Information and Communications Technology (ICT) on Quality Customer Service Delivery in the Banking Industry: Evidence from Selected Banks in the Tamale Metropolis

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ABSTRACT: The banking sector is becoming more competitive in recent times. Customers are the most significant factor and quality customer service is tool for surviving these competitions. Banks invest in Information Communication Technology and introduce new innovations with the aim of serving the existing customers better and attracting new customers. This study aims to evaluate the effects of Information Communication Technology on Quality Customer Service Delivery in the commercial banks. A multi-stage sampling was used to survey a sample of 476 customers from the selected banks. The analysis revealed that Information Communication Technology has positive effects on quality customers' service delivery in the banking sector. Information Communication Technology has enabled customers to access their accounts at any location at any time, know the transactions that affect the customer accounts through the transaction notification service subscribed by the customer. The study also revealed that Automatic Teller Machine is the most used delivery channel by customers. Challenges face by the banks in delivering service with information communication technology included the low information communication technology, literacy level of customers, high cost of providing security for data, fraudsters and hackers, and inadequate information communication technology professionals. It was recommended that banks should educate and intensify the campaign on the use of both old and new electronic delivery channels, ensure constant availability of banking services delivered through these channels.

KEYWORDS: Banking industry, ICT, Likert scale analysis, Customer service delivery, Tamale metropolis.

1 INTRODUCTION

Information and Communication Technology (ICT) is fast becoming a dynamic channel that drives the banking industry and an important catalyst for the growth of our economy as a whole. In today's competitive markets, customers are the most significant factor in management of businesses and marketing actions because they are able to choose their favourite items among variety of choices and therefore can change the marketing strategies firms have [26]. The role of customers is very important for firms and that is why customer relationship management (CRM) is born based on the values customers have [26].

In the competitive business environments, acquiring new customers and customer retention has been shown to be a very important managerial issue, especially in the markets with decreasing rate of acquiring new customers. It is admitted as the first goal of CRM because of its capability in delivering superior value for the firms (from the economical aspect) and customers [18], [1]. Indeed, many firms spend most of their energy, time, and marketing budgets to gain new customers. However, because the cost of acquiring new customers is much more than the cost of retaining existing ones, customer retention is very important to most organizations and banks [5]. The banking industry in Ghana is facing an increasingly

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demanding environment as many consumers and businesses become more sophisticated. Over the past six years banks that have entered the country include Zenith Bank (originally from Nigeria), Standard bank (the most capitalized bank in Africa; originally from South Africa), United Bank of Africa (originally from Nigeria), UT Bank, Fidelity Bank (formally Fidelity Discount House) and Access Bank. All these banks aim at increasing their market share by redefining service delivery position so as to remain in the competitive environment of the banking terrain. This is because delivering quality service and product have become an integral part of banks growth and their survival in today's competitive banking industry [8].

The availability and usage of adequate ICT skills are important factors, which influence the competitiveness among commercial banks in this era of e-Economy. There are multiple factors which govern the performance of an organization. Of those, ICT has a significant positive impact on the organizational performance [24]. Growth and competitiveness of banks are dependent on the successful application of new technologies which also depends on the availability of skilled labour. There is a qualitative and quantitative imbalance in the supply of skilled labour. It depends on the demographic factors, business cycles and rapid technological advancements taking place around us. Due to the vast development in the area of e-Banking it is essential that the policy makers should focus on the growing demand in ICT skills and take corrective steps to prepare the required numbers and quality beforehand. E-Banking enables banks and customers to conduct banking business electronically over the Internet where the costs are minimal and it is no longer bound by time or geographical boundary.

Most bank branches at present are equipped with main core banking applications supported by a central computer system. In Ghana ATM networks are also linked to branches and run on separate software applications. Recently, Banks are also equipped with 'intranets' and internet that enabled them to network its branches to provide or deliver reliable and convenient services to customers. Internet banking or online banking, SMS banking and phone banking are also now being provided as value added services by most banks in the country. Credit card usage is also now becoming popular among customers. Banks are initiating and encourage the use of credit cards and debit cards (ATM cards) among customers to ease the pressure on the tellers in the banks and the banking hall.

Banks are spending huge sums of monies in acquiring Information Technology (IT) and information communication technology (ICT) competence. They invest huge amounts in foreign currency for hardware, software and soft skills and such sums necessary to train, maintain and retain staff and group of knowledge workers. The banks are improving upon their ICT with the aim to gain a competitive advantage over their competitors; improve the quality of service to customer and facilitate customer care. Do the banks really use the ICT to provide and improve quality customer service? This question has not yet been sufficiently answered by the academic community. This research, focus on the effects of ICT on customers' service delivery systems in the banking industry.

2 LITERATURE REVIEW

2.1 BANKING DEVELOPMENTS IN GHANA

A bank is a financial institution that accepts deposits and channels those deposits into lending activities. Banks primarily provide financial services to customers while enriching investors. Banks are important players in financial, markets and offer services such as investment funds and loans [3].

The issue of banking in Ghana has travelled a long road, undergone many changes in service delivery and can be traced far back from colonial times. Originally established to provide service to the customers, banks used the manual system, which resulted in long queues. The other problem faced by many banks in Ghana is that, many people including companies do not accept cheques as a payment method. This is because of the time and the inconveniences involved in accepting and depositing cheques in company accounts. These problems persisted in the banking sector for decades. Standard Chartered Bank formerly known as the Bank of British West Africa and Barclays Bank formerly known as the Colonial Bank were the pioneer banks that operated in the midst of these problems in 1894 and 1917 respectively. They handled all the commercial banking business in the country until 1953 when the state-owned Bank of the Gold Coast (the parent bank of both the Bank of Ghana and the Ghana Commercial Bank) was inaugurated. After Ghana attained its independence in 1957, the enactment of a legislative instrument of Parliament separated the Bank of the Gold Coast into the Bank of Ghana (the Central Bank) and the Ghana Commercial Bank (GCB).

The two expatriate banks mentioned above and the GCB therefore, constituted the primary commercial banks in the country and have since dominated the commercial banking system, handling over 70% of all banking business in Ghana [8].These three banks also constituted the commercial banking system before the 1970s; their main business being to finance foreign trade, while domestic lending in other sectors was minimal. As of the end of December 1984, the number of branches

of these three banks was two hundred and ten (210). GCB had the greatest number, one hundred and forty-nine (149), followed by Barclays bank with thirty-three (33) and Standard Chartered Bank with twenty-eight (28) branches scattered over the country.

Three other commercial banks were however, established in the 1970s. These were the National Savings and Credit Bank (NSCB), the Social Security Bank (SSB) and the Bank of Credit and Commerce (BCC). The first two were public sector banks established by Decree to satisfy the credit needs of specific sectors of the economy. Apart from the BCC, all the banks under this category engaged in commercial banking business. Until May 1975, the NSCB was known as the Post Office Savings Bank (POSB), which was the oldest organized savings institution in Ghana, dating back to 1888. The POSB however, did not grant credit facilities but only received deposits for savings. It was however, reorganized and renamed the NSCB.

Afterwards, it started full commercial banking business with concentration on small borrowers in the informal trade sector. As of the end of December 1984 (when the statistics of the three leading commercial banks were taken), the NSCB had fourteen main branches distributed across the country. In spite of the fact that its predecessor was the oldest savings institution in the country, the NSCB was still considered an infant bank trying to consolidate its position in the banking business at that time.

The Social Security Bank was officially inaugurated in 1977 and it commenced business in June that same year. The Social Security and National Insurance Trust (SSNIT) owned the bank. The SSB operated like any other bank but mainly as a workers' bank. It placed emphasis on consumer credit facilities for workers under its Consumer Credit Scheme by granting small, personal loans and hire purchase facilities to workers. It also operated development finance schemes for small-scale industrial and agricultural projects. It had forty branches in Ghana with the headquarters in Accra.

The Bank for Credit and Commerce (formerly Premier Bank Limited), was incorporated under the company code and licensed in August 1975 as a merchant bank, but later it changed to full retail banking. It had only one branch at the head office in Accra.

As of December 1984, there were twelve (12) banks in Ghana: Ghana Commercial Bank (GCB), Barclays Bank of Ghana Limited (BBG), Standard Chartered Bank Ghana Limited (SCB), Agricultural Development Bank (ADB), Social Security Bank (SSB), Merchant Bank of Ghana Limited (MBG), National Investment Bank (NIB), Cal Merchant Bank (CAL), Ecobank Ghana Limited (ECO), Bank for Housing and Construction (BHC), Bank of Credit and Commerce (BCC) and Ghana Cooperative Bank (Co-op).

From that period to December 2006, several other banks have been incorporated into the Ghanaian banking sector. These are: Prudential Bank Limited (PBL), Metropolitan and Allied Bank (METRO), First Atlantic Merchant Bank (FAMB), The Trust Bank (TTB), International Commercial Bank (ICB), Stanbic Bank, Amalgamated Bank (AMALBANK), HFC Bank, Unibank, Prestige Bank, Standard Trust Bank (STB), Guarantee Trust Bank (GTB) and Zenith Bank (ZB). Fidelity Bank has also been incorporated and began operations in last quarter of 2006. The Bank for Housing and Construction (BHC) and Ghana Co-operative Bank (Co-op) have, however, been liquidated. There have been some other changes in the sector mainly in terms of ownership. There has been a merger between the SSB and National Savings and Credit Bank which now known as SG-SSB while GCB, SSB and NIB have been privatized (Hinson, 2005). A large number of these new banks are now owned and managed by Africans, and the sector boasts a number of highly skilled and experienced bankers. The total banking system assets at the end of October 2006 were ¢48,353.0 billion, representing an annual growth of 35.5 per cent, as against 16.6 per cent as of the end of October 2005 [20], [7].

2.1.1 COMMERCIAL BANKS

Commercial bank which is the focal point of our studies is a type of the banking industry offering major financial intermediary in any economy. They are the main providers of credit to the household and corporate sector and operate the payments mechanism. Commercial banks are typically joint stock companies and may be either publicly listed on the stock exchange or privately owned. They deal with both retail and corporate customers, have well diversified deposit and lending books and generally offer a full range of financial services [3]. A wide range of services have been provided to customers and include:

- Trading of financial assets on behalf of their customers
- Trading in financial assets for their own accounts
- Helping to create financial assets for their customers and then selling these assets to others in the market
- Providing investment advice to personal customers or business advice to firms on mergers and takeovers
- Fund management

- Money Transfer
- Provide loans
- Issuance of credit cards and processing of credit card transactions and billing
- Issuance of debit cards for use as a substitute for checks
- Allow financial transactions at branches
- Provide wire transfers of funds and electronic fund transfers between banks
- Facilitation of standing orders and direct debits
- Provide overdraft agreements for the temporary advancement of the bank's own money to meet monthly spending commitments of a customer in their current account.
- Provide charge card advances of the bank's own money for customers wishing to settle credit advances monthly [19].

2.2 INFORMATION COMMUNICATION TECHNOLOGY AND BANKING

Information Communication Technology deals with the Physical devices and software that link various computer hardware components and transfer data from one physical location to another [16]. Information and Communication Technology (ICT) is the automation of processes, controls, and information production using computers, telecommunications, software's and other gadget that ensure smooth and efficient running of activities. Information and Communication Technology (ICT) has provided self-service facilities from where prospective customers can complete their account opening documents direct online. It assists customers to validate their account numbers and receive instruction on when and how to receive their chequebooks, credit and debit cards.

Banking is becoming highly ICT based and because of its inter-sectoral link, it appears to be reaping most of the benefits of revolution in technology, as can be seen by its application to almost all areas of its activities [2]. It has broadened the scope of banking practices and changed the nature of banking as well as the competitive environment in which they operate. A broad opening has been experienced around the world for banks and they are currently taking due advantage of these innovations to provide improved customer services in the face of competition and faster services that enhance productivity [2], [22]. According to [27], 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.

A number of studies have concluded that ICT 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 [4], [15], [14], [27].

2.2.1 ICT DEVELOPMENT IN BANKING INDUSTRY

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 began 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 (Gh.) and Standard Chartered Bank (Gh.) pioneered this very important electronic novelty, which changed the banking landscape in the country.

Banks have made extensive use of Information and Communication Technology (ICT) for many years in operations. Information and Communication Technology (ICT) Systems or Electronic delivery channels that have made great impact on the banking activities include ATMs, Bankers Automated clearing service; Telephone banking, personal computer banking, Internet Banking, branch networking and Electronic funds Transfer at Point of Sales.

The most revolutionary electronic innovation in this country and the world over has been the Automated Teller Machine

(ATM). According to [25], Automated Teller Machines (ATMs) 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. 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. 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. The combined services of both the Automated and human tellers imply more productivity for the bank during banking hours.

Another form of electronic innovation is the Banker's Automated Clearing Services (BACS) which use computers to carry out most financial transactions between banks. These consist of, clearing cheques, paying salaries, payment of standing orders or direct debits. The BACS does its processing by batch processing in which all transactions from the previous day are processed at one time. The processed data is passed between banks on magnetic tapes. Logs are kept of all the transaction [3]

Telephone banking which is popularly known as telebanking 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" [4]. According to [13] 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. 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.

The personal computer banking which is also known as PC-Banking is yet another innovation that cannot be left out in this discussion. PC-Banking is a service which allows 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 [6]

Another banking system that provides access to bank accounts via a web site and enables certain transactions, given compliance with stringent security checks is the internet banking [9]. 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 and transactional. 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.

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.

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 [6]. 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.

It is obvious from the foregoing discussions that though a number of studies [10], [17], [12], [23] have been conducted across the world on the ICT and customer service in banks, there is dearth of literature on effect of ICT in delivering quality customer service in Ghanaian banks. This is a serious gap that must be bridged if the problem of poor service must be address.

3 METHODOLOGY

3.1 STUDY AREA AND DATA COLLECTION METHODS

The target population of the study comprised the customers of the selected banks branches in the Tamale Metropolis and the branch managers/member of staff who has an in-depth knowledge of the bank operation and the bank ICT products and innovations. Corporate bodies who are customers of the banks did not form part of the population of the study. Only Individuals in the Tamale Metropolis who are customers were considered.

The managers of these selected banks were considered for the study. For the selection of the customers the researcher visited the premises and selected the customers who were in the banks premises on the basis of convenience at a given time for some number of days. Also the grab technique was used to select some of the customers outside the banking premises. The sampling types used consisted of purposive, simple random and convenience sampling. Prior to the use of simple random and convenience sampling, a number of were therefore purposively selected on the basis of predominance in ICT innovation for customers. In the process of selecting the banks, names of the banks were written on pieces of paper and five of them were randomly selected through the simple random selection process. These banks include Access, Barclays, Ecobank, Ghana Commercial and Zenith Bank of Ghana. Convenience sampling was then used to select up to 100 respondents in each of the selected banks. In all, a sample of 500 respondents was selected for the study as catalogued in Table 1.

Table 1: Banks and Sampled Customers

Bank	Sampled Customers
Access Bank (Ghana) Limited	100
Barclays Bank Ghana	100
Ecobank Ghana Limited	100
Ghana Commercial Bank	100
Zenith Banks	100
Total	**500**

Source: Authors' field survey, 2012

3.2 DATA COLLECTION QUALITY ASSURANCE AND ETHICAL CONSIDERATIONS

To be ethical is to conform to accepted professional practices. Before interviews the researcher fully explained the objectives of the study to all the respondents. In addition, their consent was sought and their right to confidentiality assured before interviewing them. Furthermore, the researcher fully observed their right to privacy and anonymity. The researcher employed the necessary procedures to gather data and process it properly. The information gathered was for academic purpose and treated with much security and great confidentiality. The data was used purposely for Data Analysis and Discussion for this study. This enables the researcher to draw conclusions from the study. All the secondary data obtained for the purpose of the study were acknowledged accordingly to the best of my knowledge.

3.3 DATA ANALYSIS AND PRESENTATION

Data was analyzed and presented in descriptive and narrative forms using statistical methods and SPSS (Statistical Package for Social Sciences) and finally the effects of ICT usage on quality customer service delivery in the bank s was evaluated using likert scale analysis.

4 RESULTS AND DISCUSSIONS

4.1.1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

The age as well as educational distribution of the respondents (the customers of the selected banks in Tamale Metropolis) is presented in Table 1. The table showed that the youth specifically, those that fell within the age group 31-40 years dominated the sample and constitute 36.6% of the sampled population while those that fell within age category 18-30 years constitute the second majority (33.2%). Those that fell within age category 61 years and above constitute the least (1. 9%) and thus indicates that young people who are more adventurous may be using this machine than the old people who are conservative. Our result is consistent with the findings of [21] in which young people dominated in the use of ATMs. The level of education of the customer is very significant in this study. For a customer to understand and effectively use the banks ICT products and innovations he or she needs some level of education that can help him or her at least read and understand. In terms of educational attainment, bank customers who had vocational education were found to have less (2.5%) patronage of banking services as compared to customers who attained tertiary (78.8%), second cycle (14.7%) and basic (4.0%) education. This indicates that bank customers are highly educated and can transact with the bank or use their ICT products and innovations with little or no support. This is plausible since customers might have acquired knowledge and skills in banking from their respective educational institutions.

Table 1: Socio-demographic Status of Respondents

Age (in Years)	Frequency	Percent
18-30	158	33.2
31-40	174	36.6
41-50	83	17.4
51-60	52	10.9
61 and above	9	1.9
Total	476	100.0
Educational Level		
Basic	19	4.0
Secondary	70	14.7
Vocational	12	2.5
Tertiary	375	78.8
Total	476	100.0

Source: Authors' field survey, 2012

4.1.2 CUSTOMER STATUS

Several reasons including account maintenance, receiving money transfer or both were raised for being customer to a particular bank. The responses of customers are shown in Figure 1. It is obvious that most of the customers of the banks were accounts holders as majority (about 85%) of the respondents became customers just to be able to maintain an account with their banks. The second majority (about12%) constitute those customers want to be able to access money transfers services.

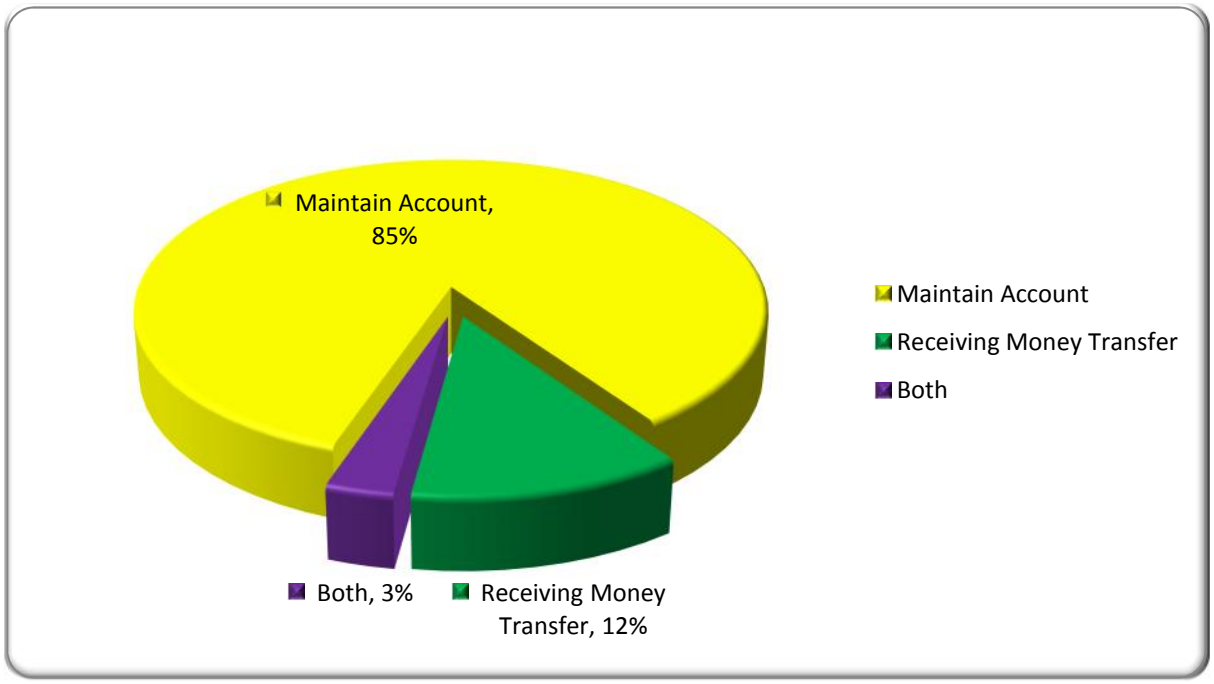

Figure 1: Reason for being Customer of a Bank

Source: Authors' field survey, 2012

4.2 AWARENESS AND USAGE OF ICT PRODUCTS AND INNOVATIONS

The banks in Tamale Metropolis provide a lot of ICT products and innovations to help in providing quality customer service for their customers. Some of the ICT products and delivery channels that are mostly used in the branches of the selected banks were selected to assess customers' awareness and the usage by the customers. These products include ATM, telephone/mobile, personal computer and internet banking, smart cards and electronic funds transfer.

The study revealed that all the selected banks have ATM facilities that allow customers to make withdrawals, check accounts balances, and print mini statements. In trying to determine the awareness and the usage of the ATM, the results further revealed that almost (99.2%) all the respondents are aware of ATMs in the banks with about 85% using the services. Telephone/Mobile Banking is another facility provided by the banks to enable their customers carry out their banking transaction through their telephone or mobile phones. The selected banks have these services for their respective customers. Our results revealed that 76.9% were aware of this service with only about 24% making use of product. This indicates that the service or the product is not well patronized by the customers which may be attributed to the fact that, the customers are not educated well about the use of the services. Out of the total number of respondents, about 54.4% were aware of the personal computer banking services with less than 5% using the service. This indicates that customers are not aware of this service or product and do not use it as much. This may be attributed to the facts that some of the respondents do not have access to computers or the bank not able to market the service well. For electronic funds transfer at point of sales about 57.1% was aware of it while 5.9% use the service. For internet banking, less than 10% of the customers are aware and used the services. However, while 70.4% are aware of this service, less than 30% had no idea about the service. This indicates that the service is not much used by customers. This may be related to the low ICT literacy level of customers of the banks or inappropriate advertising media. Out of the total respondents, less than 10 % use the smart cards provided by the banks, the remaining 90.3% did not use the products or were not even aware of its existence.

Table 3: Awareness and Usage of ICT Products

Product	Aware and use	Aware and do not use	Not aware
ATM	84.9%	14.3%	0.8%
Telephone/Mobile Banking	23.5%	53.4%	23.1%
Personal Computer Banking	4.6%	49.8%	45.6%
Electronic Funds Transfer	5.9%	50.8%	42.6%
Internet Banking	8.8%	61.6%	29.6%
Smart Cards	9.7	54.0	36.3

Source: Authors' field survey, 2012

4.3 EFFECTS OF ICT PRODUCTS OR DELIVERY CHANNELS ON CUSTOMER QUALITY SERVICE DELIVERY

This section deals with the level of agreement of customers with regards to how ICT affects the services rendered by the banks to customers. The responses were measured with a five-point Likert-type rating scale, where strongly disagree (SD) = 1; disagree (D) = 2; neutral (N) = 3; agree (A) = 4; and strongly agree (SA) = 5. The customers' responses are presented in Table 4. The data presented in the Table 4 indicates the effects of ICT on customers' service delivery which includes the following.

4.3.1 FACILITATION OF ACCURATE AND DEPENDABLE RECORDS

The responses of customers as shown in Table 4 confirmed that Information and Communication Technological (ICT) Innovations facilitates accurate records by the banks. Out of 476 respondents, 380 representing 79.8% agreed that ICT facilitates accurate records keeping by the banks. A total of 33 respondents representing 6.9% however disagreed with this view and 13.2% were remaining neutral. A mean of 3.99 confirms that ICT has actually helps the banks to maintain accurate records about their transactions hence, making the banking service more reliable.

4.3.2 FACILITATION OF CONVENIENT BUSINESS HOURS

The analyses of responses of customers in Table 4 show that 370 of the respondents representing 77.7% agreed that the adoption of ICT has really facilitated convenient business hours. This show that majority of the respondents agreed that ICT has really help in this area. The computed mean of 3.79 confirm that ICT has made business hour convenient.

4.3.3 ENHANCEMENT OF PROMPT AND FAIR ATTENTION

The data presented in the table indicated that the respondent actually agreed that, ICT product enhances prompt and fair attention to customers. The mean of 3.86 Indicates that ICT has increase the level of responsiveness of the bank to its customers.

4.3.4 SPEEDING UP BANKING SERVICES

The customers responded negative to the effect that, the ICT slows down banking services. The date presented in Table 4 shows clearly that, 65.6% of the respondent disagreed with that fact. There is clear indication that customers think that ICT has helped speed up transaction processing in the banks. This is confirming by the mean of 2.32.

4.3.5 ENABLING CUSTOMERS TO ACCESS THEIR ACCOUNTS AT ANY LOCATION AT ANY TIME

The data presented in the Table 4, shows evidence that there is slight agreement by the customers that, ICT enables the customers to have access to their accounts at any location at any point in time. The computed means of 3.52 and 3.56 for statement 4(e) and 4(f) respectively support these arguments.

4.3.6 MAKING ENQUIRES ON ACCOUNT FASTER AND HASTEN FUNDS TRANSFER

4(g) and 4(h) statements portion of Table 4 of the presented data both shows the mean of 4.08 with standard deviation of 0.96 indicating the responded customers agreed that ICT in banking has made enquires on account faster and hasten funds transfer from one bank branch to another branch of the same bank and to a different bank branch within and outside the country.

4.3.7 ACCESSIBILITY OF INTERNATIONAL MARKETS

About 75.9% of the respondents agreed that, ICT has made international markets accessible. Meaning ICT in the banking service enables the customer make payments for goods and services bought in a different country and also received payment for goods and services sold in an international market without necessary being present at the market. This is supported by the mean of 4.01 shown under 4(i) of Table 4 above.

4.3.8 COMMUNICATION, SECURITY AND TRANSACTIONS NOTIFICATION

That data presented on the table further shows that, ICT makes communication easily, facilitates credibility and security of customer banking service and makes the customer to know the transactions that affect his or her account at any time. These arguments are supported by the means of 4.36, 4.07 and 4.12 respectively.

Table 4.5: ICT Products or Delivery Channels Effects on Customer Service Delivery

Response	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Total	Mean
4.5(a) Adoption of ICT products facilitates accurate and dependable records							
Frequency	122	258	63	33	0	476	3.99
Percentage	25.6	54.2	13.2	6.9	0	100	
4.5(b)Adoption of ICT facilitates convenient business hours							
Frequency	98	272	37	46	23	476	3.79
Percentage	20.6	57.1	7.8	9.7	4.8	100	
4.5(c) Adoption of ICT enhance prompt and fair attention							3.86
Frequency	118	233	89	10	26	476	
Percentage	24.8	48.9	18.7	2.1	5.5	100	
4.5(d)Adoption of ICT by the banks slows down banking services							2.32
Frequency	33	66	71	174	138	476	
Percentage	6.9	12.6	14.9	36.6	29.0	100	
4.5(e)ICT enables customers to access their accounts at any location							3.52
Frequency	136	109	117	93	21	476	
Percentage	28.6	22.9	24.6	19.5	4.4	100	
4.5(f) ICT enables customers to access their account at any point in time							
Frequency	95	184	105	76	16	476	3.56
Percentage	20.0	38.6	22.0	16.0	3.4	100	
4.5(g)ICT Makes Enquiries on Accounts Faster							
Frequency	142	226	88	4	16	476	4.08
Percentage	29.8	47.5	18.5	0.8	3.4	100	
	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)	Total	Mean
4.5(h) Adoption of ICT hastens Funds Transfer							
Frequency	188	176	81	22	9	476	4.08
Percentage	39.5	35.7	21.6	4.6	1.9	100	
4.5(i) Adoption of ICT Makes International Market accessible							
Frequency	167	194	86	9	20	476	4.01
Percentage	35.1	40.8	18.1	9	20	100	
4.5(j) Adoption of ICT reduces Interpersonal Relationships							
Frequency	81	184	109	72	30	476	3.45
Percentage	17	38.7	22.9	15.1	6.3	100	
4.5(k) Adoption of ICT makes Communication Easy							
Frequency	264	144	48	14	6	476	4.36
Percentage	55.5	30.3	10.1	2.9	1.3	100	
4.5(l) ICT facilitates credibility and security of customer banking service							
Frequency	186	188	73	9	20	476	
Percentage	39.1	39.5	15.3	1.9	4.2	100	4.07
4.5(m) ICT makes the customer to know the transactions that affect his or her account at any time.							
Frequency	147	242	84	2	1	476	4.12
Percentage	30.9	50.8	17.6	0.4	0.2	100	

Source: Authors' field survey, 2012

4.4 CUSTOMERS' SATISFACTION OF BANK SERVICE DELIVERY WITH ICT

The customers were asked to whether they are satisfied with the services provided by banks using the ICT facilities and their responses were presented in Figure 4. The response of the customers presented in the Figure 2 show that majority of the customers are satisfied with the banks service delivery using ICT. About 76.7% of the customers are satisfied while 23.3% expressed their dissatisfaction of the service delivery with ICT. This shows that customers of the banks were satisfy with the use of ICT in service delivery even though the analyses clearly shown that most of the delivery channels were not well patronized by the customers.

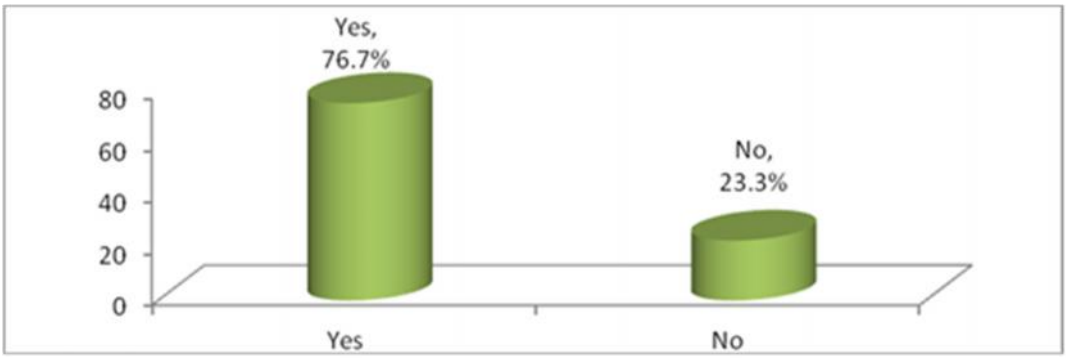

Figure 2: Customers satisfaction of ICT in service delivery

Source: Authors' field survey, 2012

5 CONCLUSION AND RECOMMENDATIONS

Technological developments particularly in the area of Telecommunications and Information Technology are revolutionizing the way business is done in Ghana. The banking sector of the country activities are now depending heavily on the technological development**.** 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. The current development in the banking 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. Obviously, the advances in ICT have introduced new delivery channels in the Ghanaian banking sector and a lot new delivery channels are yet to be introduced because of the constant changes in technology. The researchers sought to evaluate the effects of ICT on quality customer service delivery in the banking sector of Tamale Metropolis base on selected banks with branches in the metropolis. The study focused on the effects of ICT Innovations or delivery channels on services delivered to the banks customers. With regards to the effects of ICT on service delivery to customers by banks, it was found that the banks Management and customers support the assertion that ICT has positive effects on service delivery to customers in the banking sector of Tamale Metropolis. The results of the study in general indicated that, ICT have contributed positively to the provision of banking services and the growth of the Ghanaian banking industry. Customers are satisfied with the used of ICT in the service delivery by the banks. Internet Banking and online Banking are the recent ICT delivery channels launched by some Ghanaian banks. Base on the findings of the study, we recommend the following for stakeholders.

The banks that deliver customers services through the electronic channels should install security software and devices that protect customers' accounts information from hackers and fraudsters and ensure that the privacy and security of their customers are effectively guaranteed. This will embolden customers who use these delivery channels to continue using the service and encourage other customers to start using them.

Banks must ensure that their ICT delivery channels services are always available for customers. Preventive routine maintenance and replacement of faulty equipment must be prompt to prevent service disruptions. Particular attention should be given to ATM services since it is most use among ICT Delivery channels. There should be a central monitoring unit permanently manned by personnel to check the operations of all the banks' ATM's so that shortage of funds, occasional shut downs, seizure of electronic cards, etc are handled with dispatch.

Banks should intensify the campaign on the use of the both the old and new Electronic delivery channels like internet banking and online banking services to prospective customers. By investing in high-speed internet infrastructure, customers can be provided with quality internet banking which will always be available.

The bank should develop new user friendly systems and applications for their customers and also the banks should offer programs which will reassure customer's safety with regard to ICT through sensitization, workshops and durbars and also support the skills development among bank internal customers.

Again, banks should educate customers to patronize branches nearer to their communities to minimize the pressure and long waiting hours at the bank halls. Such education must emphasize that all transactions be done at all the branches because of the networking and that there is no need travelling to a particular branch for some special needs.

In addition, government and banks should play a key role in enhancing not only the infrastructure, but put in place various incentives at the national level to encourage people to use this medium (ICT) for financial transactions. This may include tax reduction and also making PC available and affordable as possible for every Ghanaian.

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