

INFORMATION AND COMMUNICATION TECHNOLOGY IN NIGERIAN BANKS: ANALYSIS OF SERVICES AND CONSUMER REACTIONS

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Abstract

Information and communication technology has become an important practice among commercial banks in Nigeria. The introduction of ICT has improve banking efficiency in rendering services to customer, The role of ICT in the actualization of various organizational objectives cannot be over-emphasized has it ensure prompt delivery of resources essential to attain an enviable ends. Business organizations, especially the banking industry is operating in a complex and competitive environment characterized by these changing conditions and highly unpredictable economic climate with ICT is at the centre of the change curve. ICT has resulted in new delivery channels for banking products and services in Nigeria such as the automated teller machines (ATM's), mobile banking and Internet banking. In this context, the purpose of this study is to analyse the service and consumer reactions on ICT in the Nigerian Banking industry, analyze the various electronic delivery channels utilized by commercial banks and to assess the consumers' reactions to these delivery channels.

Keyword: *Banking Services, Communication Technology, Consumer Reaction, Information Technology and Nigerian Banks*

1. INTRODUCTION

Information and communication technology have in particular brought about a paradigm shift in banking operations in Nigeria. In a bid to catch up with global development, improve the quality of customer service delivery, and reduce transaction cost, Nigerian banks have invested heavily in ICT, and have widely adopted ICT networks for delivering a wide range of value-added products and services. The Nigerian banking industry went through a consolidation exercise that left Nigeria with 25 banks out of 89 banks previously in existence. As noted by Chiemeke et al., (2006), until recently in 2011, the central Bank of Nigeria withdraw the licence of Five banks due to the insufficient capital base, which make a total number of 20. Therefore, the ability of 20 banks to satisfy and retain their

customers in the post consolidation era will no doubt depend largely on the development of their ICT infrastructure. Within the last decade, all Nigerian banks have transformed from manual to automated systems involving the use of various ICT systems. In 2008, for example the use of e-payment system in Nigeria accounted for N360 billion worth of transactions.

The banks' investment in ICT infrastructure has been corroborated by users' acceptance of the systems despite their concern about network security and security of the system (Adesina and Ayo, 2010). Investigation on consumers' acceptance of ICT in Nigeria banks based on technology acceptance model (TAM) revealed that banks customers, who are active users of ICT system use it because it is convenient, easy to use, saves time and meets their transaction needs (Adesina and Ayo, 2010). With the adoption of e-banking, customers have been encouraged to use banking services more effectively. ICT helps banks to increase speed, shorten processing periods, improve the flexibility of business transactions and reduce costs associated with having personnel serve customers physically. Apparently, with the adoption of ICT by all the banks in Nigeria and its concomitant advantages, the volume of cash in circulation has continued to increase pre-and-post consolidation exercise. In Nigeria, ICT usage especially in the banking sector, has considerably improved, even though it may not been as high as those observed for advanced countries (Adeoti, 2005; Adeyemi, 2006).

The use of ICT in the banking sector became of interest to this study due to the significant role it plays in the economy. It helps in stimulating economic growth by directing funds to economic agents that need them for productive activities. This function is very vital for any economy that intends to experience meaningful growth because it makes arrangements that bring borrowers and lenders of financial resource together and more efficiently too than if they had to relate directly with one another (Adam, 1998; Ojo, 2007). In essence, the banking sector acts as a bridge that connects lenders and investors in the economy. Hence, the need for reforms in the sector initiated by the Federal Government via the instrumentality of the Central Bank of Nigeria-CBN. According to a report by CBN (2006), the bank reforms (especially the recapitalization that specifies a minimum capital base of 25 billion naira for commercial banks), are pursued with a view to making the sector realize its objectives in advancing the economy. It is expected that the impact of these reforms will be enhanced with the use of ICT because it will create some form of competitive advantage and improve banking services through accuracy and efficiency in their transactions. In other words, it will change the nature of banks' services in terms of quality which will culminate in greater customer service delivery and productivity. In addition, the use of information technology has the ability of improving the competitiveness of Nigerian manufacturing industries Adeoti (2005).

Basically, in Nigeria context technological developments particularly in the area of ICT have reform and reshaping the land scape on the way business is done in the banking industry. Electronic commerce is now thought to hold the promise of a new commercial revolution by offering an inexpensive and direct way to exchange information and to sell or buy products and services. 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 marketplace.

The objective of this paper is fourfold. First, it presents a discussion of the progressive developments of electronic banking in Nigeria. Second, an analysis is made of the types of electronic delivery channels utilized by commercial banks. In this context, the Nigerian commercial banks' use of the World Wide Web (WWW) is also assessed. Third, some pertinent issues for the successful implementation of electronic banking are discussed. Fourth, the paper presents the findings of a questionnaire survey carried out to evaluate the Nigerian customers' perception of electronic banking

services. Finally, the paper is concluded with a summary of the findings and a discussion of the limitations of the study.

2. THE ICT REVOLUTION IN THE NIGERIAN BANKING SECTOR

ICT banking is the provision of banking services to customers through Internet technology (Ovia, 2005). Essentially, through the use of ICT banks now employ different channels such as internet technology, video banking technology, mobile banking and Automated Teller Machine to deliver their services. Report on ICT banking system in Nigeria reveals that e-payment machinery, especially the card technology, is presently enjoying the highest popularity in Nigeria banking market. According to INTER SWITCH statistics, Nigeria has 30 million ATM card holders who conduct over 100 million transactions on the machines every month. Nigeria's 20banks operate over 9,000 ATM machines across the country's 36 states and Federal Capital Territory.

Today, Nigerians commercial banks have the privilege of various delivery channels for their products and services This includes the brick and mortar branch office networks, automated teller machines (ATM's), automated self banking channels such as the Guaranty Trust Bank's Electronic Banking Center (EBC) and FCMB Bank's virtual kiosks, mobile banking via the telecommunication channel and internet banking. Also, to enhance effective security measure, banks have since early this year been upgrading their ATM cards from the magnetic stripe to the Euro-Visa-Master card standard, popularly known as Verve Card (www.businessdayonline.com). This latter technological device is more fraud resistant because all the data of the customer are recorded on the chip. The union of technology and finance has recorded huge success and has impacted on financial transactions. E-banking system has become the main technology-driven revolution in conducting financial transactions. However, banks have made huge investments in telecommunication and electronic systems, users have also been validated to accept e-banking system as useful and easy to use (Adesina and Ayo, 2010).

The electronic revolution in banking basically centers on changes in the distribution channels of financial institutions. The basis for the emergence of the modern electronic distribution channels is the result of the evolution of the concept of money. In the days of barter trade, the ability to pay for goods and services was reflected in the physical existence of the goods, which could be used for exchange. Then, hard cash in the form of coins made out of precious metals. This was then followed by the advent of fiduciary money in the form of modern coins and paper notes. Today, an individual's ability to pay for goods and services is simply reflected in the accounting records of his or her bank. Thus, it is important to appreciate at the outset that money as it is defined today is just simply information, which can be electronically transmitted to facilitate economic transactions. It is this new definition of money, which has resulted in the electronic revolution of financial institutions.

2.1 Automated Teller Machine (ATM)

The traditional and ancient society was devoid of any monetary instruments and the entire exchange of goods and merchandise was managed by the "barter system". The use of monetary instruments as a unit of exchange replaced the barter system and money in various denominations was used as the sole purchasing power. The modern contemporary era has replaced these traditional monetary instruments from a paper and metal based currency to "plastic money" in the form of credit cards, debit cards, etc. This has resulted in the increasing use of Automated Teller Machine (ATM) all over the world.

Apparently, Automated Teller Machine is a computerized telecommunications device that provides the customers of a financial institution with access to financial transactions in a public space without

the need for a human clerk or bank teller. On most modern ATMs, the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic smartcard with a chip that contains a unique card number and some security information, such as an expiration date. Security is provided by the customer entering a personal identification number (PIN). According to (Ojo, 2007), ATMs are placed not only near or inside the premises of banks, but also in locations such as shopping centers/malls, airports, grocery stores, petrol/gas stations, restaurants, Cinemas, club/Hotels, Churches/Mosque, bus/train station or any place large numbers of people may gather. These represent two types of ATM installations: on and off premise.

- On premise ATMs are typically more advanced, multi-function machines that complement an actual bank branch's capabilities and thus more expensive.
- Off premise machines are deployed by financial institutions and also Independent Sales Organizations (ISOs) where there is usually just a straight need for cash.

Although ATMs were originally developed as just cash dispensers, they have evolved to include many other bank related functions. In some countries, especially those which benefit from a fully integrated cross-bank ATM network, ATMs include many functions which are not directly related to the management of one's own bank account as it could be seen in the figure below:

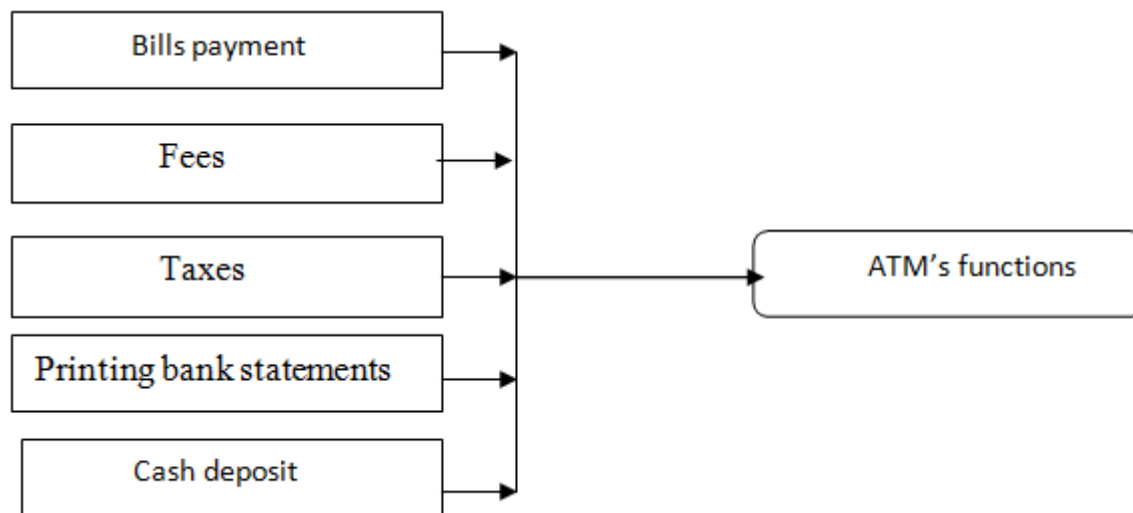


Figure 1: Fully Integrated Cross-Bank ATM Network

Source: Shoewu and Edeko (2011)

The figure above indicates clearly the integrated cross-bank ATM network and its function. Shoewu and Edeko (2011) in a research asserted that ATM services are highly profitable for banks, and banks aggressively market the use of ATM cards. ATMs that are off bank premises are usually more profitable for banks because they attract a higher volume of non-bank customers, who must pay service fees. Unfortunately, customers using off premise ATMs are more vulnerable to robbery. ATM robberies estimates are derived from periodic surveys of banks conducted by banking associations. According to those surveys, there was an estimated one ATM crime (including robbery) per 3.5 million transactions.

The use of ATM is not only safe but is also convenient. This safety and convenience, unfortunately, has an evil side as well that do not originate from the use of plastic money but rather by the misuse of the same. This evil side is reflected in the form of "ATM frauds" that is a global problem. The use of plastic money is increasing day by day for payment of shopping bills, electricity bills, school fees,

phone bills, insurance premium, travelling bills and even petrol bills. The convenience and safety that credit cards carry with its use has been instrumental in increasing both credit card volumes and usage. The world at large is struggling to increase the convenience and safety on the one hand and to reduce its misuse on the other. An effective remedy for prevention of ATM frauds, however, cannot be provided unless we understand the true nature of the problem.

ATM fraud is not the sole problem of banks alone. It is a big threat and it requires a coordinated and cooperative action on the part of the bank, customers and the law enforcement machinery (Leow, 1999),. The ATM frauds not only cause financial loss to banks but they also undermine customers' confidence in the use of ATMs. This would deter a greater use of ATM for monetary transactions. It is therefore in the interest of banks to prevent ATM frauds. There is thus a need to take precautionary and insurance measures that give greater "protection" to the ATMs, particularly those located in less secure areas.

Another immediate impact of the introduction of ATM's was that bank staff could be relieved of some mundane functions like processing withdrawals and fund transfer over the counter. Today, the ATM's in Nigeria can be used for balance enquiry, cash withdrawal, transfer of funds between checking, savings and credit card accounts, bill payments and check deposits.

However, Nigerian bank customers had not been very confident of making cash deposits via the ATM since the cash is only physically deposited into the bank but only credited into his or her account usually on the following working day.

As at the time of writing, no any Banks in Nigeria have introduced cash deposit machines (CDM's) that can accept cash which is immediately verified and credited to the customer's account. This technology was however implemented by many develop countries like UK, USA and Singapore where the ATM actually sorts and counts the money and asks the customer to confirm the amount. If the amount tallies the customer's account is immediately credited but however, if the amount does not tally, then the amount is automatically returned to the customer. It is this capability of the machine to perform like human teller, which has succeeded in weaning customers away from the counters and to the automated teller machines.

In the initial stages of development of ATM's, financial institutions installed ATM's in practically every strategic location with the primary objective of securing competitive advantage.

Thus, in view of the high costs involved in ATM operations and the duplication of ATM services at many off-branch premises, the financial institutions agreed to pool their resources together to establish ATM network switches. By linking the respective ATM systems of these financial institutions through the switch, cardholders of member institutions of the consortium would be able to carry out transactions at the terminal of any of the other participating financial institutions. Today, almost all the domestic commercial banks in Nigeria are members of the INTER SWICTH, and the member banks' customers can have access to their accounts via any ATM belonging to the INTER SWICTH network. This may be one of the reasons for the slower growth rate of ATM's in the more recent years.

The impact of the above development was that, commercial banks with geographically well spread ATM networks like the Guaranty Trust Bank, one of the largest commercial banks in Nigeria may tend to lose any competitive edge associated with having the largest number of ATM's in the country. However, if a bank customer was to use the ATM facilities of another bank for his transactional needs, a minimum access fee of N100: will be charged to the customer. This means that, banks with

large number of ATM's can now profitably use these machines as a source of revenue.

According to Philip (1996) the future prospect of ATM's sees evolving into virtual branches providing a broader range of remote transactions where customers could interact with bank personnel through video conferencing.

2.2 Mobile Banking

Mobile 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 dialling a touch-tone telephone or mobile communication unit, which is connected to an automated system of the bank by utilising Automated Voice Response (AVR) technology. Mobile banking has been in Nigeria since late 1990's. The mobile banking service provides yet another alternative to almost all of the functions available on the Automated Teller Machines except withdrawal and deposit of cash. The facilities available include checking account balance, funds transfer between current, savings and credit card accounts, bill payments, changing password and recharge card retrieval.

Leow (1999) believes that, mobile banking 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 mobile bank services are substantially lower than those of branch based services. Shoewu, et al (2011) argues that, there are about Nineteen million users of fixed line telephone services as at 2009 in Nigeria, which would certainly guarantee the critical mass criteria for telebanking services. Despite all these advantages, according to an article in the Nigerian Central Bank, annual report only few commercial banks offered mobile banking services as at end of 2010. As at 2010, only few out of the 20 commercial banks were known to offer mobile banking services. This indicates that mobile banking is currently not a major delivery channel for Nigerian's commercial banks' products and services.

Essentially, the poor customer response to mobile banking may be due to the fact that:

- Cash withdrawal is not possible via mobile.
- Poor marketing of this product on the part of the commercial banks.
- It may also be due to the lack of customer confidence in online transactions.

This may however be contrary to the developments in Europe where it has been reported in Leow (1999), that 95% of European banks are considering mobile banking services to be offered by the turn of the century.

2.3 Internet Banking

The banking industry in Nigeria has witnessed tremendous changes linked with the developments in ICT over the years. Brücher, Scherngell et al. (2003) opined that internet banking adoption will improve three critical domains which are efficiency, quality, and transparency in any organisation. Agboola et al (2002) discussed the dimensions in which automation in the banking industry manifest in Nigeria. They include: Bankers Automated Clearing Services: Automated Payment Systems, Automated Delivery Channels. Ovia (2001) concluded that banking in Nigeria

has increasingly depended on the deployment of Information Technology and that the IT budget for banking is by far larger than that of any other industry in Nigeria. He contended that On-line system has facilitated Internet banking in Nigeria as evidenced in some of them launching websites. He found also that banks now offer customers the flexibility of operating an account in any branch irrespective of which branch the account is domiciled. Woherem (2000) revealed that Nigeria banks since 1980s have performed better in their investment profile and use of ICT systems, than the rest of industrial sector of the economy.

An analysis of the study carried out by African Development Consulting Group Ltd. (ADCG) on ICT diffusion in Nigeria shows that banks have invested more on ICT, have more ICT personnel, more installed base for PCs, LANs, and WANs and a better linkage to the Internet than other sectors of the Nigerian economy. Ovia (2005) opined that the revolution in ICT has made the banking sector changed from the traditional mode of operations to presumably better ways with technological innovation that improves efficiency. Internet banking can enhance efficiency via its use and in recent times banks have been encouraged by the rapid decline in the price of Internet banking gadgets. This has perhaps increased the bank level of Internet banking usage. The increase might have also been attributable to business environment that became relatively flexible to accommodate new forms of technological change as a result of reforms in the country. Also internet banking was found to impact positively the speed of banking service delivery, as well as productivity and profitability. Banks should incorporate ICT into their strategic plans for effective performance in payment and delivery systems.

Internet banking would free both bankers and customers of the need for proprietary software to carry on with their online banking transactions. To this extent, it was pointed out that, virtually almost all Nigerian banks have invested millions of Naira in Internet ready technology but these banks are still operating as dial up intranet facilities. In this context, an interview with a Nigerian banker, revealed that all home or PC-banking based on proprietary software which are browser based and conform to Internet requirements can also be used to provide Internet banking services. However, this delivery channel is still not available to Nigerian bank customers at present due to lack of adequate legal framework and security concerns. To this extent, EPI (1996), reported that one of the key factors which had contributed to the success of Security First Network Bank (SFNB), was the implementation of a comprehensive security infrastructure. The security infrastructure includes layers of security from the network to the browser, including sophisticated encryption that protects customers' from intrusion when they access the bank over the public network.

Furthermore, no matter how secure the bank, consumer confidence is paramount for the success of Internet banking. It is for this reason, that Internet banking is still not made available in Nigeria. The government wants the infrastructure both legal and physical to be in place before launching this additional delivery channel for financial products and services.

Table 1: Electronic Delivery Channels Utilised by Nigerian Commercial Banks

Commercial Banks	ATM's	Mobile banking	Internet banking
Guaranty trust Bank Plc.	a	a	a

Zenith Bank Plc.	a	a	a
FCMB Bank Plc.	a	r	r
Diamond Bank Plc.	a	a	a
Unity Bank Plc.	a	r	r
First Bank Plc.	a	r	a
Wema Bank Plc.	a	a	a
Fidelity Bank Plc.	a	r	r
UBA	a	r	r
Union Bank Plc.	a	a	r
Sky Bank Plc.	a	a	r
Stanbic IBTC Bank Plc.	a	r	r
Standard chartered Bank Plc.	a	r	r
Access Bank Plc.	a	a	a
Starling Bank Plc.	a	r	a
City Bank Plc.	r	r	a
EcoBank Plc.	a	r	r
Enterprise bank	a	r	r
Mainstreet bank ltd	a	a	a
Keystone Bank Plc.	a	a	a

Source: Field Survey (2011)

a: means it does provide service

r: means does not provide service

3 ELECTRONIC BANKING ISSUES

This study on the evolution of electronic banking in Nigeria will not be complete without a proper analysis of the types of electronic delivery channels utilized by the commercial banks. To this extent,

the focus will be on the three main delivery channels namely ATM's, mobile banking and Internet banking. This information was basically gleaned from the commercial banks' web-sites and other brochures and pamphlets.

The findings in Table 1 indicate that ATM's are undoubtedly the most popular electronic delivery channel for banking services in Nigeria. In regards to mobile banking and Internet banking, though the Nigerian's banks are clearly making the necessary efforts to provide these services, they have not penetrated the Nigerian market in a big way as yet.

Survey on bank web sites in the USA had indicated that American banks were using the Web to reach opportunities in three different categories (Diniz(1998): These are:

- To market information.
- Deliver on-line banking products and services.
- Improve customer relationships.

In this context, it is also worth noting that interactivity in the bank web sites is an important factor for the success of internet- banking services.

To this extent, an evaluation of the Nigerian commercial banks web sites or homepages revealed that most of these banks are basically using the Web at the brochure level merely for promotional purposes. However, some of the banks, which offer Internet banking services are probably exploring a wider aspect of the opportunities and possibilities of the WWW.

Another possibility the Nigerian banks should consider in relation to the use of the Web may be the provision of Internet banking services via web phones, which may be cheaper than that via fixed line services.

Although it is evident that the electronic revolution has commenced in Nigeria, widespread electronic banking may still be several years away. A research conducted by rice Waterhouse Coopers on 40 to 50 senior executives of financial institutions based in Europe, North America and Asia Pacific had indicated that banks are not fully prepared for the 'paradigm quake' with the advent of information technology which is set to rock the banking industry. (Woherem, 2000). One of the main factors, which would be essential for the success of electronic banking, is setting up of the appropriate infrastructure. Once the infrastructure is in place then the commercial banks can start to push customers to accept the new delivery channels by ensuring that the necessary security measures are in place.

Next, even if the infrastructure were ready, the obvious question would be are the potential customers large enough to ensure a critical mass for the economic viability of providing the electronic banking services. If the critical mass criteria, is not fulfilled then the banks may not be able to profitably use these delivery channels. In the case of ATM's there is no doubt about the critical mass because almost every adult who has a bank account would have an ATM card and ATM's are available in every town, in every state in Nigeria. As far as Mobile banking is concerned, the existing fifty million fixed line telephone subscribers would imply that there is an adequate critical mass for mobile banking services.

In the case of internet banking there are at present more than 5,000,000 Internet account holders in Nigeria and this is assumed to imply at least 15 million effective Internet users in the country which is about 17.5% of the Nigerian population. Can this be considered as a sufficient critical mass for harnessing the new delivery channel? If the critical mass has not been reached, should the banks wait

until it has before offering their products and services through the new delivery channels or should the banks introduce the new delivery channels and persuade or push the customers to use them? These are questions that need to be answered in implementing electronic banking not only in Nigeria but also in any part of the world.

However, a research conducted by Cyber Dialogue had indicated that as at end of 1998 though the number of consumers banking online had grown to 6.3 million, 3.1 million US adults had also discontinued their use of online banking. More than 50% of those who had discontinued found the service too complicated or were dissatisfied with the level of customer service. This indicates that for successful implementation of electronic banking in Nigeria, providing banking products and services through the new delivery channels alone is not sufficient. The banks should in fact ensure that consumption of the services through these new delivery channels are simple, easy and of sufficiently high quality to ensure customer satisfaction in order to maintain their online customers. This is going to be all the more difficult because of the lack of personal touch in electronic banking.

Another problem associated with electronic banking is inadequate electricity power supply in Nigeria. Electricity supply is not regular because of the limitation of the machine that is supplying electricity to Nigeria's, which of course can be disruptive. What will happen to transactions, which are being processed when a power cut occurs? Thus, one infrastructure requirement that is essential from the outset is stable power supply, which is not a basic feature in most, less developed and developing countries including Nigeria.

In addition, to power stability is the issue of connectivity. In some countries the local internet service providers may not be very efficient in terms of connectivity. An article from Electronic Payments International in August 1996 reported that when America On Line (AOL) shut down for 19 hours on August 7th 1996, business users were unable to surf the net, send electronic mail and make online payments. To this extent, many information publishers complained of losing thousands of dollars in access fee and advertising revenues.

Thus, for the successful implementation of electronic banking in Nigeria or in any other part of the world, adequate legal and physical infrastructures are major prerequisites. Then, the customers must also be made to feel confident about the privacy and security issues associated with electronic banking. Finally, quality service would certainly be a very important determinant for the success of electronic banking.

3. RESEARCH METHODOLOGY

The data for the pilot study was collected by administering, the personal questionnaire method. Though the questionnaire covered various issues only some of the relevant findings are reported here. First, it presents a discussion of the progressive developments of electronic banking in Nigeria. Second, an analysis is made of the types of electronic delivery channels utilized by commercial banks. In this context, the Nigerian commercial banks' use of the World Wide Web (WWW) is also assessed. Third, some pertinent issues for the successful implementation of electronic banking are discussed. Fourth, the paper presents the findings of a questionnaire survey carried out to evaluate the Nigerian customers' perception of electronic banking services. Finally, the paper is concluded with a summary of the findings and a discussion of the limitations of the study

4 SURVEY FINDINGS ON CONSUMERS' PERCEPTION OF ELECTRONIC BANKING IN NIGERIA

The findings reported in this section are based on data collected for a pilot study on consumers' perception of electronic banking in Nigeria. The respondents for the pilot study primarily consisted of Bank's customers of state and federal government employees in Kano metropolitan, which is one of the largest commercial cities in Nigeria. The pilot study only involved sixty respondents but the final survey will be based on a sample of 600 bank customers. The data for the pilot study was collected by administering, the personal questionnaire method. Though the questionnaire covered various issues only some of the relevant findings are reported here.

One of the implications of electronic banking is that it should reduce the need to visit bank branches. In fact, the electronic banking delivery channels are often considered as potential substitutes for brick and mortar bank branches. However, contrary to expectations, the survey results indicated that 46.7% of the respondents visit their bank branch at least once every month.

Table 2: Frequency of Visits to Bank Branch

Number of Visits to Bank Branch Every Month	Frequency	Percentage (%)
Never	6	10
Once	28	46.7
Twice	12	20
Three or more	14	23.3
Total	60	100

Source: Field Survey (2011)

This would indicate that consumers of banking services in Nigeria still find it useful to visit their bank branches regularly every month to perform some banking transactions such as mortgage and loan repayments for which the automated payment systems are not very common. However, these customers also indicated that they frequently used the ATM's for other transactions such as cash withdrawals and funds transfer. To this extent, 63.3% of the bank customers indicated four or more visits to the ATM's every month

Table 3: Frequency of ATM Usage

Number of Usage per	Frequency	Percentage (%)
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Month		
Once	2	3.3
Twice	12	20
Thrice	8	13.3
Four or more	28	63.3
Total	60	100

Source: Field Survey (2011)

Furthermore, 90% of the sample respondents also indicated that they find human tellers important. This would indicate that bank customers in Nigeria do quite highly value the importance of the personal touch in banking services.

Table 4: Importance of Human tellers to Bank Customers

Importance of Human Tellers	Frequency	Percentage(%)
Very Important	12	20
Important	42	70
Not Important	6	10
Total	60	100

Source: Field Survey (2011)

In relation to the usage of the three main electronic delivery channels for banking services which have already been in existence in Nigeria, namely Automated Teller Machines, mobile banking and internet banking, the survey results indicated that ATM's are the most widely used electronic banking facility.

Table 5: Familiarity and Usage of Electronic Banking Channels

Delivery Channel	ATM's		Mobile banking		Internet banking	
	Frequency	%	Frequency	%	Frequency	%
Currently In Use	60	100	12	40	2	6.6

Not In Use	0	0	48	80	58	96.7
Total	60	100	60	100	60	100

Source: Field Survey (2011)

However, only 40% of the respondents were using mobile banking services and only 2 respondent accounting for 6.6 % of the respondents was familiar with Internet banking and personal finance management software.

Table6: Internet Availability at Home

Internet Access	Number of Respondents	Percentage(%)
Available	38	63.3
Not Available	22	36.7
Total	60	100

Source: Field Survey (2011)

Furthermore, 63.3% of the customers surveyed indicated that they had Internet access at home. This figure may represent an exaggeration of the national situation since the survey respondents are highly intellectuals, basically state and federal government employees, who are quite highly computer literate and hence may not be representative of the whole nation. However, the attitudes of this group might be indicative of future trends in the Nigerian population. Nevertheless, the findings also indicate positive potentials for the introduction of Internet banking in Nigeria.

Conclusion

Advances in information technology and telecommunications have certainly introduced new delivery channels for Nigeria commercial banks' products and services. These new delivery channels include automated teller machines (ATM's), mobile banking via the telecommunication channel, and internet banking based on proprietary software. Among these, the ATM's are the most widely accepted and highly utilized delivery channel. Internet banking has not been very successful in Nigeria, but Internet banking has been successful to some extent among corporate customers and high net worth individuals. However, the indications are that the internet banking has not realized its full potential in Nigeria.

The general survey findings are that, most Nigerian banking customers still patronize the bank branches and find interaction with human tellers as important. However, over 60% of the respondents have Internet access at home and these represents a positive indication for internet banking in the future.

The data for this study was primarily obtained from a pilot study on consumer perceptions of online banking products and services. Thus, the sample suffers from two limitations. First, the sample size of only sixty respondents and second the sample respondents who were mainly Bank's customers of state and federal government employees in Kano metropolitan. Despite these shortcomings the results compared quite well with that of a larger sample study carried out by Guaranty Truist Bank. Thus, the findings of this study are not seriously flawed by this limitation.

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