



EFFECTS OF INFORMATION AND COMMUNICATION TECHNOLOGY ON SERVICE DELIVERY TO CUSTOMERS OF COMMERCIAL BANKS IN MAIDUGURI METROPOLIS

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Abstract

Financial institutions through the means of electronic payment are catalyst that drives the economy of every nation in the world. The innovations of information and communication technology has paved way for customers of commercial banks to access their various financial transactions through the means of electronic payment media to ensure quick and prompt delivery of services. The study assessed the perception of bank customers on the effect of information and communication technology on service delivery in selected

INTRODUCTION

Information and communication technology generally involves technologies dedicated to information, collection, processing, storage and communication.

According to O'Brien (2002), an information system combines people, hardware, software data resources and communication networks to collect transform and distribute information in an organization. In addition, McCumber (2005) defines information system as a discrete set of information system as a discrete set of information resources organized for the collection,

banks, Maiduguri should ensure that ATMs and other metropolis, Borno they always put in electronic payment state, Nigeria. The enough money in to system so as to provide study assessed the their various ATMs to smooth and efficient effect of Automated avoid short of cash internet services to Teller Machine on during transaction so customers of transaction time. The as to overcome the commercial banks and findings of the study financial need of the also stake holders revealed that there are densely population of should invest more in positive significant the end users due to obtaining quality effect of Automated the insurgency ATMs so as to ensure Teller Machine on menace, Government improved transaction time, and the financial performance of the mobile banking on institutions should electronic payment transaction cost and provide infrastructural system that would computers on queue in facilities like power render easy, fast and the help desk. based on and electricity to convenient service the findings the study provide support for delivery to customers recommends that electronic banking of commercial banks. commercial banks equipments such as

recording, processing, maintenance, use, sharing, dissemination or disposition of information.

More so, Fiserv (2013), asserted that, adoption of mobile banking by financial institutions as far reaching effects in many aspects, this happens as a result of the short time it takes a customer to complete a transaction using mobile phone than walking to the bank to have payment affected. Also, according to Adeniran (2014), the study revealed that introduction of automated teller machine has lead to the development in the banking service delivery that intends to decongest the banking halls as customers can now go to any nearest ATM outfit to consummate their banking transactions.

Modern information and communication technology has played a critical part in the development of banking. These have greatly influenced banks' business and marketing strategies. With technologies new services and

efficient delivery channels have been established. Automated teller machine, mobile banking and computers in the help desk are examples of these delivery channels. Information and communication technology has also provided the banking industry with the effective ways to deal with the challenges the new economy poses (Nyapara, 2012).

Customers in recent time demand more than the traditional role of safe-keeping their money, rather they require their banks to meet financial obligation for e-payment services. However, most of these e-payment channels require customers to have an ATM debit card or mobile banking application to enable them perform banking transaction. Therefore, this research study analyzed the perception of bank customers on the effect of information and communication technology on service delivery in selected banks, in relation to three (3) electronic payments media such as Automated Teller Machine (ATM), Mobile Banking and effect of computers on queue in the help desk on whether it has ease banking transactions in respect to time, cost and queue in the help desk to customers of Commercial Banks in Maiduguri Metropolis, Borno State, Nigeria.

Objective of the Study

The main objective of the study is to assess the perception of bank customers on the effect of information and communication technology on service delivery in selected banks in Maiduguri Metropolis. The specific objectives is to; assess the effect of Automated Teller Machine (ATM) on customers transaction time;

Concept of Information and Communication Technology

Information and communication technology generally involves technologies dedicated to information, collection, processing, storage and communication. According to O'Brien (2002), an information system combines people, hardware, software data resources and communication networks to collect transform and distribute information in an organization. In addition, McCumber (2005) defines information system as a discrete set of information resources organized for the collection, recording, processing, maintenance, use, sharing, dissemination or disposition of information.

Information and communication technology is a field of work and study that includes technologies such as desktop and laptop computers,

software, peripherals and connection to the internet that are intended to fulfill information processing and communication functions (Statistics Canada, 2008). Another definition for information and communication comes from UNESCO, which states ICT is the combination of information technology with other related technologies, specifically communication technology (UNESCO, 2002). Thus ICT uses newest technologies to process and communicate information. The information technology revolution in the banking industry distribution channels began in the early 1970s, with the introduction of the credit cards, the ATMs and ATMs networks. This was followed by telephone banking, cable television banking in the 1980s and in the early 1990s (Giannakoudi, 1999).

In Nigeria, the earliest forms of electronic and communications technologies used by the banks were mainly office automation devices such as telephones, telex and facsimile to speed up and make more efficient the process of servicing clients. As competition intensified coupled with advancement in computer technology many banks in Nigeria are currently offering internet banking, ATM banking, tele-banking, mobile banking, personal computer banking and using various electronic cards to entrench one-branch philosophy in the country.

The introduction of information technology in service delivery has had a remarkable influence on growth of service delivery options and a profound effect on service marketing. The evolution of electronic banking such as internet banking from e-commerce has altered the nature of personal – customer banking relationship and many advantages over traditional banking delivery channels. This includes an increased customer base, cost-saving, mass customization and product innovation, marketing and communications, development of non-core business and the offering of services regardless of geographical area and time (Giannakoudi, 1999). There has been many studies identifying the key service quality factors in the traditional banking environment, where the interaction between employees and customers is the main communication channel (Jun and Cai, 2001).

The first classification in this categorization is based on who uses technology to deliver what service. That is, person-to person, where the employee uses technology or consumer to technology, such as the use of an

ATM. The next categorization looks at the location, where the service is delivered. For example, firms physical surroundings, homes or office using PC computers. The final categorization involves the ability to identify the various levels of contact the customer will have with service operations either directly (face-to-face) or indirectly (such as in the case of automated teller machine, mobile and point of sale terminals). In relation to banking, it can be identified that the service delivery components of ATM, mobile banking and responsiveness to computers in te help desk are representative for the three categories of technology-based service discussed. Furthermore, a number of marketing scholars identify these three delivery channels for retail banking (Joseph et al., 1999; Joseph and Stone, 2003). Electronic channels have many names in the literature such as innovative distribution channels, online banking, technology intensive delivery system or electronic delivery channels (Daniel, 1999).

Electronic channels can be described as methods of delivering service products using electronic media such as telephone, internet and ATM (Hway-Boon and Yu, 2003). Telephone banking provides services such as account balances, instruction to issue bank cheques, account payments. While ATM, the most frequently used electronic channel, allows customers to perform their main banking transactions, such as deposits and withdrawals, 24 hours a day (Davies, 1996). Furthermore, internet banking allows consumers to check account balances, conduct credit card payments / transfers, transfer funds and account payments (Jun and Cai, 2001).

Effect of Automated Teller Machine (ATM) on transaction time

Automated Teller Machine (ATM), Also known as automated banking machine (ABM) or Cash Machine and by several other names, is a computerized telecommunications device that provides the clients of a financial institution with access to financial transactions in a public space without the need for a cashier, human clerk or bank teller. 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 banks, and are also found at airports, mails, and places far away from the local branch 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 service, such as making deposits, funds transfer between two or more accounts and bill payments. Banks tend to utilize this electronic banking device, as all others for competitive advantage (Abor, 2005). Therefore, clients of banks freely make use of these devices to gain advantage of varieties of e-services products through the use of their debit cards at any location of their choice for ease and convenience in banking transactions.

On most modern ATMs, the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic smart card with a chip that contains a unique card number and some security information such as an expiration date. Authentication is provided by the customer entering a personal identification number (PIN). Using an ATM, customers can access their bank accounts in order to make cash withdrawals, credit card cash advances, and check their account balances as well as purchase prepaid cell phone credit. The major types of electronic cards in Nigeria include debit cards and credit cards. Debit cards are linked to bank customer accounts and offer immediate confirmation of payment while credit cards can be used for accessing local and international networks and were widely accepted in most countries, the underlying infrastructure and operational rules are often provided by global trusted service provider such as Visa and Master card, in addition to local lines. Debit cards are the dominant card mechanism in Nigeria.

ATMs have eliminated the need to enter a bank for basic transactions and allow access to accounts at machines throughout Nigeria as well as in other countries of the world. Financial institutions started charging fees to use their ATMs in the mid-1990s, making the transactions very profitable for the host banks. ATM is located in banks and customers convenience areas. This allows customers to drive up and complete financial transaction without ever leaving the safety of their belongings. ATM are interconnected to allow anyone with a bank card, debit card, or credit card

to have access anywhere in the world because each station is connected to an inter-bank network such as PULSE, PLUS, CIRRUS and LINK to mention but few.

In the banking industry, most bank customers are motivated by accuracy of records and timely service delivery they receive. This has not only made the banking industry sophisticated but dynamic and ultimately becoming complex in nature with the introduction and invention of the Automated Teller Machines (ATMs). Thus, many studies have investigated effect of the ATM payment system on service delivery to customers in the banking industry.

According to Adeniran (2014), the introduction of Automated Teller Machine (ATM) lead to the development in the banking service delivery that intends to decongest the banking halls as customers can now go to any nearest ATM outfit to consummate their banking transactions. Similarly, Idris (2014), is of the view that ATM among others was one of the services introduced by banks with the objective of providing customers quick access. He investigated the perceived use of customer satisfaction towards introduction of ATM in Nigerian banks.

Research Methodology

The study was carried out in selected Commercial Banks in Maiduguri metropolis, which is comprises of Jere, konduga, Mafa and Maiduguri the capital of Borno state, Nigeria. Maiduguri is a commercial center and was formerly the capital of the North Eastern sub-region of Nigeria before the state was created in 1976. It comprises 27 local government areas and kanuri is the largest ethnic group in this state, which is pluralistic in ethnic composition. Other indigenous ethnic groups include babur/Bura, Marghi, Shuwa-Arab, and Hausa/Fulani. A larger population of Igbos, Yorubas and other ethnic groups in Nigeria also live in Borno. Inhabitants of Borno are mostly farmers, traders and cattle herdsman. The state has a climate that is hot and dry for a greater part of the year. The area also boasts of a rich and diverse culture as well as a respected traditional institution headed by a traditional ruler known as the Shehu of Borno.

Primary source of data was used for this work, primary source are the customers of Commercial Banks within Maiduguri metropolis. The justification for adoption of this source of data is to obtain first-hand

information about the respondents' views of information and communication technology (ICT) on service delivery in selected commercial Banks.

For the purpose of this study, purposive sampling technique was used, whereby the 18 commercial banks were clustered in to 2 making nine ICT strong and nine ICT weak commercial banks. However, since the selection was based on the information and communication strength of the banks, then simple random sampling was employed to select four ICT stronger banks out of the nine information and communication technology strong commercial banks using lottery method.

Method of data collection for this study was survey method, which involved the use of structured questionnaire as an instrument to collect data from the respondent (customers), these enabled the researcher to obtain answer to the research question raised in chapter one. This questionnaire were arranged based on five (5) level likert scale, that is from strongly agree, agree, undecided, disagree and strongly disagree. The justification for the adoption of the structured questionnaire is to obtain responses from different respondent on how information and communication technology improve transaction towards their service delivery.

Table 4.1 shows the distribution of questionnaire

Name of bank	Number of customers	Number of questionnaire issued	Percentage %	Number of questionnaire not returned	Number of questionnaire returned	Percentage %
United bank for Africa	140	140	35	20	120	34
Guaranty trust bank	108	108	27	8	100	28
Diamond bank	89	89	22	13	76	21
Fidelity bank	62	62	16	2	60	17

Total	399	399	100	43	356	100
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Table 4.1.1 shows the distribution of questionnaire to each bank, 140 questionnaires were distributed to customers of United bank for Africa out of which 20 were returned. 108, 89 and 62 were administered to customers of GT bank, Diamond bank and Fidelity bank out of which 8, 13 and 2 were not returned respectively.

The number of questionnaire correctly filled and returned by customers of each bank is depicted in the table as follows;

Table 4.2 Shows the number of filled and returned questionnaire by bank customers.

Name of Bank	Number of questionnaires returned	Percentage (%)
United Bank for Africa	120	34
Guaranty trust Bank	100	28
Diamond Bank	76	21
Fidelity Bank	60	17
Total	356	100

Source; Survey,2017

Table 4.3 Demographic profile of respondents'

Sex	Frequency	Percentage (%)
Male	210	59
Female	146	41
Total	356	100
Age	Frequency	Percentage (%)
Not more than 18 years	58	16
18-30years	140	39
31-40years	102	29
41years and above	56	16
Total	356	100
Qualification	Frequency	Percentage (%)
No formal education	-	-
First school leaving certificate	9	3
GCE/WAEC/NECO/equivalent	60	17

OND/NCE/Certificate course	102	28
University degree/HND	135	38
Masters degree and above	50	14
Total	356	100

Source; Survey, 2017

Table 4.3 shows that 210 (59%) of the respondents were male and 146 (41%) were female. This implies that majority of the respondents that utilizes information and communication technology devices are male. Again 58 (16%) were more than 18 years, 140 (39%) fall between the ages of 18 to 30 years, 102 (29%) were between 31 to 40 and 56 (16%) were 41 years and above. This shows that majority of the respondents that utilizes information and communication technology devices are between the ages of 18 to 30 years. Also none of the respondents has not attended school, 9 (3%) of the respondents have first school leaving certificate, 60 (17%) of the respondents have GCE/WAEC/equivalent, 102(28%) have OND/NCE and certificates course, 135 (38%) were degree holders and HND holders and 50 (14%) of the respondents have degree and above. The inferences from the table revealed that majority of the respondents are degree and HND with 38%.

ATM and save of customers transaction times.

Statement	SA	A	U	D	SD	TOTAL
1.speed up transaction time through ATM	140 (39.3%)	96 (27%)	20 (5.6%)	50 (14%)	50 (14%)	356 (100%)
2.ATM reduce the number of customers visit to bank	142 (39.9%)	112 (31.5%)	63 (17.7%)	16 (4.5%)	23 (6.5%)	356 (100%)
3.ATM makes it possible for customers to	90 (25.3%)	162 (45.5%)	42 (11.8%)	37 (10.4%)	25 (7%)	356 (100%)
	100 (28.1%)	186 (52.2%)	36 (10.1)	34 (9.6)	- -	356 (100%)

withdraw from any bank close to them	145 (40.7%)	117 (32.9%)	43 (12.1)	32 (9%)	19 (5.3%)	356 (100%)
4.ATM service reduce the amount of cash a customer carries around.						
5.ATM card enable customers to effect transfer of money from one account to another						

Source; survey work,2017

Table 4.4 shows that 140(39.3%) strongly agree that ATM allow speed up of transaction and 96(27%) agreed that ATM has improved speed up of transaction, 20(5.6%) are undecided as to whether or not ATM has improved speed up completion of transaction 50(14%) disagreed that ATM has improved speed up completion of transaction, 50(14%) strongly disagreed that ATM has not made their transaction to complete on time. 142(39.9%) strongly agreed that ATM reduced number of customers visit to bank, 112(31.5%) agree that ATM reduced number of customers visit to bank, 63(17.7%) are undecided as to whether or not ATM has reduced number of customers visit to bank, 16(4.5%) disagreed that ATM has not reduced number of customers visit while 23(6.5%) strongly disagreed that ATM has not made any improvement to reduce customers visit to banks.. Also, 90(25.3%) strongly agreed that ATM makes it possible for customers to withdraw from any bank close to them, 162(45.5%) agreed that ATM makes it possible for customers to withdraw from any bank, 42(11.8%) are undecided on whether or not ATM makes it possible for them to withdraw from any bank, 37(10.4%) disagreed that ATM did not make it possible for customers to withdraw from any bank close to them.

Also 25(7%) strongly disagreed that ATM did not make it possible for them to withdraw from any bank close to them.. Furthermore, 100(28.1%) strongly agreed that ATM services reduced the amount of cash a customer carries around, 186(52.2%) agreed that ATM services reduced the amount of cash a customer carries around, 36(10.1%) are undecided has to whether ATM service reduced the amount of cash a customer carries, 34(9.6%) disagreed that ATM services has not reduced the amount of cash a customer carries around knowing he has access to money any time the need arises. So, aslo 145(40.7%) strongly agreed that ATM card enable customers to effect transfer of money from one account to another, 117(32.9%) agreed that ATM card enable customers to effect transfer of money to various account, 43(12.1%) are undecided has to whether or not ATM card enable customers to effect transfer of money from one account to another, 32(9%) disagreed that ATM card did not enable customers to effect transfer of money from one account to another while 19(5.3%) strongly disagreed that ATM card did not enable customers to effect transfer of money from one account to another. The inference from the table revealed that majority of the respondents agreed that ATM has improved speed up of completion of transaction especially withdrawal even outside the country where the bank does not have a branch, ATM has reduced number of clients visit to banks, ATM makes it possible for them to withdraw from any bank close to them, ATM services reduced the amount of cash a customer carries around knowing fully he has access to money any time the need arises and ATM card enable customers to effect transfer of money from one account to another.

Summary

The hypothesis test form the basis of the discussion in this study and the observed regression values have shown that there is a positive significant effect between the dependent and independent variable. Therefore, perception of bank customers on the effect of Information and Communication Technology has significant effect on service delivery in selected Commercial banks in Maiduguri Metropolis, Borno State, Nigeria.

Recommendation

Stake holders should invest more in obtaining quality ATM so as to ensure improved performance of their electronic payment system that would

render easy, fast and convenient service delivery to customers of banks. Government and the financial institutions should provide infrastructural facilities like power and electricity to provide support for electronic payment equipments such as ATM and other electronic payment system so as to provide smooth and efficient internet services to customers of commercial banks. Provision of adequate infrastructures and equipments should be made available to end users as merchants seem to be having problems deploying them to efficient service delivery. The regulatory authority (CBN) needs to be proactive in addressing the security, technology and infrastructural challenges associated with electronic transactions and ensure 24 hours uninterrupted network system in order to enable clients of commercial banks have improved quality of service.

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