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STUDIES ON E-TRANSACTION USING THE TECHNOLOGY OF AUTOMATIC TELLER MACHINE BY BANK CUSTOMERS IN NORTH WEST GEOGRAPHICAL ZONE OF NIGERIA

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ABSTRACT
E-transaction is becoming prominent in banking operations in Nigeria with more Banks adopting this technology, in order to provide the growing population of customers with fast, accessible reliable and quality services; this paper analyses the attitude of customers toward the deployment and usage of Automatic Teller Machines (ATMs) in Kano, Katsina and Jigawa States of Nigeria. Questionnaire survey was used to collect information from the respondents the data was analyzed using descriptive statistical techniques. The study revealed that the level of adoption of this technology is high among the middle aged respondents compared to the aged. By enhancing the deployment of proprietary hardware, software and communication protocol platform of adequate quality greater number of people might use ATMs because of the convenience and accessibility offered by the usage of this new technology.

Keywords: Automatic Teller Machine, E-transaction, Customers, Bank, Nigeria

INTRODUCTION

Information Technology (IT) is a remarkable force that propels the world towards converging commonality. Research has shown that IT affects financial institutions positively by easing enquiry, saving time and improving service delivery; see Idowu *et al* (2002). Existing telecommunication and IT tools which are presently being used in the banking industries in Nigeria are telephone, very small aperture terminal satellite (VSAT), wireless radiophone, computer system , Wide Area Network , Local Area Network and Electronic File Transfer (Alu, 2000 and Idowu *et al* 2002). Banks in Nigeria has come to realized that one way in which they can offer excellent services is through the use of information technology hence the quality services in Banks are associated with the possession of an online real time system.

There is a growing rate of adopting new technologies in Nigerian Banking operation. Automatic Teller Machine (ATM) as a banking instrument was introduced in Nigeria in 2006. The first electronic ATM was developed by De la Rue in 1967 in United Kingdom. An automatic teller machine is a computerized telecommunication device that provides the customer of a financial institution with access to financial transaction without the need for a human clerk or bank teller (Wikipedia, 2009). ATMs are installed not only near or inside banks premises, but also in locations such as shopping centers, airports, restaurants, universities or any place where large concentration of people can be found. There are two types of ATM installation; these are on and off premises (Wikipedia, 2009). The on premise is more advanced, multifunction machines that complement an actual bank branch's capabilities. Off premise machines are deployed where there is usually just need for cash, they are mono-function devices. Customers can access their bank accounts in order to make cash withdrawals and check account balances as well as purchasing mobile cell phone prepaid credit card. The customer is identified by inserting a plastic ATM card with a magnetic strip or a plastic smartcard with a chip that contains a unique number and some security information. Security is provided by the customer entering a personal identification number (PIN).

In Nigeria most ATMs are connected to interbank by InterSwitch network. InterSwitch is a leading financial solution provider and presently has an online real-time integration to 23 out of 25 banks in Nigeria This infrastructure allows almost all of the country's banks to share ATM and point of sale system, these enable customers to withdraw from machine not necessarily belonging to the bank where there account resides. ATMs rely on authorization of a financial transaction by the card issuer or other authorizing institution via the communications networks usually performed through the International Organisation for Standardisation, (ISO) messaging system. The introduction of ATM was applauded by several customers as a suitable substitute to the frustrating queues that portray the country's banking hall. A queue is an orderly line of object. Research has shown that queuing for service is most unpleasant experience, see Abdulwahab *et al* (2000). ATMs technology enable customers to access their funds 24 hours, which is beyond the traditional hours of banking operations. The present study therefore was aimed at accentuating in the attitude of consumers toward the deployment and usage of ATM in Kano, Katsina and Jigawa states in the North West Geographical zone of Nigeria.

MATERIALS AND METHOD

(a) Design of survey instrument

A structured questionnaire was administered to gather information from the respondents. There are two sections in the questionnaire. Section A was used to collect demographic characteristics of the respondents. In section B, a set of 13 items was used in the questionnaire using the following dimension (see appendix 1).

(i) Evaluation of usage of ATM by the respondents (is represented by 1 and 3)

(ii) Evaluation of Accessibility of ATM by the respondents (is represented by 5 and 6)

(iii) Evaluation of awareness of additional value offered by ATMs (is represented by 7, 8 and 12)

(iv) Adoption of ATM by the respondents (is represented by 2 and 10)

(V) Perceived problems of Adopting ATM (is represented by 9, 4 and 11)

(VI) Responses to complaints made by the respondent (is represented by 13)

The respondents were asked to rank their opinion about each item using a three points rating scale, see Abdulwahab (2009). The ratings used was 'yes', 'no' and 'neutral'.

(b) Survey population

The study was conducted in Kano city, Katsina, and Dutse town, the capital cities of Kano, Katsina and Jigawa states in North West Geographical zone of Nigeria. The technique of Purposive sampling was used to obtain the desired information from the respondents (Ahmed, 2008). The researcher administered a total of 140 questionnaires out of which 103 were returned (a response rate of 74%)

(c) Data analysis

Microsoft excel (statistical package) application software was used for the analysis of data using descriptive statistical techniques.

RESULTS

Table 1, Presents the Socio Demographic characteristics of the respondents, majority of the respondents 83(83.5%) are male. Most of the respondents 88(85.5%) age range from 21-50 years. A good number of respondents 73(70.9%) are highly literate having attended tertiary institutions. Furthermore a significant number of the respondents are civil servant 68(66.0%). The usage of ATM as a banking tools was symbolised by 100(97.1%) of the respondents and 72(69.9%) can operate the machine with ease (Table 2). The accessibility of ATM by the respondents for the purpose of performing banking transaction on 24 hours basis was 68(66.0%) with mobility of cashing at any ATM location 75(72.8%) as indicated in Table 3. Awareness of additional value offered by usage of ATM apart from balance inquiry and cash withdrawal, 74(71.8%) of the respondent are aware of using ATM for purchase of GSM prepaid credit, 28(27.2%) knew that utility post paid bills can be settle using ATM and 38(36.9%) are aware of fund transfer from one account to the other can be accomplished using ATM (Table 4). Majority of the respondent are comfortable with the usage of ATM 85(82.5%) and affordability of transaction charges 55(53.4%) as shown in (Table 5). Three factors were identified as problems encountered by the respondents on the usage of ATM. The reliability of the network at all the time 47(45.6%), ATM card withholding was 38(36.9%) and debiting of customers account

Without issuing physical fund 39(37.9%). The problems enumerated occur almost on daily basis. Hence the need for customer's complaint became apparent, in Table 7, entertainments of customers complaint was 58(56.3%).

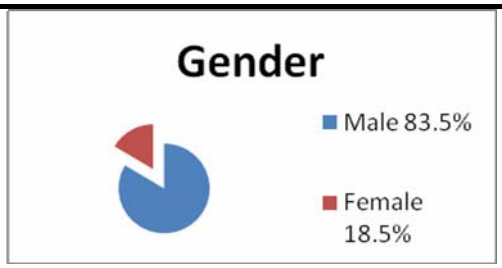

Fig. 1. The gender of the respondents

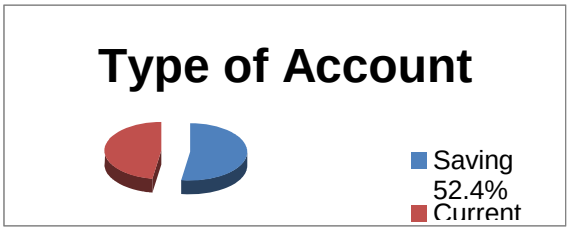

Fig. 2. The types of Account use

Table 1: Demographic Characteristics of the respondents

Age Class				
15-20	13	12.6	12.6	
21-40	53	51.5	64.1	
41-50	35	34.0	98.1	
51-60	2	1.9	100	
> 60	-	-		
Total	103	100.0		21-40

Table 1 continue

Educational Level				
Primary	-	-	-	
Secondary	27	26.2	26.2	
Tertiary	73	70.9	97.1	
Others	3	2.9	100	
Total	103	100.0		Tertiary
Occupation				
Student	28	27.2	27.2	
Civil Servant	68	66.0	93.2	
Business	5	4.9	98.1	
Others	2	1.9	100	
Total	103	100.0		Civil Servant

Sources: Field Survey (2009)

Table 2: Evaluation of Usage of ATM by the respondents

	Frequency	Percentage (%)	Cumulative (%)
Do you used Automatic Teller Machine for your banking Transaction?			
Yes	100	97.1	97.1
No	3	2.9	100
Neutral	0	0.0	
Total	**103**	**100.0**	
Can you operate ATM with ease?			
Yes	72	69.9	69.9
No	28	27.2	97.1
Neutral	3	2.9	100
Total	**103**	**100.0**	

Sources: Field Survey (2009)

Table 3: Evaluation of Accessibility of ATM by the respondents

	Frequency	Percentage (%)	Cumulative (%)
Did Automatic Teller Machine enable you perform transaction for 24 hours?			
Yes	68	66.0	66.0
No	28	27.2	93.2
Neutral	7	6.8	100
Total	**103**	**100.0**	
Can you access Automatic Teller Machine at any location?			
Yes	75	72.8	72.8
No	22	21.4	94.2
Neutral	6	5.8	100
Total	**103**	**100.0**	

Sources: Field Survey (2009)

Table 4: Evaluation of Awareness of Additional Value of ATM by the respondents

	Frequency	Percentage (%)	Cumulative (%)
Are you aware of recharging GSM phone through Automatic Teller Machine?			
Yes	74	71.8	71.8
No	21	20.4	92.2
Neutral	8	7.8	100
Total	**103**	**100.0**	
Are you aware of settlement of utility bills through ATM?			
Yes	28	27.2	27.2
No	66	64.1	91.3
Neutral	9	8.7	100
Total	**103**	**100.0**	
Are you aware of making fund transfer through ATM?			
Yes	38	36.9	36.9
No	56	54.4	91.3
Neutral	9	8.7	100
Total	**103**	**100.0**	

Sources: Field Survey (2009

Table 5: Adoption of ATM by the respondents

	Are you comfortable with ATM Usage for Banking Transaction?		
	Frequency	**Percentage (%)**	**Cumulative (%)**
Yes	85	82.5	82.5
No	15	14.6	97.1
Neutral	3	2.9	100
Total	**103**	**100.0**	
	Is Automatic Teller Machine transaction charges Affordable?		
Yes	55	53.4	53.4
No	38	36.9	90.3
Neutral	10	9.7	100
Total	**103**	**100.0**	

Sources: Field Survey (2009

Table 6: Perceived problems of Adopting the Usage of ATM

	Is Automatic Teller Machine Network reliable?		
	Frequency	**Percentage (%)**	**Cumulative (%)**
Yes	47	45.6	45.6
No	47	45.6	91.2
Neutral	9	8.8	100
Total	**103**	**100.0**	
	Did your Automatic Teller Machine card ever get trap during Transaction?		
Yes	38	36.9	36.9
No	60	58.3	95.2
Neutral	5	4.8	100
Total	**103**	**100.0**	
	Did ATM ever debit your account with out issuing out physical cash?		
Yes	39	37.9	37.9
No	56	54.4	92.3
Neutral	8	7.7	100
Total	**103**	**100.0**	

Sources: Field Survey (2009)

Table 7: Responses to Customers' Complaints

	Is your complaint attended to promptly?		
	Frequency	**Percentage (%)**	**Cumulative (%)**
Yes	58	56.3	56.3
No	30	29.1	85.4
Neutral	15	14.6	100
Total	**103**	**100.0**	

Sources: Field Survey (2009

DISCUSSION

The finding has shown that majority of the respondents are adult and civil servants whose sources of income largely depend on monthly salary. This class of people uses ATM frequently due to advantages of accessibility and convenience of the services offered. The results agree with Rogers *et al* (1996), who reported that the majority of ATM usage was by middle age compared to the aged. The results further support Alexandra (2004) who reported that reasons for older people less usage of ATM might be as a result of being less active outside their homes and planning their expenditure for longer period than the middle age. The accessibility of ATM saves resources for the banks in terms of man hour and enables customers to perform banking transaction regardless of where customer's account reside (Table 3). Some customers' are largely unaware of additional values associated with the usage of ATM (Table 4). A major problem allied with the usage of ATM is pervasiveness of network and cash trapping. These are attributed to poor network and unavailability of funds from customer's accounts of residence. One of the security measure employed for the safeguarding of customer's account was to withhold the ATM card whenever the integrity of Personal Information Number is violated, normally three attempts are allowed given an intruder a 0.06% chances to get the correct PIN before the card is withheld, see (Kuhn, 1997).

Despite the challenges enumerated majority of respondents are comfortable with the usage of Automatic Teller Machine and Transaction charges (Table 5). Dispatching customer complaint with expediency is vital for success of any business, majority of respondents showed that there complaint is attendant to promptly.

CONCLUSION AND RECOMMENDATIONS

In this study the effect of implementation of the technology of Automatic Teller Machine, among the customer' of banks in the North West Geographical Zone of Nigeria was examined. The study revealed that middle aged use Automatic Teller Machine more frequently than the aged the implication of these is that age is considered the most important factor that predict ATM adoption. The most frequent activities in the usage were account inquiry and cash withdrawal in addition a significant number of respondents were unaware of additional values offered by the utilization of Automatic Teller Machines.

Concrete policy guidelines concerning the design of ATM by the service providers that might increase use by older people, including those with possible cognitive problems thereby improving readability of the information of ATM interface should be look into. Provision of Technology of adequate quality in terms of hardware, software and communication protocol platforms by the Banks, that can actual provide protection to the depositors fund and enhancement of Network has become imperative; in addition security of ATM cards that is not vulnerable to cloning by fraudster should be addressed. These would provide confidence to the depositors. Should these problems be resolved a greater number of people might use Automatic teller machines.

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Appendix I

Dear Respondent

This questionnaire is designed for research work on the usage of Banks Automatic Teller Machine (ATM). Please tick appropriate column below. All information will be treated confidentially and the information in this questionnaire is for the purpose of research work only.

Please tick [ ] or fill where appropriate.

Section A

1. Gender (A). MALE [ ] (B). FEMALE [ ]
2. AGE (A). 15-20[ ] (B). 21- 40 [ ] (C). 41 – 50 [ ] (D). 51- 60[ ] (E). ABOVE 60 [ ]
3. QUALIFICATION (A). PRIMARY [ ] (B).SECONDARY [ ] (C).TERTIARY [ ] (D). OTHERS[ ]
4. OCCUPATION (A). STUDENT [ ] (B).CIVIL SERVANT [ ] (C).BUSINESS [ ] (D). OTHERS[ ]
5. TYPES OF ACCOUNT A). SAVINGS[ ] (B).CURRENT [ ] (C).OTHERS [ ]

Section B

S/N	Attitude Statement	Yes	No	Neutral
1.	Do you use Automatic Teller Machine for your banking transaction?			
2.	Are you comfortable with ATM Usage?			
3.	Can you operate Automatic Teller Machine with ease?			
4.	Did your ATM card ever get trapped during transaction?			
5.	Did ATM enable you perform transaction for 24- hours?			
6.	Can you access Automatic Teller Machine at any location?			
7.	Are you aware of recharging GSM phone through ATM?			
8.	Are you aware of settlement of utility bills through ATM?			
9.	Is Automatic Teller Machine Network reliable?			
10.	Is Automatic Teller Machine transactions charges affordable?			
11.	Did ATM ever debit your account without issuing physical cash?			
12.	Are you aware of making fund transfer through ATM?			
13.	Is your complaint attended to promptly?			