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AN APPRAISAL OF AUTOMATED TELLER MACHINE (ATM)) IN THE BANKING SECTOR IN NIGER STATE

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ABSTRACT
The study examines the advantages and disadvantages of Automated Teller Machine (ATM) in the banking sector. ATM is one of the technological advancements in the banking industry that brings about more confidence, easy and time saving in banks services. Its introduction had significantly reduced queues in the bank and improve service delivery and efficiency, despites its shortcomings. The study adopts the Pearson product moment correlation coefficient in analyzing the data and testing the hypotheses. The study shows that though ATM brings about smooth bank service delivery, it poses some untold hardship and other problems to the customers. It is therefore, recommended that government through the Central Bank of Nigeria should set up a regulating body to look into the cases of ATM fraud and irregularities related to its operation.
KEYWORDS: Customers difficulties, Bank services, ATM, Bank fraud.

1. INTRODUCTION

1.1 An overview of the benefits and costs of atm.

The use of computerized technological device in our day to day activities virtually in all facets of our lives can never be over-emphasized. Now, computer has gradually become parts of human lives and potency. The ATM (Automated Teller Machine) as it is called, is a computerized technological device built and programmed that is capable of accepting in cheques (paper bills) and accurately paying (dispensing) cash to customers, at the push of buttons with the right and acceptable commands. This magic device called ATM is installed, monitored and regulated by banks. Most ATM machines are installed within the bank premises while in some cases, they are strategically positioned in locations like supermarkets, club houses, eatery houses and cities markets, all with the aim of creating easy access for valid customers to their money anytime, anywhere, any day, provided the link is available.At the issuance of A TM card, which is built with security features, customers are advised to activate the card (change the pin) before use. It is at this point that the customer, for the first time replaces the initial pin that came with the card, to his/her desired personal and confidential number for security purposes.

In recent times, the demand for ATM card has raised tremendously, the reasons not being far-fetched. Customers never likes wasting time in banks as a result of queue. Another is the amount charged for minimal withdrawals on the counter. And the ultimate reason could be that the card affords the customer not carrying bulk cash around. Like most business moguls transacting across states would lodge in cash in a particular bank, but could withdraw from any other place courtesy of inter switch and inter banking services. Even on weekends when banks are not open for transaction, the ATM is there to serve the customer. But, apart from the comfort, convenience and stress-free financial transactions which the ATM provides, customers have encountered series of challenges ranging from loss of card, card damage, unauthorized withdrawals traceable to either the perpetrator or someone very close to the victim or fraudsters. Even at that, most cases are not traceable and the victim is left to his/her fate. Reports have shown clearly that banks lose millions to fraudsters, though a recent survey indicates a decrease. And apart from the issue of fraudsters, customer get frustrated whenever there is network problem. And even if you have the card with you and the ATM is there, you cannot transact business due to network problems.

Often times, network problem have kept customers in doubt about the performance and credibility of their banks. The moment network is either out completely or fluctuating, customers are advised not to make use of the ATM to avoid messages such as; unable to complete, your financial institutions is not available, temporarily unable to dispense cash, or your

transaction has being declined by your financial institution and your card retained, and/or other reasons. After examining thoroughly the challenges the uses of ATM poses, it is obvious that almost all of these challenges could be overcome. For instance, banks should provide security in and around the ATM positions to capture any fraudster using the ATM with suspicious looks, like using darken glasses, making phone calls while using the ATM or spending more time than usual and trying numbers serially. Another thing is, if the banks can upgrade their network, there will be no network failure, even if it occurs, it will be minimal. And the ATM users should be properly informed on how their cards, pins should be guarded.

1.2 Statement of hypothesis

Ho: There is possibility that the use of ATM does not improve service delivery of banks in Niger State.
Ho: There is possibility that ATM does not give customers satisfaction in Niger State

2. THEORITICAL ISSUES

2.1 Historical development of atm

The Automated teller machine (ATM) is an unattached electronic machine in a public place connected to the data system and related equipment and activities by bank customer to obtain cash withdrawals and other banks. The automated teller machine was introduced into the banking system to solve the problems associated with late night (or) banking hour's withdrawal of money. In (1939) Luther George Simijiam patented an early and not so-successful prototype of an ATM, some experts have the opinion that James Good fellow of Scotland holds the earliest patent date of 1966 for the modem ATM and John D. Whyte in the U.S is often credited with investing the first free standing ATM designed. According to Lemelsomit, Luther Simijian came up with the idea of creating a hole-in-the- well machine that could allow customers to make financial transaction and starting in (1989), he registered 20 patents related to the invention and field tested it in what is known as Citicorp. The world's first ATM was installed in a branch of Barclays in entitled, Middlesex, united kingdom in (1967). A mechanical cash disposal was built and developed when Luther George Simijan and installed (1939) in New York City by the bank of New York and was removed after 6months because of the lack of customer acceptance therefore, the history of ATM paused after 25years, until Dela Rue developed the first electronic ATM, which was installed in North London on (27th June 1989) by Barclay Banks. In Nigeria, the ATM was introduced in 1981 by the Defunct Societe Generale Bank, in October,(2003) inter-switch ATM system took up since then ATM appear to have spread their tentacles across Nigeria

2.2 The advantages of atm in the banking sector

ATM as per say is a machine that dispense money which aid easier transaction of banking business. The advantages that accrued the use of ATM in banking sector include the followings:

1. It is faster to customers: Customers prefer withdrawing through ATM because it does not waste time and fast in dispensing money.
2. It saved time: The time which could have been wasted in queuing up, is eliminated.
3. It reduces queue among customers in the banking premises.
4. It gives room to secrecy because no one will know the amount customers have withdrawn.
5. It brings more earnings to bank because of bank charges both to customer because of bank branching.

2.3 Conceptual framework

Automated teller machine (ATM) is a computerized machine that permits bank customers to gain access to their accounts with a magnetically encoded plastic card number and some security information such as expiration date and also customer provides (or) enters a personal identification number (PIN) or code number in the ATM. It enables customers to perform several banking operation in bank premises and public places without the help of a bank teller Prayer (1999) defined ATM as a electronic device that when activate, by a cardholder through the use of a magnetic stripe on a plastic card, is capable of automatically dispensing legal currency. Fraud according to Honney (1975) is defined as an action or an instance of deceiving somebody in order to make or obtain benefit illegally. It can also be view as cheating, embezzlement of some money or property.

Fraud according to Agu (1999) is defined as a person's use of any fraudulent means or device to obtain benefit. Therefore customers due complain about ATM and fraud, that arises as a result of undue exposure to A TM personal data that is PIN and card serial number, desperate staff in the bank that are eager to make money, quick cash by using by using information or some customers and made collection of transaction from the ATM. Sometimes malfunction of ATM may also lead to depensing money which one or more customers will fall the victim. Something of those nature have been witnessed by some who went into the bank only to withdraw N2000, N3000 through ATM, but at the end goes away with N10,000 which does not reflect to the rest of the money in his account. Fluctuation in network is poor, it affects the mode of dispensable money which some individual can withdraw money and it would not affect their account.

2.4 Challenges facing the operation of atm in nigeria banking sector

A lot of challenges are facing effective and efficient operation of ATM in the banking sector, such challenges are:

Fraud: According to Honney (1975) fraud is defined as an action or an instance of deceiving somebody in order to make money or obtain goods illegally. It can also be viewed as cheating, embezzlement of someone's money or property. When an individual uses a fraudulent means or device to obtain, it challenges the effective operation of ATM. Advancement in information & technology: Advancement In information & technology will also challenge the operation of ATM card. Electricity problem: in Nigeria today, the issue of Power Holding Company of Nigeria (PHCN) withdrawing their light often become a culture. 4. Issues of insecurity of ATM in the banking sector: The provision of security to all ATM that are mounted within and outside the banking premises are means to ensure the safety of the customer's money withdrawal. The cost of maintaining ATM by banks in other to cope with the competition in the banking sector. To this effect, not every bank or its branch can maintain ATM. Lack of secrecy of customer's private information such as Personal Identification Number (PIN) among bank staff.

3. METHODOLOGY

This encompasses the design adopted in conducting this research, source of information and method of analysis.

3.1 Research design and source of data

The research design for this work is that of survey through Personal Interview (PI) and Focus Group Discussion (FGD) as means of data collection.

3.2 Sampling techniques and method of analysis

A total of one hundred Automated Teller Machine operators drawn from the local government areas selected in State where interviewed. The implication of this is that twenty five ATM users were interviewed from each local government.

At the testing stage of this work, the Pearson product moment correlation coefficient was employed as the main analytical tool to test the hypothesis.

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n(\Sigma x^2) - (\Sigma x)^2][n(\Sigma y^2) - (\Sigma y)^2}}$$

Where n= number of sample.

y = positive responses

x = negative responses

r = Correlation coefficient that lies between -1 and +

4. EMPIRICAL STUDIES AND RESULT

4.1 Data presentation

The information obtained from the field are presented and analysed for decision making.

4.1.1 Research question one

Does the use of ATM improve service delivery of banks in Niger State?

4.1.2 Research question two

Does the use of ATM give customers satisfaction in Niger State

L.G.A	COMMUNITY	RESPONDENT	POSITIVE RESPONSES (Y)	NEGATIVE RESPONSES (X)
Bosso	Bosso	5	4	1
	Maikunkele	5	3	2
	Beji	5	2	3
	Tudun Fulani	5	1	4
	Kodo	5	5	0
Rafi	Tegina	5	5	0
	Kagara	5	4	1
	Pandogari	5	3	2
	Kwana	5	4	1
	Kundu	5	5	0
Kontagora	Beri	5	2	3
	Mariga	5	4	1
	Tudun-wada	5	3	2
	Sabon-gari	5	5	0
	Marraraba	5	2	3
Chanchaga	Tunga	5	2	3
	Okada road	5	3	2
	Paida	5	4	1
	Shango	5	5	0
	Ugw Sarki	5	4	1
		100	70	30

4.2 Data analysis

Y	X	XY	X^2	Y^2
4	1	4	1	1016
3	2	6	4	9
2	3	6	9	4
1	4	4	16	1
5	0	0	0	25
5	0	0	0	25
4	1	6	1	16
3	2	4	4	9
4	1	6	1	16
5	0	0	0	25
2	3	6	9	4
4	1	4	1	16
3	2	6	4	9
5	0	0	0	25

2	3	6	9	4
2	3	6	9	4
3	2	6	4	9
4	1	4	1	16
5	0	0	0	25
4	1	4	1	16
70	**30**	**76**	**74**	**274**

4.3 Hypothesis testing

To check for the validity and reliability of the relationship of the use of ATM and customers satisfaction. We test for significance by employing the T-test

$t = \sqrt[r]{\frac{N-2}{1-r^2}}$

This has a t- distribution with n-2 degree of freedom

$t = \sqrt[-1]{\frac{20-2}{1-(-1)^2}}$

$t = \sqrt[-1]{\frac{18}{1-1}}$

$t = \sqrt[-1]{\frac{18}{0}}$

t = -1

Critical value

At $\alpha = 0.05$; t,- $\alpha/2$; n-2

=t,-0.05/ 2; 20-2 = t0.975; 18=2.10

The decision criteria is that the null hypothesis should be rejected, if t-computed is greater than its critical value, otherwise it should be accepted. Thus, the critical value of t (t-tab=2.10) is greater than the computed t-value (t-cal= -1) at 0.05 level of significant. In view of this we accept the null hypothesis and conclude that there is no significant relationship between the use of ATM and customers satisfaction. Note: The negative value of r shows a negative relationship between the use of ATM and customers satisfaction.

5. DISCUSSION OF FINDINGS

The findings of the research show that government has aided the success of the banking sector, and the use of ATM through the CBN. For example, the migration from magnetic stripe protected ATM card to chip-card. Despite the above efforts by the monetary authority and the federal government to enhance the smooth operation of the ATM, some untold challenges are still encountered by the users and operators of the ATM in Niger State.

5.1 Recommendations

In considering the numerous problem encountered by the public in the use of ATM in the banking sector, it is recommended that the government through the CBN should set up regulatory body to look into the cases of ATM fraud, and check or monitor the activities of banks and their customers in order to minimize ATM fraud rate. Also, bank staff who involved in ATM fraud should be reported and as well be prosecuted. Again, the customer personal data (PIN and card serial number) should be protected to avoid undue exposure which can lead to fraud.

Finally, below are some of the recommendations

Regulatory authorities to monitor ATM fraud should be put in place by the CBN and the government.

Stand by staff should be trained on how to service and maintain the ATM.

The case of network fluctuation should be minimized.

The customers Personal Identification Number (PIN) should be secured to avoid fraudulent withdrawal of money from a customer's account. Banks should educate their customers on how to use ATM. The government should try and provide facilities in order to booster ATM performance.

5.2 Conclusion

Though, the study investigates and concludes that the use of ATM leads to smooth and quick service delivery in the Nigerian bank s operating in Niger State and assist to a greater extent, the numerous bank customers in their daily cash withdrawal. Nevertheless, the ATM possess some untold hardship such as fluctuation and inconsistencies in it usage, couple with seizure of cards by the machines and exposure of cards to theft and damages. This is in conformity with the negativity in the calculated value of r (correlation coefficient).

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Correlations

Descriptive Statistics

	Mean	Std. Deviation	N
VAR00003	3.5000	1.23544	20
VAR00004	1.5000	1.23544	20

Correlations

		VAR00003	VAR00004
VAR00003	Pearson Correlation	1	-1.000**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	29.000	-29.000
	Covariance	1.526	-1.526
	N	20	20
VAR00004	Pearson Correlation	-1.000**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	-29.000	29.000
	Covariance	-1.526	1.526
	N	20	20

*** Correlation is significant at the 0.01 level (2-tailed).*