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## AN EMPIRICAL STUDY OF AUTOMATED TELLER MACHINE (ATM) AND USER SATISFACTION IN NIGERIA: A STUDY OF UNITED BANK FOR AFRICA IN SOKOTO METROPOLIS

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**ABSTRACT:** The Nigerian Banking sector over the years has been experiencing significant changes and development in its Information and Communication Technology. Among the development is the introduction of Automated Teller Machine (ATM) that intends to decongest the banking halls as customers now can go to any nearest ATM outfit to consummate their banking transactions such as: cash withdrawal, cash deposit, bill payments, and transfer of fund between accounts. The purpose of this paper was to measure the satisfaction of customers as regards to ATM services. The research was carried through across-sectional survey design which questioned respondents on ATM services. The population of study mainly constituted of customers of United Bank for Africa within Sokoto metropolis. The sample in this study consisted of 100 respondents who are users of the ATM services. The data collected was analyzed by use of multiple logistic regression analysis. The findings revealed that, the impact of ATM services in terms of their perceived ease of use, transaction cost and service security is positive and significant. However, the result also indicates that the impact of ATM services in terms of availability of money is positive but insignificant.

**KEYWORDS:** Technology, Automated Teller Machine and Satisfaction

## **INTRODUCTION**

The distribution of banking services can be understood as the place and means by which the bank services are offered to customers. In general, banks try to create a diversified distribution strategy in order to market the range of their services, offering customers several ways through which they can benefit from the bank services. The two main factors that led to the use of multiple distribution channels by banks are: (1) major changes in the banking sector by growing competition, increasing pressure from competitors and (ii) changing customers' preferences. As

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a result, the banks then resorted to compete over price, and now the emphasis is on differentiation by distribution channels used (Mobarek, 2007)

Zhu, Scheuermann & Babineauz (2004) postulate that distribution channels used by banks can be divided into two main groups: in the first category are included those channels which typically involve "personal contact with the consumer" – territorial units, and in the second category are included those "channels which may either interact directly with the consumer, by non-personal means, or operate through various intermediaries to traditional distribution methods (network of territorial units). To meet better market requirements in terms of speed and efficiency of services, banks have adopted an interactive electronic and computerized system for clients: banking services via network of Automated Teller Machines (ATMs). According to Komal (2009) the study establishes that ATM services enhance operations and customer satisfaction in terms of flexibility of time, add value in terms of speedy handling of voluminous transactions which traditional services were unable to handle efficiently and expediently. The machine can enable customers to deposit and withdraw cash at more convenient time and places than during banking hours at branch (Muhammad 2010).

When it was first introduced, the ATM was meant to reduce the unnecessary traffic in the banking hall, make customers have a quick access to their money and make life convenient to a certain level. However, according to Ayo *et al.*, (2010) the situation today has changed drastically; it has become a source of worry to users and providers (banks), because the function it was meant to provide has been seriously eroded. It has become a money spinner for fraudsters, who have found new heaven in compromising innocent people's personal identification numbers (pin). ATM behavior can change during what is called "stand-in" time, where the bank dispensing the cash is unable to access databases that contain account information (possibly for database maintenance), that is, when there is network problem. ATMs at times can also deduct money from the account without actually dispensing money; these, among others, are the bane of these money dispensing machines. With all the problems and incompetence of this money dispensing machine in Nigeria; we can say it has recorded some success. The level of satisfaction intended to be provided by these machines is reduced by technological and processing failures, the perception that the service delivery mode is expensive and the insecurity regarding stand-alone ATMs. All these create customer dispatisfaction.

The main objective of the study is to determine the degree of satisfaction amongst respondents who patronize the service of ATM. To achieve this, it is necessary to determine the most important factors that customers take into consideration in assessing this service.

## LITERATURE REVIEW

Organizations are aware that service quality provides strategic competitiveness in a dynamic business environment. Researchers have divergent views about the use and effectiveness of

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ATMs. Previous studies provides significant relationship between service quality and firm's performance based on improved productivity, increased market share, enhanced customers' attraction and loyalty, improved staff morale, and sustained profitability (Lassar *et al.*, 2000). Stemper (1990) stresses the positive dimension of ATMs based on freedom of transaction. Effective service delivery in ATM system guarantees quality excellence and superior performance and provides autonomy to the customers (Lovelock, 2000). Yavas, Benkenstein and Stuhldreier (2004) argue that customer focused ATM delivery system that fulfills their needs and maximize operational performance is an essential dimension for bank to achieve and sustain competitive advantage.

Davies, Moutinho and Curry (1996) examine the factors that influence customers' satisfaction about ATM service quality. These factors include costs involved in the use of ATM, and efficient functioning of ATM. Joseph and Stone (2003), through focus group study in the United States, found that easy access to location, user-friendly ATM and security, are important factors that influence majority of bank customers' perception of ATM service quality. In another study in Bangladesh, Shamsdouha, Chowdhury and Ahsan (2005) found that 24 hours service, accuracy, and convenient locations are the main predictors of customer satisfaction. The study also indicates lack of privacy in executing the transaction, fear of safety and complexity of the machine as the major cause of concern for the customers. Moutinho (1992) examines the relationship between the dimension of usage rate and performance expectation with customers' prolonged satisfaction with ATM services. The results indicate that usage rate has a negative association with customers' perceived prolonged satisfaction whereas performance expectations are found to have positive and significant effects on customers' prolonged satisfaction.

Howcroft (1991) notes that dissatisfaction among customers is associated with frequent Interruption and breakdown of ATM. Intense competition and technology-based new services are shaping customers' loyalty. These have resulted into switching of banks by customers based on competitive services (Lewis & Bingham, 1991). Michael (2001) found that location of ATMs, increasing number of ATMs, and diversified service offering are associated with switching of banks. ATM is one type of innovation that can mechanically accept deposits, issue withdrawals, transfer funds between accounts, and collect bills. It has highlighted the relationship between banks and their depositors, as well as the level of quality of banking services (Komal & Singh 2009). Joseph and Stone (2003) conducted a research and find out that secure and convenient location, adequate number of ATM, user-friendly system and functionality of ATM play important role in customer satisfaction. Dilijonas, Krikscuiunen, Sakalauskas and Simutis (2009) on the other hand mention that adequate numbers of ATMs, convenient and secure location, and user-friendly system, speed, minimum errors, high uptime, cash backup, cost and service coverage are essential service quality aspects of ATM service.

Marketers identified customers' satisfaction through behavioural, cognitive, and attitudinal response to the service provider. These dimensions manifest in repeated use of services,

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tolerance with regard to price, word-of-mouth promotion, and display of cognitive and attitudinal behaviour (Bowen & Chen, 2001). Baron (1986) identifies some items that affect customers' cognitive and affective orientation towards shopping activities. These items were later refined by Sproles and Kendall (1986), and a scale consisting of eight mental customer style characteristics emerged. These include; perfectionist high- quality conscious consumer, brand conscious "price equals quality" consumer, novelty-fashion conscious consumer; recreational, hedonistic consumer; Price conscious "value -for-money" consumer; impulsive, careless consumer; confused by over choice consumer, and finally habitual, brand-loyal consumer. Athanassopoulos, (2000) found strong empirical evidence of innovation, convenience, price, and service quality as vital dimensions to customers' satisfaction. An understanding of customers' expectations enables organizations to offer customer-focused services and reduce attrition of customers. Literature offers significant evidence of the association between satisfaction of customers and superior financial performance, customer loyalty, and market share (Beerli et al., 2004; Wood, 2008). Researchers contend that service quality has a direct link with customer satisfaction (Parasuraman, Zeithanl and Ahasan 1988). Strong evidence exists in the literature about customers' satisfaction from ATM services (Leblanc, 1990). A large number of studies are found in the literatures that highlight the satisfaction of customers with ATMs (Moutinho & Brownlie, 1989, Wan, Luk, Chow 2005; Komal & Singh, 2009; Mobarek, 2007). Some studies have also identified customers' dissatisfaction with ATM service quality dimensions. Large numbers of customers are resistant to this new mode of service delivery and prefer more personalized service (Hogarth, Kolodinsky & Gabor 2008). The researchers note that customers do not like ATMs because of it impersonality, vision problem, fear of technology and reluctance to change and adoption of new mode of service delivery (Stemper, 1990).

Oboh (2005) postulates that ATM was first introduced into the Nigerian financial service sector in the late 1980 by Societe Generel Bank. First Bank and Equity Bank followed suit in what was a short-lived venture. The venture was constrained by factors which included offline mode of transaction, resistance to technology, inadequate and inefficient power supply and high cost of deployment, and dearth of qualified support staff (Ovia, 2006). Before ATMs, withdrawing funds, account inquiries, and transferring funds between accounts all required face-to-face interaction between the customer and a bank teller. But the machine has long replaced that and made banking a convenient and efficient experience (Madueme, 2009 and Sampson, 2005). Available data from the CBN in (2010) indicate that the number of ATMs in the country increased from 352 in June 2005 to over 900 as at March 2010. This growth, according to CBN, is attributed to increased public awareness, introduction of shared ATMs and increased confidence in the system. Chinedu (2012) however observes that, despite the deployment of over 900 ATMs by Nigerian banks, there are still a large number of customers who are reluctant to patronize the ATM service. He further asserts that even in Lagos area that has the most ancient of banking customers, less than 10% of customers (in number, not in value) currently patronize this product/service. Findings by Ovia (2006) and Nwaze (2008) show that despite the ascending

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usage of ATMs in Nigeria, it is still negligible compared to ATM statistics from other countries and emerging economies of the world

In the light of the above empirical study, it's quite understandable that many researchers have conducted research on Automated Teller Machine (ATM) in Nigeria and other parts of the world. However, it is pertinent to note that many researches carried out on ATM in were conducted on other zones. This creates a big gap. To fill it, the current work on ATM and customers' satisfaction in Sokoto, a North West Nigeria city. In particular, it assesses the ATMs at UBA plc branches in Sokoto.

### Scope of the study

This is a study on automated teller machine and user satisfaction with particular reference to United Bank for Africa Sokoto metropolis. Satisfaction is defined strictly in term of pleasure derived by users in relation to ATM services. The study covers the major factors affecting customers' satisfaction in Nigeria such as ease of use, availability of money in the booth, transaction cost and service security.

## **Objective of the study**

- i. To know how user perceive ease of use of ATM
- ii. To know how availability of money in the booth affect user satisfaction
- iii. To know how transaction cost affect user satisfaction
- iv. To know how service security affect user satisfaction

# METHODOLOGY

This study adopts survey research. It probes deeply in to the opinion of respondents regarding their satisfaction with automated teller machine services. The study carefully select samples from the population in order to have an intensive study of the characteristics of the population. However, the research focuses on users of United Bank for Africa in Sokoto metropolis. The rationale for the selection of the states is that they constitute a relatively a new area where much empirical research has not been conducted. Most of related researches concentrated on other zones and countries. The study has one Independent Variable (satisfaction) four dependant variable perceived ease of use, availability of money in the booth, transaction cost and service security. Data will be collected on user satisfaction through the use of questionnaire.

## **Data collection**

The Data for this study was collected in sokoto metropolis and was obtained through survey method using a standard questionnaire the items that were used to measure the variables in this study are based on theory and largely drawn from the literature .convenient sampling method was adopted. This was done because it is the most accessible method for reaching the users of ATM. However, the questionnaire containing 5 likert scale questions which were distributed to

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the respondents at the various ATM centers and branches of UBA Plc in Sokoto. A total 100 users of ATM within the period of one month from March to April 2012 were examined and only 84 respondents returned the filled questionnaires showing a response rate of 84%.

### Tests used for data analysis

SPSS (Statistical Package for Social Sciences) version 20.0 was used to compute and analyze the data.

## **RESULTS AND ANALYSIS**

Variables	Frequency	Percentage (%)
Gender		
Male	60	71.4
Female	24	28.6
Fotal	84	100.0
Age (years)		
Less than 20	14	16.9
Between 21-30	55	66.3
Between 31-50	13	15.7
Above 51	1	1.2
Fotal	83	100
Decupation		
Student	32	38.6
Civil servant	40	48.2
Frading	б	7.2
Dther	5	6.0
Fotal	83	100
Income		

### Table 1: Demographic characteristic of the respondents

ISSN 2055-0847(Print), ISSN 2055-0855(Online)

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Less than N50,000	36	46.2				
Between <del>\\$</del> 51,000 to <del>\\$</del> 100,000	35	44.9				
Between №101,000 to №1,000,000	6	7.7				
Above <del>N</del> 1,000,000	1	1.3				
Total	78	100				
Educational level						
Primary School Certificate	1	1.2				
Secondary School Certificate	24	28.9				
First Degree/Its Equivalent	46	55.4				
Master's Degree	10	12.0				
Other (Specify)	2	2.4				
Total	83	100				

Source: Fieldwork 2013

Table 1 shows that, 71.4% of the respondents are male, 28.6% are female. In terms of age group, 16.9% are below20 years, 66.3% between 21 to 30 years, 15.7% between 31 to 50 years and 1.2% above 51 years. The result also shows that one respondent did not indicate his/her age group. Occupation of the respondent indicates that 38.6% of the respondents were Students, 48.2% Civil servants, 7.2% Trader and 6.0% Other occupations. It has also been indicated that one respondent did not indicate his/her occupation. Income level of the respondents shows that 46.2% of the respondents earn less than \$50,000, 44.9% earn \$51,000 to less than \$100,000, 7.7% earn \$101,000 to less than \$1,000,000 and 1.3% earn above \$1,000,000. It has also shown that six of the respondents did not reveal their income level. Educational level of the respondents reveals that 1.2% of the respondents acquired primary school certificate, 28.9% secondary school certificate, 55.4% first degree/ its equivalent, 12.0% master's degree and 2.4% other qualification. Finally, one of the respondents did not indicate his/her educational level.

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	В	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Ease of use	.562	.005	9.73	1	.001***	1.755	.574	5.364
Availability of money in the booth	.287	.330	.756	1	.385	1.333	.697	2.547
Transaction cost	.095	.053	3.083	1	.042**	.910	.478	1.731
Service security	.144	.033	4.186	1	.006**	.866	.451	1.664
Constant	.505	.048	3.104	1	.017**	1.656	.838	3.276

\*\*\* =significant at 1%; \*\*=significant at 5%; \*=significant at 10%

### Table 3:Model Summary

Step	-2 likelihood	Log	Cox Squa	Snell	R	Nagelkerke Square	R
1	101.456 <sup>a</sup>		.546			.641	

# ANALYSIS AND FINDINGS

This study investigates the extent to which Automated Teller Machine (ATM) services in terms of their ease of use, availability of money, transaction cost and service security affect the customer satisfaction in Nigeria using a sample of customers obtained from United Bank for Africa (UBA) branches in Sokoto Metropolis. The results of the null hypothesis formulated as  $H_o$ :ATM Services are of ease of use, availability of money, transaction cost and service security have no impact on the customer satisfaction as shown in table 2. The results indicate that the impact of ATM services in terms of their ease of use, transaction cost and service security is positive and significant. However, the result also indicates that the impact of ATM services in terms of their ease of use, availability of money, transaction cost and service security is positive but insignificant. The positive impact implies that the more the improvement of the ATM services in terms of their ease of use, availability of money, transaction cost and service security is not service security. The more the satisfaction of customers in the use of ATM services are of the astisfaction of customers in the use of ATM services in terms of their ease of use, availability of money, transaction cost and service security is not service security.

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services. The values 0.562, 0.287, 0.095 and 0.144 are the unit level of how ATM services of ease of use, availability of money, transaction cost and service security has respectively change the customer satisfaction positively. The impact of the ATM services toward customer satisfaction being statistically significant implies that the impact of that service cannot be equated to zero and similarly the insignificant impact of the ATM service of the availability of money means that there is no satisfaction on the part of the customer in the availability of money. This indicates that customers are satisfied with the ATM ease of use, transaction cost and service security but not satisfied with the ATM availability of money. However, the summary of the model is reported in table 3. According to Cox & Snell R Square and Nagelkerke R Square, the model is good. This is because R Square is a measure of how best the independent variable explained variation in the dependent variable. Therefore, Cox & Snell R Square coefficient of 0.546 means that the ATM service explains about 55% variation in the customer satisfaction. Similarly, Nagelkerke R Square coefficient of 0.641 indicates that the ATM services explain up to 64% in the customer satisfaction.

# CONCLUSION

The study has shown that the impact of the ATM services towards customer satisfaction being statically significant implies that the impact of that service cannot be equated to zero and similarly the insignificant impact of the ATM service of the unavailability of money means that there is no satisfaction on the part of customer in the availability of cash. This indicated that customers are satisfied with the ATM perceive ease of use, transaction cost and service security but not satisfy with ATM dispense of cash.

# RECOMMENDATIONS

- i. The management of the bank should acquire most recent sophisticated friendly ATM machine that will improve perceive ease of use which will encourage customers repurchase of the products.
- ii. Bank management should reduce charges on the users of ATM services so as to encourage the customer to continue patronize the ATM services
- iii. Bank should improve on mechanism that will ensure service security i.e. that will guarantee safety of information on individual accounts
- iv. The management of bank should ensure that officers in charge of ATMs should always made enough cash available so as to enable the machine dispense cash to customers whenever need arises

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