AN INVESTIGATION INTO ELECTRONIC BANKING SERVICES IN NIGERIA: MEASURING BANK EMPLOYEES' PERCEPTIONS SO FAR

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ABSTRACT

Banking system the world over has been enjoying greatly from the impacts of globalization appearing in the face of growth rate in the information and communications technology. Banking system has really been revolutionized to the extent that the traditional conventional banking system that used to be the mode of carrying out banking transactions has not been adequately embraced again; rather the newly introduced electronic banking system in Nigeria has become a newly embraced mode of carrying out banking transactions. Importantly, the contributions of the internet (which is an offshoot of information and communications technology) cannot be undermined. On a good note, the various offshoots of electronic banking such as telephone banking, internet banking, ATM services, e.t.c. are adequately and satisfactorily being enjoyed by bank staff and bank customers. Generally, it is on record that electronic banking is now the wave of the future going by the fact that it provides enormous benefits to consumers in terms of the ease and cost of transactions. However, it is noted that it poses new challenges for country authorities in regulating and supervising the financial system and in designing and implementing macroeconomic policy. This particular study was actually carried out to empirically investigate the perceptions of bank employees concerning electronic banking system being operated by banking institutions. The study was a survey research, which specifically employed ex-post facto design. Questionnaire format was employed for data collection. The obtained data was analyzed by descriptive statistics.

The results showed that 55.2% of the participants (i.e. bank employees) saw electronic banking in Nigeria as being very good; 30.3% indicated electronic banking is good; 13.0% indicated it is fair while 1.5% indicated it is bad. It was also shown that 65.9% of the participants indicated that controls were place in restricting physical access to computer hardware, software, and communication equipment; 14.5% indicated that controls are not place while 19.6% indicated that they could not say if control measures in place in restricting physical access to computer hardware, software, and communication equipment. It was made clear also that 75.3% of the participants expressed that control measures were in place to prevent hackers from accessing the system, 7.9% expressed that control measures were not in place while 16.7% expressed they can't say.

It was hence concluded that electronic banking in Nigeria has come to stay due to various benefits associated with though with disadvantages. However, it was recommended that electronic banking services in Nigeria should embrace more of the information technology products, both hardware and software, that can enhance electronic banking services. However, it is equally recommended that bank staff should be engaged and be informed of the improvements being made on electronic banking services in order to make them up-to-date as regards the continuous improvements being made in banking organizations to aid smooth delivery of electronic services in their various organizations.

INTRODUCTION

The increasing rate of introduction of different forms of technological breakthroughs the world over has been a welcome development. In Nigeria, the so-called developing nation, is fully penetrating nearly all these forms of technological breakthroughs. The internet, for example, which is a recent growth in the area of information and communication technology has been well-appreciated and embraced in Nigeria by many, including governmental institutions, non-governmental institutions, banks, teachers, lecturers, students, researchers, advertisers, entertainers, etc.

Internet has been growing very rapidly in Africa to the point that nearly every human activity is almost being carried out through it. Every system, today, largely depends on the use of internet to carry out a number of functions. On a good note, internet offers various facilities and opportunities, which include web browsing, e-mail, chatting, advertising, telephony, entertainment, research information, etc. Aside from this facilities or opportunities being enjoyed today by many including governmental institutions, non-governmental institutions, banks, teachers, lecturers, students, researchers, advertisers, entertainers, etc. banks are greatly benefitting from the opportunities offered by the internet.

Importantly, it is on record that "electronic banking is the wave of the future. It provides enormous benefits to consumers in terms of the ease and cost of transactions. But it also poses new challenges for country authorities in regulating and supervising the financial system and in designing and implementing macroeconomic policy" (Nsouli and Schaechler,

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2002). In a similar vein, it is noted that electronic banking has been in vogue appearing in form of automatic teller machines and telephone transactions. But today, it has been transformed by the internet, which is now a new delivery channel for banking services, and it has been offering great benefits for both customers and banks (Nsouli and Schaechler, 2002). It is viewed that with the internet being in vogue now, access is made fast, convenient, and available around the clock, and banks can adequately provide services more efficiently and at substantially lower costs (Nsouli and Schaechler, 2002).

More importantly, internet banking has been well-recognized to be gaining ground and banks today increasingly operate websites through which customers are able not only to inquire about account balances and interest and exchange rates but to conduct a number of transactions. Although, this particular service being offered by our banks in Nigeria are still not perfect. Our banks are still learning from the usage of internet for banking services. On this note, it is noted that Internet banking is particularly widespread in Austria, Korea, the Scandinavian countries, Singapore, Spain, and Switzerland, where, it was reported that 75% of all banks offer such services (Nsouli and Schaechler, 2002). As a matter of fact, in Nigeria today, nearly all the twenty-four (24) recapitalized banks offer a range of internet banking. Although, these banks still face their varying challenges in the country where electricity supply is a luxury other being a necessity. In a way, this study is out to empirically evaluate bank customer's level of acceptance of various forms of electronic banking offered by our banks in Nigeria. The study hopes investigate the challenges being faced by these electronic banking. The study also hopes to assess extent of satisfaction/dissatisfaction being experienced by bank customers toward electronic banking. It is expected that this study will contribute to the existing body of knowledge in the area of electronic banking services, locally and internationally.

LITERATURE REVIEW

Theoretical Framework

Technology Acceptance Models

Two main disciplines have had a hand in developing models and theories that are focused on technology acceptance, adoption and use. They are identified as psychology and sociology, which focus on technology acceptance behavior, while another field known as information systems focus on the characteristics of systems relating to the acceptance of technology. These are discussed below

Technology Acceptance Model (TAM)

One of the relevant models in this field is technology acceptance model (TAM) that was proposed by Davis *et al*., (1989 cited in Al-Shbiel and Ahmad, 2016). Accordingly, TAM is one of the widely used and cited models that researchers employ to examine the underlying factors that contribute to the acceptance and adoption of new IS (Alshibly, 2011 cited in Al-Shbiel and Ahmad, 2016). TAM primarily aims to provide an explanation of factors that contribute to the acceptance of computer applications. This model is known to assist researchers and practitioners alike in determining the reason behind the unacceptability of a specific system (Davis, 1989). In his view, Davis (1989 cited in Al-Shbiel and Ahmad, 2016) found attitudes of the user towards system use and the system's perceived usefulness effect on the using information system in organization. Further, both attitude and perceived usefulness have been known to be influenced by the perceived ease of use. On this, TAM stresses that the greater the perceived usefulness of the system and the perceived ease of use, the more positive will be the attitude towards it (Al-Shbiel and Ahmad, 2016). Accordingly, attitude is known to lead to higher intention towards system use, which in turn positively influences the actual system use. According to TAM, with other things remaining constant, perceived usefulness is affected by the perceived ease of use because when technology is easier to use, its usefulness increases (Al-Shbiel and Ahmad, 2016).

Based on the above proposed relationship, perceived usefulness (PU) is identified to enhance job performance for individual in organization, while perceived ease of use (PEU) relates to the level to which an individual is convinced that system use will be effort-free. Moreover, attitude (ATT) is seen as the favorable/unfavorable assessment of the individual about the specific behavior, and intention (INT) relates to the strength of the inclination of the individual to use effort while carrying out a specific behavior (Al-Shbiel and Ahmad, 2016).

The model's external variables are described as a set of variables that are assumed to have an influence on the adoption of IS indirectly via perceived ease of use and perceived usefulness (Davis et al., 1989 cited in Al-Shbiel and Ahmad, 2016). In relation to this, in Taylor and Todd's (1995 cited in Al-Shbiel and Ahmad, 2016) study, TAM constructs were measured in the same way in every case and as such, TAM's reliability is evidenced as an instrument and empirical tool.

Theory of Planned Behavior (TPB)

The TPB was known to be originally developed on the basis of the theory of reasoned action (TRA), where the latter is able to explain almost every human behavior throughout different application contexts (Al-Shbiell and Ahmad, 2016). TRA posits that an individual's behavioral intention directs his actual performance of some specific action, where behavior intention is predicted by subjective norm and attitude towards behavior (Liao *et al*., 2007 cited

in Al-Shbiell and Ahmad, 2016). Based on this, Ajzen (1991 cited in Liao *et al*., 2007 re-cited in Al-Shbiel and Ahmad, 2016) described behavioral intention as a measure of the strength of an individual's inclination to try while performing specific behaviors. Essentially, in the initial TRA model, limitations exist when dealing with behavior, in cases where volitional control of people is absent or incomplete (Al-Shbiel and Ahmad, 2016). Such limitations were tackled in TPB through the addition of perceived behavior control that has the potential to influence behavioral intention (Al-Shbiel and Ahmad, 2016).

However, TPB proposes three independent intention determinants namely attitude towards behavior, subjective norm and perceived behavioral control (Ajzen, 1991 cited in Al-Shbiel and Ahmad, 2016). According to Ajzen and Fishbein (1975 cited in Al-Shbiel and Ahmad, 2016), attitude refers to the level of an individual's positive/negative evaluation of a specific behavior (Liao *et al*., 2007 cited in Al-Shbiel and Ahmad, 2016). In other words, attitudes are formed from the individual's beliefs concerning the object of the attitude (Al-Shbiel and Ahmad, 2016). With regards to subjective norm, it is described as the perceived social pressure to perform/or refrain from performing the behavior (Ajzen, 1991) and it is linked to the normative beliefs concerning other's expectations of the performance or non-performance of the behavior.

Moreover, perceived behavioral control is described as the perception of individuals concerning the ease/difficulty of performing a certain behavior (Ajzen, 1991 cited in Al-Shbiel and Ahmad, 2016), and it is considered to indicate past experiences and predict difficulties and barriers. In TPB, the perceived behavioral control construct is added to address situations where people may have incomplete volitional control over the behavior (Al-Shbiel and Ahmad, 2016). The construct has been identified to be directly linked to the beliefs of the control factors that can either bring about or prevent the behavior's performance (Ajzen, 2002 cited in Al-Shbiel and Ahmad, 2016). Based on this, the higher the favorableness and favorableness of the attitude, subjective norm and perceived behavioral control are all directly proportional to the individual's intention to perform the specific behavior (Ajzen, 1991 cited in Al-Shbiel and Ahmad, 2016).

METHODS

Design

This study was a cross-sectional survey, which adopted the use of structured questionnaires for data collection.

Setting

This study was conducted in Ibadan and Osogbo. Ibadan is the capital of Oyo State in the South-Western Nigeria. In a similar vein, Osogbo is the state capital Osun state of Ogun State, Nigeria.

Participants

A total 317 participants took part in the study as participants. The participants' socio-demographic characteristics are presented on table 1 below.

Table 1: Socio-Demographic Characteristics of the Participants

Variables	N	%
Gender:		
Male	193	61
Female	124	39
Marital Status:		
Single	171	22.4
Married	224	70.7
Divorced/Separated	13	4.1
Widowed	9	2.8
Educational Status:		
No formal education	-	-
Primary School Leaving Certificate	-	-
Secondary School Certificate	12	3.8
OND/NCE/Diploma/A Level	52	16.4
First Degree/Higher National Diploma	119	37.5
Masters Degree	94	29.7
Professional Certificates (e.g. ICAN)	27	8.5
Ph.D	3	0.9
Others	10	3.2
Religion:		
Christianity	194	61.2
Islam	101	31.9
Traditional	6	1.9
Others	16	5.0

Source: Author's Field work, 2021

X_{age} = 31.3yrs

SD_{age} = 8.5

N = 317

Instrument

The study adopted questionnaire format for data collection due to the large number of participants that were expected to be involved in the study. The questionnaire was deigned by the author of this study and it was made into several copies. The questionnaire was made up of two (2) sections, namely Section A and Section B.

Section A measured socio-demographic characteristics of the participants. These characteristics include gender, age, marital status, educational status, religion, profession, etc.

Section B of the questionnaire was meant to measure bank employees' assessment of a number of issues related to electronic banking. These issues are meant to evaluate bank employees perceive them. These issues included: "How do you see electronic banking in Nigeria"; "Are control measures in place restricting physical access to computer hardware,

software and communication equipment?" Are controls or procedures in place for any of the following such as "prevention of hackers from accessing the system"? "Are security measures in place to prevent the website information from being altered?", etc. Items in this section were by developed of the author of the study while some were drawn from Electronic Banking questionnaire, cited inhttp://www.idob.state.ia.us/bank/docs/applica/bank/electronic%20banking%20.

Procedure

The study was carried out to investigate bank employees' perceptions of electronic banking system in Nigeria. A number of research assistants were recruited to assist in data collection through copies of questionnaire produced by the author of the study. 500 bank employees were targeted and approached in the study, indicating that 500 copies of questionnaire were distributed to the selected bank employees. Random sampling technique was utilized in selecting the participants for the study across the selected banking institutions. Out of the distributed 500 copies of questionnaire, only 317 copies were retrieved. The collected 317 copies of the questionnaire were eventually found fit for data coding and analysis.

Statistical Analysis

The obtained data for the study were subjected to descriptive statistical analysis. The Statistical Package for Social Sciences (SPSS) version 21.0 was utilized for data analysis.

RESULTS

The results of the study are shown below:

Table 2: How Do You See Electronic Banking in Nigeria?

Responses	N	%
Very Good	175	55.2
Good	96	30.3
Fair	41	13.0
Bad	5	1.5
Total	**317**	**100**

Source: Author's Field work, 2021

The results on table 2 showed clearly that 55.2% of the participants saw electronic banking in Nigeria as being very good; 30.3% indicated electronic banking is good; 13.0% indicated it is fair while 1.5% indicated it is bad.

Table 3: Are Control Measures in Place Restricting Physical Access to Computer Hardware, Software, and Communication Equipment?

Responses	N	%
Yes	209	65.9
No	46	14.5
Can't say	62	19.6
Total	317	100

Source: Author's Field work, 2021

The results on table 3 revealed clearly that 65.9% of the participants indicated that controls were place in restricting physical access to computer hardware, software, and communication equipment; 14.5% indicated that controls are not place while 19.6% indicated that they could not say if control measures in place in restricting physical access to computer hardware, software, and communication equipment.

Table 4: Are Controls or Procedures in Place for any of the following?

Table 4.1: Prevention of Hackers from Accessing the System?

Responses	N	%
Yes	239	75.3
No	25	7.9
Can't say	53	16.7
Total	317	100%

Source: Author's Field work, 2021

The results on table 4.1 clearly revealed that 239 (75.3%) of the participants expressed that control measures were in place to prevent hackers from accessing the system, 25 (7.9%) expressed that control measures were not in place while 16.7% expressed they can't say.

Table 4.2: Prevention of Line Tapping

Responses	N	%
Yes	224	70.7
No	36	11.4
Can't say	57	17.9
Total	317	100

Source: Author's Field work, 2021

The results on table 4.2 revealed clearly that 70.7% of the participants were aware that control measures were in place to prevent line tapping; 11.4% expressed that control measures were not in place to prevent line tapping while 17.9% of the participants expressed that they could not say.

Table 4.3: Discovered Intrusion Attacks

Responses	N	%
Yes	202	63.7
No	38	11.9
Can't say	77	24.3
Total	317	100

Source: Author's Field work, 2021

The table 4.3 above showed that 200 (63.7%) of the participants were aware that control measures are in place for any discovered intrusion attacks; 38 (11.9%) indicated they were not aware that control measures were in place for any discovered intrusion attacks while 77(24.3%) indicated that they could not really say.

Table 4.4: Attacks After Office Hours

Responses	N	%
Yes	105	33.1
No	72	22.7
Can't say	140	44.2
Total	317	100

Source: Author's Field work, 2021

The results on table 4.4 above reflected responses to awareness of control measures or procedures in place of attacks after office hours. It was revealed clearly that 105 (33.1%) indicated that they were aware of control measures or procedures in place of attacks after office hours; 72 (22.7%) indicated that they were not aware while 140 (44.2%) indicated they could not say.

Table 5: Are Security Measures in Place to Prevent the Website Information from Being Altered?

Responses	N	%
Yes	167	52.7
No	36	11.4
Can't say	114	35.9
Total	317	100

Source: Author's Field work, 2021

The result on table 5 showed that 52.7% of the participants indicated that security measures were in place to prevent the website, information from being altered; 11.4% indicated that security measures are in place to prevent their website information from being altered while 35.9% of the participants indicated that they can't really so.

Table 6: How Satisfied are your Customers with the Electronic Banking Products such as Internet Banking, Telephone Banking, ATM Services?

Responses	N	%
Completely Satisfied	127	40.1
Satisfied	85	26.8
Can't Say	66	20.8
Dissatisfied	24	7.6
Completely Dissatisfied	15	4.7
Total	317	100

Source: Author's Field work, 2021

The results on table 6 showed that 40.1% of the participants for the study indicated that their customers were completely satisfied with the electronic banking products such as Internet Banking, Telephone Banking, ATM Services, etc.; 26.8% indicated that their customers are satisfied. 20.8% indicated that they could not say; 7.6% indicated that their customers were dissatisfied with the electronic banking products; while 4.7% indicated that their customers were completely dissatisfied with the electronic banking products.

DISCUSSION

Electronic banking is gradually becoming a completely mode of operations of our banking institutions in Nigeria and the world over. Essentially, this is the direct impact of globalization, which has revolutionized information and communications technology. Electronic banking such as internet banking, telephone banking, ATM Services, etc have become common features of banking services. Importantly, electronic banking has been recognized to encompass a broad range of established and emerging technologies. Some are "front end" products and services that consumers opt for, such as ATM cards and computer bankings; others are regarded as "back end" technologies used by financial institutions, merchants, and other service providers to process transactions, such as electronic check conversion. In this vein, some have been known to be tied to a consumer bank account; others are unrelated to a bank account but instead store value in a database or directly on a card (Anguelov, Hilgert, and Hogart, 2004).

More importantly, it is on record that the existing variety of electronic technologies being made available in the marketplace has been found to have been greatly expanded in recent years. Essentially, technologies as direct deposit, automated teller machines, and debit cards can speed processing and reduce costs. Aside from these identified products or services, computer banking and stored-value payroll cards regarded as ways to retain existing customers and attract unbanked and under banked consumers. In another vein, for the consumers using electronic banking (e-banking) technologies, it can mean easier and lower-cost bill-paying, around-the-clock availability of financial services, and time savings in managing finances. In a way, now than more and more financial transactions are being conducted in an "electronic only" format, it then means than for some consumers it may not really be a matter of choice (Anguelov, Hilgert, and Hogart, 2004).

Going by the findings of this study, the results on table 2 revealed that 55.2% of the participants saw electronic banking as being very good; 30.3% saw electronic banking as being good; 13.0% saw electronic banking as being fair while 1.5% of the participants saw electronic banking as being bad. In a way therefore, a look at this result has shown clearly that larger percentage of the participants 98.5% for the study had seen electronic banking as being fair while 1.5% of the participants saw electronic banking as being bad. In a way therefore, a look at this result has shown clearly that larger percentage of the participants (98.5%) for the study had seen electronic banking as being okay (i.e. very good, good and fair) while only 1.5% of the participants

had seen it as being bad. This result has shown clearly that a large number of sampled participants (i.e. bank employees) saw the introduction of electronic banking as a welcome development.

The result on table which revealed that 65.9% of the participants expressing that control measures are place in restricting physical access to computer hardware, software, and communication equipment; 14.5% expressing that there were no control measures in place while 19.6% of the participants expressing that they could not say, indicated that a large number of the participants were actually aware that control measures were in place in restricting physical access to computer hardware, software, and communication equipment. This is really a good development electronic banking in Nigeria is being guided with a number of control measures. In a way, for the participants who expressed that there were no control measures in place or that they could not say imply that efforts should be put in place to have control measures and also members of staff should be made to know that such control measures were really in place. This can go a long way in alloying fear among members of staff our banking institutions.

Further, the results on table 4.1, which reflected on the need to know that there were controls or procedures in place for the prevention of hackers from accessing the system indicated clearly that 75.3% of the participants expressed that there are controls or procedures in place for the prevention of hackers from accessing the system; 7.9% expressed that there were no controls or procedures in place while 16.7% expressed that they cannot say. In a way, this result has made it clear that a larger percentage of the participants were aware that controls or procedures were in place for the prevention of hackers from accessing the system while only a smaller percentage of the participants are not aware of such controls or could not say actually. Importantly this result showed clearly that electronic banking is such that is guided by a number of controls or procedures to prevent hackers from accessing the system. This has been a good revelation and it has made it convincing to teeming population of bank customers, to believe more in the electronic banking since the facility has control measures to prevent hackers.

In a similar vein, the result on the table 4.2 revealed that 70.7% of the participants were also aware that there are controls or procedures in place to prevent line tapping; only 11.4% of the participants indicated that they were not aware of controls or procedures to prevent line tapping while 17.9% indicated that they could not say if there are controls or procedures in place prevent line tapping. This result has made if convincing the more that electronic banking is still being guide by controls or procedures against line tapping.

Also, the result on table 4.3 reflected on controls or procedures against any discovered intrusion attacks and it was made clear by the result that 63.7% of the participants responded that there were controls or procedures in place for any discovered intrusion attacks; 11.9% responded that they were not aware of any control(s) or procedure(s) against any discovered intrusion attacks, while 24.3% responded that they could not say. This result has also made it clear that a larger percentage of the participants for the study responded that there were controls or procedures against any discovered intrusion attacks whole a smaller percentage of the participants responded that they are not aware of such or they can not say concerning such development.

In a way, this result has also shown that there is need for the development of confidence in the newly introduced electronic banking among bank employees and even bank customers.

The result on table 4.4 reflected on ‘controls or procedures against attacks after work hours’ among bank employees, and 33.1% of the participants responded that there were controls or procedures against attacks after work hours; 22.7% responded there were no controls or procedures against attacks after work hours, while 44.2% responded that they could not really say. This particular result has shown very clearly that a larger number (i.e. 66.9%) of the participants for the study indicated they did not have controls or procedures against attacks after work hours or they can not really say. In a way, only a small percentage of the participants for the study were aware that there are controls or procedures against attacks after hours. This result has made it clear further that the issue of ‘controls or procedures against attacks after work hours’ cannot be underestimated, particularly among bank employees.

In addition, the result on table 5, which reflected if security measures are in place to prevent the website information from being altered, and the result specifically revealed that a large percentage of the participants were actually aware that there were security measures in place to prevent the website information from being altered. However, only a relatively small percentage of the participants were not aware of security measures to preventing website information from being altered.

Based on the results revealed on table 6, it was made clear that a relatively larger percentage (i.e. 66.9%) of the participants indicated that bank customers expressed satisfaction to the electronic banking, which included Internet Banking, Telephone Banking, ATM Services, etc. However, a relatively smaller percentage (12.3%) of the participants noted

that bank customers expressed dissatisfaction with the electronic banking. In a way, only 20.8% of the participants for the study indicated bank customers felt toward the electronic banking.

IMPLICATIONS/RECOMMENDATIONS

The rate at which electronic banking is gaining ground in Nigeria, Africa and the world in general has shown that banking system has been revolutionized by the power of globalization. In Nigeria, different forms of electronic banking are being embraced by both the bank employees and bank customers. This has actually made banking services more attractive and even satisfactory. But the issue at stake now is how these electronic banking services can be improved upon. This can be achieved by actually building on what is already on ground concerning electronic banking. Going, by the findings of this study, some important findings have been revealed. It is seen as important that employees of work organizations such as banks should be made to understand every form of developmental projects being embarked upon by their organizations. This is what the study has revealed, highlighting that bank employees who were aware of the information technology breakthroughs in the area of electronic banking were able to indicate that.

CONCLUSION

The introduction of electronic banking system in banking transactions has been viewed by many as a welcome development. Today, nearly every bank customer enjoys some other banking facilities aside from the traditional (conventional) banking system. So, this has shown that banking services in Nigeria are better perceived going by the availability of different banking products, which are electronically controlled. This has actually been a good development. Although, the focus of this study was on some selected bank employees' perceptions of the electronic banking system, however, it is important to note that these bank employees are also users of these various banking products. So, in a way, their perceptions can be very important in understanding bank customers' perceptions of electronic banking system.

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