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Users' Perspective and Electronic Payment Channel Services in Nigeria

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ABSTRACT

Using survey design, this study investigated bank customers' confidence with electronic payment channels services in Abuja Municipal Area Council (AMAC), a Nigerian municipality. Structured questionnaires were used to collect data and were analysed using descriptive statistical method. The study shows that, ease of use of electronic payment system platforms is a major factor with online banking activities. Excellent customer service is the primary reason for maintaining bank relationship. Based on the findings of the study, recommendations were made on how to further strengthen bank customers' confidence towards electronic payment systems.

Keywords- AMAC, cyberthreats, cybersecurity, electronic payment channel, financial services sector

1. INTRODUCTION

Technology development has become the biggest driver of change in the financial services sector boosting and enhancing financial transactions, marketing of new products and services, customer experience and channel of distribution. According to PWC Global Economic Crime Survey [6], the new technologies adopted by financial institutions are increasingly vulnerable to various cyber threats such as phishing, identity theft, website cloning, social engineering, cyber stalking, amongst others.

In Nigeria, the Central Bank of Nigeria is saddled with the responsibility of administering the Banks and Other Financial Institutions (BOFI) Act 1991 as amended, with the sole aim of ensuring high standards of banking practice and financial stability as well as the promotion of an efficient payment system. In line with its mandate, it has effectively promoted the efficiency of the National Payment System (NPS). In April 2011, the apex bank introduced the Industry Policy on Retail Cash Collection and Lodgment otherwise known as the cashless policy. One of the aims of the policy is to facilitate the growth of electronic payments and increase availability, reliability and security of electronic channels.

It is evident that, the increase in ease and convenience of electronic payment system has further enhanced opportunities for cybercriminals. The Nigerian government has made rapid progress in implementing control measures to improve the financial services sector's defences against cyberattacks [4]. These include the introduction of Bank Verification Number (BVN), the enactment of cybercrime law and various financial regulatory standards.

1.1 Problem Statement

The global cyber threats landscape is constantly expanding, and Nigeria is no exception to the threats. The uses of diverse and sophisticated range of techniques are on the increase against Nigeria's financial services sector. Afon [1] maintained that, phishing emails from cybercriminals in Nigeria was unprecedented in 2015 as a result of the deadline for Bank Verification Number (BVN). He also stated that, Remote Administration Tools (RAT) and other malware tools were part of their phishing attacks. He further stated that, aside phishing attack, other cybersecurity threats to watch for in 2016 are social media identity theft, insider threat, cyberterrorism and lack of cybersecurity awareness. Enejeta [3] identified that, financial services sector in Nigeria are at risk of cyberattacks due to a steady increase in financial involvement in their operations, which is generating large amounts of sensitive data and billions of naira in financial assets.

According to Nigerian Inter-Bank Settlements Systems reports [7], an estimated of N159 billion was lost to electronic fraud between year 2000 and 2013. Furthermore, the Central Bank of Nigeria [2] reported that, there were 2,478 electronic fraud and forgery cases involving Nigerian banks in the first half of 2013 valued at over N20 billion. KPMG [5] reported that, in 2014 2% of retail bank customers experienced electronic fraud incident. Nigerian Cyber Threat Barometer [8] reported that, about 46% of cybercriminals are detected through bank customers' complaints in the Nigerian financial services sector.

However, cybersecurity threats in the Nigerian financial services sector continue to evolve with more attention from the cybercriminals towards the customers. This is the gap this study hopes to fill.

1.2 Research Objectives

The main objective of this study is to investigate the level of bank customers' confidence with electronic payment channel services in Nigeria. The specific objectives are as follows:

1. To identify factors militating against electronic payment channel services usage.
2. To examine bank customers confidence with the usage of electronic payment channel services.
3. To provide recommendations to how customers' satisfaction with electronic payment channels services can be maximized for service delivery.

1.3 Research Questions

The research questions for the study are as follows:

1. Are bank customers' confidences with the use of electronic payment systems in Nigeria?
2. Are bank customers aware of any control measure to protect them from cybersecurity threats in Nigeria?
3. What can be done to further strengthen bank customers' confidence on the use of electronic payment systems in Nigeria?

2. CYBER VULNERABILITIES IN THE FINANCIAL SERVICES SECTOR

The major cyber vulnerabilities are:

1. Smishing (Mobile banking)
2. Content injection malware (social networking)
3. Trojans (Interbank network)
4. Phishing (Internet banking)
5. Spear phishing (Insider threats)
6. Advanced Persistent Threats (Corporate data network centres)
7. Advanced Persistent Threats spyware (Bank transaction applications)
8. Legal gaps (Implementation of appropriate financial regulations)
9. Theft of passwords (Automatic Tellering Machine)
10. Theft of identities (Customers payment process)

Some of the reasons for the growth of cybersecurity threats in the financial services sector include:

1. Greater market size of electronic financial transactions.
2. Greater demand for technological changes.
3. Limited awareness by bank customers on fundamental information securities practice.
4. Increase in cyberattacks tools and online financial illicit activities.

3. RESEARCH METHODOLOGY

This study was carried out using accidental sampling method. Questionnaire was used as data collection instrument and descriptive statistical method was adopted for analysis. A total of two hundred and ten (2100) respondents (Bank customers) were sampled from all the twenty one (21) registered commercial banks in Nigeria. The structured questionnaires were admitted on the respondents with a view of eliciting relevant information for the study.

The data consisted of a sample size of N=2100. Out of two hundred and ten (2100) entries, only one hundred and sixty four (1640) entries were completed with response rate of 78% while forty six (460) entries were not completed with response rate of 22%. The researchers decided to keep the incomplete entries as part of the dataset as all the research questions are independent of each other and do not necessitate the participant to complete the survey.

The study was conducted in Abuja Municipal Area Council (AMAC). It was the most ideal area of study as all the registered commercial banks in Nigeria have their branches in AMAC hence the sample was considered by the researchers to be representative of all registered commercial banks in Nigeria.

The lists of registered commercial banks in Nigeria are:

1. Access Bank Plc
2. Citibank Nigeria Limited
3. Diamond Bank Plc
4. Ecobank Nigeria Plc
5. Enterprise Bank
6. Fidelity Bank Plc
7. First City Monument Bank Plc
8. First Bank of Nigeria
9. Guaranty Trust Bank Plc
10. Heritage Banking Company Ltd.
11. Key Stone Bank
12. MainStreet Bank
13. Skye Bank Plc
14. Stanbic IBTC Bank Ltd.
15. Standard Chartered Bank Nigeria Ltd.
16. Sterling Bank Plc
17. Union Bank of Nigeria Plc
18. United Bank For Africa Plc
19. Unity Bank Plc
20. Wema Bank Plc
21. Zenith Bank Plc

4. PRESENTATION OF RESULTS

4.1.1 Demographic characteristics of the participants

The analysed data from the questionnaire shows that male are 66% and female 34% having the following level of education; postgraduate 40%, first degree 44%, diploma/OND/NCE 7% and SSCE 9%. Participants in the age group of 26 – 35 years were the highest with 43%, with 16 – 25 years as 14%, 36 – 45 as 34% and 46 years and above as 9%. The participants are mostly married with 53% and single 47%; public sector employees at 57%, private sector employees 21%, self employed 12% and student 10%. Most of the participants belong to the civil service with 47%, private sector 31%, security agencies 13% and academia 9%.

4.1.2 Frequency of bank/card type of the participants

The analysed data indicated that, most of the participants' bank account type is savings with 49%, current 42% and fixed 9%; individual account type is 82% and corporate account type is 18%. All the participants hold electronic smart card and they all indicated that, the bank ICT applications on their transactions are effective.

4.1.3 Frequency of electronic payment channels usage

Table 1: Frequency of Electronic Payment Channels Usage

Channels usage	N Frequency (%)	Very often Frequency (%)	Often Frequency (%)	Not often Frequency (%)	Not at all Frequency (%)
Banking internet usage	2100(100)	979(47)	436(21)	532(25)	153(7)
Mobile banking usage	2020(100)	880(43)	442(22)	300(15)	398(20)
Automated Tellering Machine (ATM) usage	2100(100)	929(44)	929(44)	242(12)	0(0)
Point-of-Sale (POS) usage	2020(100)	430(21)	620(31)	748(37)	222(11)
Web purchase services usage	2100(100)	291(14)	500(24)	902(43)	407(19)
Telephone banking usage	2100(100)	340(16)	571(27)	719(34)	470(23)

The survey data from Table 1 confirms that, bank customers have confidence in the electronic payment services usage in Nigeria.

4.1.4 Frequency of transaction channel activities

Table 2: Frequency of Transaction Channel Activities

Transaction channel activities	Preferred channel for cash withdrawal	Preferred channel for buying financial products	Preferred channel for making complaints	Preferred channel for bill payments	Preferred channel for account balance enquiry
N Frequency (%)	2100(100)	2100(100)	1990(100)	2060(100)	2100(100)
Across counter Frequency (%)	314(15)	260(12)	873(44)	271(13)	260(12)
ATM Frequency (%)	1786(85)	510(24)	0(0)	429(21)	580(28)
Email Frequency (%)	0(0)	0(0)	607(30)	0(0)	0(0)
Internet banking Frequency (%)	0(0)	689(33)	190(10)	861(42)	651(31)
Mobile banking Frequency (%)	0(0)	231(11)	231(12)	190(9)	519(25)
POS Frequency (%)	0(0)	410(20)	0(0)	309(15)	0(0)
Social media Frequency (%)	0(0)	0(0)	89(4)	0(0)	0(0)
Telephone banking Frequency (%)	0(0)	0(0)	0(0)	0(0)	90(4)

The findings in Table 2 further confirm that, bank customers have confidence in the electronic payment services usage in Nigeria.

4.1.5 Frequency of social media banking

Table 3: Social Media Banking

Usage	N Frequency (%)	Very often Frequency (%)	Often Frequency (%)	Not often Frequency (%)	Not at all Frequency (%)
Non-banking activities	2100(100)	732(35)	528(25)	500(24)	340(16)
Banking activities	2100(100)	189(9)	371(18)	668(32)	872(41)

In examining social media banking interactions in Table 3, the participants do not often relate with their respective banks via social media platforms. This conforms to the findings in Table 2, as financial transaction activities are not often carried out on social media.

4.1.6 Reasons for maintaining banking relationship

Table 4: Primary reason for maintaining bank relationship

Reasons	Primary reason for maintaining bank relationship
N Frequency (%)	2040(100)
Excellent Customer Service Frequency (%)	1093(54)
Financial Stability Frequency (%)	173(8)
Image And Reputation Frequency (%)	0(0)
Proximity To Branches Frequency(%)	294(14)
Good Relationship With Bank Representative Frequency (%)	240(12)
Bank Support To Business Frequency (%)	0(0)
Proximity To ATM Frequency (%)	240(12)

Table 4 indicated that, excellent customer service is the major factor across all age groups for the participants choose to maintain banking relationship with 54%.

Table 5: Most important factor with online banking activities

Reasons	Most important factor in bank relationship
N Frequency (%)	1990(100)
Ease of use of electronic payment system platforms Frequency (%)	782(39)
Excellent customer service Frequency (%)	690(35)
Variety of transactions offered Frequency (%)	259(13)
Electronic payment system platforms security Frequency (%)	259(13)

Table 5 indicated that, ease of use of electronic payment system platforms by the participants is the most important factor with 39% followed closely by the excellent customer service with 35%.

4.1.7 Bank Cyberthreats Protection Awareness

Table 6: Bank Cyberthreats Protection Awareness

Awareness level	N Frequency (%)	Yes Frequency (%)	No Frequency (%)	Not sure Frequency (%)
Are you aware of any control measures to protect you from cybercriminals by your bank?	2100(100)	528(25)	537(26)	1035(49)
How effective are the control measure against cybercriminals	2100(100)	410(20)	410(20)	1280(60)
Are you aware of any control measures to protect the bank from cyberattacks?	2060(100)	642(31)	360(18)	1058(51)
How effective are the control measure against cyberattacks	2060(100)	639(31)	360(17)	1061(52)

In exploring the research question on awareness of any control measure to protect them from financial cyberthreats Table 5 illustrated that, the participants' awareness level of any control measure to protect them from any form of cyberattacks is low.

4.1.8 Ways to Protect Electronic Payment System from Cyberattacks

Table 7: Protection of Electronic Payment System from Cyberattacks

Medium	Protection of Electronic Payment System from Cyberattacks
N Frequency (%)	1870(100)
Protection against phishing emails Frequency (%)	461(25)
Protection against online identity theft Frequency (%)	461(25)
Protection against insider threat Frequency (%)	367(19)
Implementation of cyberlaw legislation Frequency (%)	461(25)
Law enforcement agencies Frequency (%)	120(6)

This was an open ended question which required the participants to state ways on how the Nigerian financial services sector can protected from cyberattacks. The participants identified measures such as protection against phishing emails, protection against online identity theft, protection against insider threat, urgent implementation of cyberlaw legislation and equipping the law enforcement agencies on cybersecurity skills. These all fall under the results on table 7.

5. CONCLUSION

The study shows that, bank customers are confidence and have adopted the electronic payment systems in Nigeria. There is an urgent need by the financial services sector to heighten the level of consumer awareness about cyberthreats related activities. The study shows further that, increase in market size of electronic financial transaction and increasing demand for changes in technology have become the platform for cybercriminals. Low or no level of awareness by consumers on fundamental system securities have also contributed to the high rate of cyberfraud in the financial services sector.

8. RECOMMENDATIONS

1. It is important that the financial services sector develop their cyber knowledge on emerging cyberthreats so that effective mitigation strategies can be put in place.
2. It is important that the financial services sector is proactive with the level of cyberfraud awareness so as to safeguard and to further guarantee their consumers' confidence towards electronic payment systems.

9. FUTURE RESEARCH

Future research in this area is to be carried out to understand the various techniques cybercriminals employ in perpetrating cyberfraud in the financial services sector.

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