

**T.C.**

**ISTANBUL AYDIN UNIVERSITY  
INSTITUTE OF SOCIAL SCIENCES**



**FACTORS AFFECTING E BANKING: THE CASE OF NIGERIA**

**MASTER THESIS**

**Abiodun OLOMOFE**

**Department of Business (English)**

**Business Administration Program**

**Thesis Advisor: Assoc. Prof. Dr. Erginbay UĞURLU**

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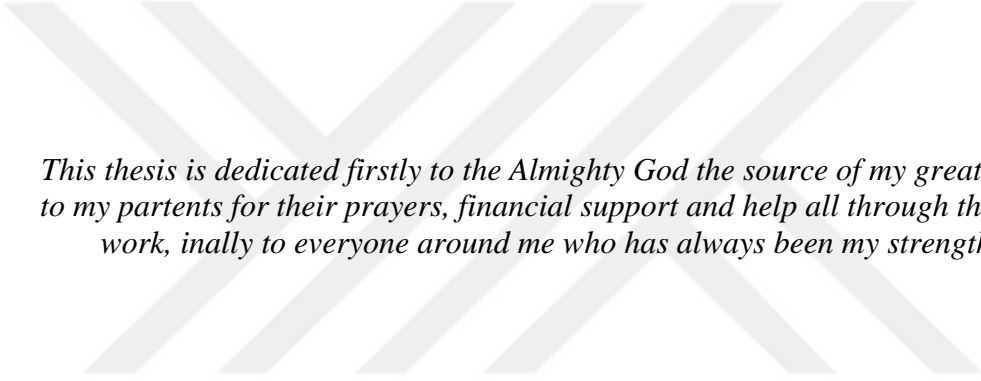
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*This thesis is dedicated firstly to the Almighty God the source of my greatest inspiration, to my partents for their prayers, financial support and help all through the period of this work, inally to everyone around me who has always been my strength and source of inspiration.*

## **FOREWORD**

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**Abiodun OLOMOFE**

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## FACTORS AFFECTING INTERNET BANKING: CASE OF NIGERIA

### ABSTRACT

The advent of electronic banking and its adoption in Nigeria is becoming a well-used tool for banking in the country. Usage of e-banking banking has become easy for banking to be carried out even from the comfort of a customer's home but several factors have hindered the adoption of the mode of banking by everyone. The aim of the study is to examine the factors that hinder the adoption of the e-banking and also proffered solutions to these problems. The factors outlined include fraud/security issues, access to internet services, awareness and accessibility. Questionnaires were used to collect data and SPSS was used to test the data. The hypotheses tested are the relationship between age and use of electronic banking, the relationship between education exposure and electronic banking usage, the relationship between gender and people who visit the bank for their individual transactions and relationship between income and electronic banking usage. Non-parametric hypothesis tests are used for the analysis. The results show that factors like educational exposure, internet reliability, online/ ATM error and others were factors that necessitate the adoption of online/ internet banking in Nigeria.

**Keywords:** *Electronic banking, Adoption, Bank, Education, gender, ATM, SPSS, Nigeria*

## İNTERNET BANKACILIĞINI ETKİLEYEN FAKTÖRLER:

### NİJERYA VAKASI

#### ÖZET

Elektronik bankacılığın ortaya çıkması ve Nijerya'da benimsenmesi ülkedeki bankacılık için iyi bir araç haline gelmiştir. Bankacılığın bu uygulamasının kullanımı, herhangi bir müşterinin evinin konforundan bile bankacılık işlemlerini yapmasını sağlayacak şekilde banka işlemlerini kolaylaştırmıştır ancak bazı faktörler bu bankacılık türünün herkes tarafından benimsenmesini engellemiştir. Bu çalışmanın amacı, e-bankacılığın benimsenmesini engelleyen faktörleri incelemek ve bu sorunlara çözüm önerileri sunmaktır. Bu faktörler sahtekarlık / güvenlik sorunları, internet hizmetlerine erişim, farkındalık ve erişilebilirliği şeklinde sıralanabilir. Verilerin toplanmasında anketler kullanılmış ve verilerin testi için SPSS kullanılmıştır. Sınanan hipotezler elektronik bankacılık kullanımı ve yaş arasındaki ilişki; eğitim düzeyi ve elektronik bankacılık kullanımı arasındaki ilişki, cinsiyet ve kişisel işlemler için bankayı ziyaret etme arasındaki ilişki ve gelirle elektronik bankacılık kullanımı arasındaki ilişkidir. Bu hipotezlerin sınanması için parametrik olmayan hipotez testleri kullanılmıştır. Sonuçlar eğitim düzeyi, internet güvenilirliği, çevrimiçi/ATM hataları gibi faktörler ve diğer faktörler Nijerya'daki çevrimiçi/internet bankacılığının kabul görmesi için gerekli olan faktörler olarak görülmektedir.

**Anahtar Kelimeler:** *Elektronik bankacılık, Benimseme, Banka, Eğitim, Cinsiyet, ATM, SPSS, Nijerya*

## **1. INTRODUCTION**

E-banking can be described as a system involving procedures in which individuals can get to and control accounts and carry out exchanges by methods using computers, mobile phones and other internet enabling devices. E-banking as its name implies means electronic banking. Gautaum (2014) wrote that e-banking as banking services delivered through the internet to homes and private addresses of customers. It can be referred to as the delivery of banking information and services to customers via different platforms through internet enabled devices which may include phones, computers and digital television. Consequent upon gradually expanding requirements in financial market, E-banking is perceived as an important tool and as an obviously cordial alternative to help decrease the use of paper or manual kind of banking.

Nigeria is presently at a premature echelon of information technology acceptance and the cosmic preponderance of the citizens are not well-known with the utilization of new routine; along these positions, the use of an innovation based saving fund platform, for instance, web management of a bank account, needs suitable mindfulness among customers in relation to its application, worth and advantages. Innovation and research recognition has transformed into a essential topic in the business world nowadays, predominantly regarding e-banking.

Nigeria, popularly called the giant of Africa is thought to be the foremost country in the continent, nevertheless, the nation is held up behind extremely in various facets ranging from economic status, social and infrastructural development and the one not left out is the acceptance and utilization of internet services. Banking around the world has moved beyond customers lining up in the bank halls to request their deposits or going to the supermarket to buy goods or request services with enormous amount of money in hand. E-banking is the contemporary global drift, on the other hand, Nigeria is far behind in this area which can be credited to pitiable infrastructure, low-echelon of education, corruption just to list a few. The unfortunate echelon of infrastructural development has

hindered Nigerian banks from formulating and implementing various internet banking regulations and policies which can help the Nigerian bank customers which can consequently result to an increase in the banking and economic activities in the country. In addition to the indicators affecting e-banking in Nigeria is poor echelon of education. The nation has an important fraction of the inhabitants illiterate which is a key indicator to show how low e-banking is accepted in the nation. Lot of the inhabitants are not internet-competent and feel tentative and insecure to try any endeavor connected to e-banking. The echelon of fraudulent practices and corruption is also a noteworthy variable influencing e-banking in the country. A lot of unemployed youths have turned into practices of a variety of internet banking fraud practices which scares the inhabitants of the country from using e-banking method of carrying out financial transactions. Among these indicators stated are also several others that sway the acceptance of e-banking in the country; it is against this backdrop the study examined the factors and variables that influence electronic banking usage in Nigeria.

Information communication technology has been recognized to be influential in both academically and in the daily lives of mankind. E-banking which is a division of ICT as can be perceived in advanced countries like the US has very much enhanced banking and the lives of the bank customers. It has speed up advancement in an inconceivable rapidity as one can be in the comfort of homes and transfer money to anybody anywhere within seconds. With the arrival and the nonstop advancement of e-banking, financial transactions has been made easy and corporate organizations and multinational companies now perform banking functions by themselves without the help of their respective bankers, they now equalize their balances which has been activated by e-banking without having to exhaust precious time in going to the banking hall to carry out this function. The study seeks to examine the critical factors which is antagonistic to the adoption of electronic banking and also proffered solutions to these problems such that if Nigeria and Nigerian banks adopt them, it can greatly influence the lives of the citizens and the economy of the country. In addition to the scope of the importance of the study; Almost all the countries in the African continent have problems in effectively and efficiently utilizing e-banking hence, the study will immensely beneficial to them as they can also adopt the solutions proffered to help improve their countries. Furthermore, the

study will also add to the existing literature on the subject matter such that a comprehensive study was carried out which examined in details the conceptual, empirical and theoretical framework of the subject matter.

For the furtherance of the thesis, the topic will be expanded into five chapters. The first part will cover the introduction of the topic that carries the background check of the study, aims and importance of the study. Literature review covers the second chapter while the fourth chapter consists of methodology which indicates the population, sample size, mode of data collection and analysis. Chapter five is the data analysis and presentation. The sixth chapter is the conclusion which will bear the recommendations and the limitations of the study.

## **2. LITERATURE REVIEW**

Many authors and scholars have done so many research on the topic or related topics using different methods, sample size and style. This chapter will examine different researches on the topic. These works bordered around the use several models which includes TAM(Technology Acceptance Model), PCI(perceived Characteristics of innovation), TPD(Theory of planned behavior) and many other models to view the rationale why consumers and customers adopt or shy away from the idea of internet banking and the variables and factors that instigate actions from bank costumers. The most prominent factors or variables listed by scholars include perceived use (PU), perceived ease of use (PEOU), efficacy, perceived risk, trust, attitude and others. These factors define the way customers adopt or reject internet banking in regions.

Muslime and Ramadhan (2011) examine the basic relationship that exists between electronic banking services, adoption of customer and customer satisfaction. It also examined the different factors which push a customer to adopt internet banking. The result of the study shows that a relationship abound between customer satisfaction and internet banking. .

Adewuyi (2011) investigated the meaning and exact origin of e-banking and the conceptual analysis of information technology. The guidelines of e-banking in Nigeria, operations and regulation of e-banking.

Parkiaei and Ardestani (2014) examined use of internet banking to fulfill or carry out normal day to day tasks like banking services, bill payments, fund transfers. The research was to examine the level of customer satisfaction and measures to strengthen electronic banking services.

Jahangar and Begum (2008) investigated the role of several factors that can instigate the acceptance of e-banking by customers. The factors are perceived ease of use

(PEOU), perceived usefulness (PU), security and attitude. A framework that check the effect of PU and PEOU and other factors were investigated. Structural equation modeling techniques was used. The result showed the PU and PEOU, security and attitude are significant to customer's adaptation.

Maditinos et al (2013) introduced an extended technology acceptance model (TAM) as a tool for testing the factors that have a significant on customers on online banking acceptance. The paper makes effort to point out areas where banking organizations should emphasize on in order to successfully implement online banking ad therefore harvest its potential benefits.

Gantam and Khare (2014) described the major challenges and issues in the development of the electronic banking (e-banking) industry. It also shows how the use of e-banking can help local banks to reduce operating costs and provide better and faster services to customers.

Pikkarainen et al (2004) used a model indicating online banking acceptance among private banking customers in Finland. The model was tested with a survey sample (n=268). They found out that PU and PEOU were the main factors influencing online banking acceptance.

Al-Smadi (2012) used an integrated TAM, EPB (Theory of planned behavior model) and incorporated five cultural dimensions and perceived risk to propose a theoretical model. He concluded that perceived risk has a stronger impact on customers attitude, which in turn influences customers motive to use electronic banking services.

Mahmood et al (2014) used five variables which are perceived usefulness (PU), privacy and security, Web design, trust and self efficacy. Statistical techniques of correlation and regression were used for empirical testing. The findings of the research are, if customers perceives e-banking as useful, transactions are conducted on a user friendly website where customers information is secured and there is trust between both parties then there will be impact of these variables on the e-banking usage.

Uchenna et al (2011) investigated factors that influence the adoption of internet banking services among young Malaysians. They used a framework which is based on TAM with six independent variables. The result indicate the PU, PEOU, self efficacy, relative



advantage, perceived credibility and trialability tend to affect consumers to adopt internet banking.

Maitto et al (2014) use a theoretical model to test the factor that influences adoption. The result was that perceived risk, security perception, prior internet knowledge and information on online banker influences customers when it comes to online banking.

Baragham (2007) investigated customers acceptance within the context of Iran internet banking services. The research structure was based on the extension of TAM with theory of planned behavior and trust. Partial least square was used to examine pattern on inter-correlation among thirteen constructs which include perceived behavioral control, attitude, perceived usefulness, perceived ease of use and trust.

Takele and Sira (2013) analyzed factors that affect customers' intention to accept e-banking service channel in Bahir Dar city in their thesis. Theory of planned behavior and TAM using six variables as the conceptual framework. Perceived behavioral control emerged as the dominant factor which influences adoption according to their results. Attitude and PU were also factors.

Lee (2008) explored the various advantages of online banking to form a positive factor named perceived benefits. He used the TAM and TPB (theory of planned behavior) to propose a theoretical model to explain customer's motive to use online banking. The result shows that it is adversely affected mainly by the same security/privacy risk.

Karjaluoto et al (2006) explored the effect of various factors affecting attitude formation towards internet banking in Finland. Aiming to determine factors that influence attitude formation towards internet banking and their relation to the use of online banking services.

Ahmed (2016) studied ways social factors, demographic characteristics, and consumer perceptions and attitudes towards internet banking influence the acceptance of internet banking in an emerging economy like Malaysia. He showed that social factors were strongly influential in the acceptance of internet banking.

Bragar (2005) used technology acceptance model (TAM) which was stretched by external factors which is risk and self efficacy and perceived characteristics of

innovation (PCI). His result revealed that PU, PEOU, efficacy, relative advantage, compatibility and result demonstrability have a significant relationship with intention to use internet banking.

Akanbi et al (2014) investigated some factors affecting the motive to use internet banking among undergraduates in Nigeria used three hundred and fifty seven subjects cutting across different departments in a private University. Questionnaires were the instrument used in collection of data and five hypotheses were tested using multiple regression analysis and t-test. They found out factors like triability, capability, compatibility and other factors had positive significance relationship with the intention to use internet banking.

Mavetera et al (2014) used constructs from TAM and IDT to analyse the variables that affects IBA in Botswana. Trust and perceived used (PU) were seen as the major factors that influences the used of internet banking. They also noticed that internet banking awareness and resources must be high for them to contribute significantly to the positive acceptance rates of internet banking.

Irene and Walker (2014) investigated the variables that affect the acceptance of mobile banking services by students. The authors used a quantitative approach and questionnaire were used in collection of data. Factors like perceived use (PU), perceived ease of use (PEOU), perceived value (PV), Trust (T), intention of use (IU), perceived ease of adoption and usage behavior (UB). The result of the survey boils down to the fact that student have form a level of trust and attitude towards mobile/ internet banking.

Sharman and Kristy (2006) studied how and why specific factors influences the consumer decision whether or not to bank on the internet, in the Australian context. They found out the place of convenience as the number one factor in adoption. They further gave other factors which include;

- i. Service quality
- ii. Perceived relative advantage, compatibility and triability
- iii. Complexity, demographics, consumer attitudes and beliefs
- iv. Security, privacy, trust and risk
- v. Needs already satisfied, familiarity and habit

- vi. Lack of awareness, consumer, product , organization and channel characteristics
- vii. Convenience, adaptability, computer and technology confidence
- viii. Knowledge, high levels of internet use at work
- ix. Gender

Donnelie et al (2013) identified the factors that influence the acceptance of internet banking in a bid to construct ways of salvaging the situation in their research, “An analysis of factors that influence internet banking adoption among intellectuals: Case of Chinhoyi University of technology. They focused on intellectuals with better understanding of technology than the general public. They tested two hypotheses which includes;

- i. There is a relationship between age and internet banking adoption, which came back negative after the hypothesis, was tested.
- ii. There is a relationship between internet banking and levels of education. The result came back positive between the two variables.

Hassanudin et al (2012) investigated the factors affecting the adoption of internet banking services in Malaysia cooperative banks. The study used the stratified random sampling technique and descriptive analysis was used to gauge the overall pictures of variables affecting respondents’ acceptance. The authors found out that ease of use, security and privacy as well quality of internet connection as the factors contributed towards acceptance of internet banking. They found out that respondents who had good internet reception or connection are about 6 times more likely to use internet banking services compared to those who had low internet connection.

Oyeleye et al (2015) investigated how educational attainment affects the acceptance of e-banking in Nigeria. The researcher employed the SPSS for descriptive statistical analysis and the structural equation model (SEM) as statistical test tool. The research concluded that customer’s educational attainment directly influences customer’s perceived usefulness and perceived ease of use and through these indirectly influence the level of adoption of e-banking by customers. The authors recommended that banks use different customers’ educational attainment levels as e-banking product designing tool which will make adoption easier and faster.

### **3. THE CONCEPT OF INTERNET BANKING**

#### **3.1 Definition of Internet Banking**

Electronic banking comprises any electronic payment portal, platform, or system which helps customers of a bank or any financial organization to make or carryout monetary transactions through the institution's website or internet mobile application on different devices.

Parkiaei and Ardestani (2014) wrote that internet banking involves the delivery of banking services via electronic devices and also provides efficient services.

According to Adewuyi (2011) e-banking is the adoption of ICT in banking operations. It also involves application of ICT concepts, techniques, policies and implementation strategies to banking services.

#### **3.2 History of Internet Banking**

From the era of regular visits where the use of tellers and cheques were in vogue banking has come a long way. A cheque can be deposited by a customer via e-banking by just taking a picture of the cheque and payment will be done into the savings account of the customers. Electronic banking began in the 1980's but the definition and way of practice is quite different from what is been practiced now.

In the 1980's when the idea of internet banking became prominent, the use of different terminal, keyboard and monitors of television and computers bank accounts using landline telephone. Lately, the term e-banking services use mobile banking technology such as Smartphone application, using browser and text banking.

What was called internet banking which started in 1981 was first carried out at New York city in the USA to test ground breaking way by which business can be done and

offering services to its major banks. These banks are Citibank, Chase Manhattan, Chemical bank and Manufacturer Hanover provided avenue to make home banking access to their customers possible. The acceptance of the new wave and innovation in banking through the use of the internet was not accepted very well by customers who still went about doing their crude way of banking. Internet banking failed to gain impetus and momentum after the first launch in 1981 until the second phase of the initiative in the mid 1990s. (Singh, 2013)

Standford federal credit union was the first financial institution to provide internet banking services to its customer in October 1994. Subsequently, Presidential bank became the number one bank to give customers access to their accounts on the internet. Other banks followed the move of Presidential bank as the e-banking mode of banking started gaining ground. SFNB ( Security First Network Bank) was the first bank that fully integrated the idea of internet banking. They opened their virtual outlet and provided business with primary offerings for national e-banking and providing ATM cards. Netbank started operations in 1996 and folded up in 2007. It was the first successful all internet bank (Aydun, 2014).

The overall benefits and expediencies of e-banking became evident to many customers and the benefits include; better interest rates which were more elevated than those of conventional banks, better and convenient access to account information and transfer of funds via internet. Despite the conveniences associated with e-banking, some customers were still uncertain about e-banking and couldn't bring themselves to trust online banking platforms (Adewuyi, 2011). E-banking is becoming the most used form of banking by which individuals run their account. Encryption technology like secure socket layers are used for verification of account actions, safe guarding account and forewarning customers of ways to evade internet fraud like identity theft. All this modes are used by banks to guarantee internet banking security for customers. Society for the Worldwide interbank financial telecommunication (SWIFT) which act as a platform that connects global financial institution told member banks as at August 2016 to improve security because of ongoing cyber attacks on banks. Other safety measures have been employed by

banks and financial institutions to curb the menace of e-banking fraud which will be discussed on subsequent chapters (Makwoski, 2007).

The structural adjustment programme in 1986 kick started the beginning of e-banking in Nigeria. It was initiated by the then military government headed by General Babangida. The SAP brought about several recommendation to the table and the adoption of E-banking was seen as a necessity for Nigeria banks. Societe Generate bank was the first to adopt the initiative in 1990 by launching the first Automated Teller Machine (ATM) (Adewuyi, 2011). Since then, other banks followed suit in incorporating ATMs, debit and credit cards, bank mobile applications and other technologies which have been incorporated into E-banking.

### **3.3 The Advantages and Disadvantage of E-banking**

The advantages and benefits of E-banking is much in the sense that, bank customers can manage their bank accounts from either their mobile devices or ATM terminals without vissting the banks. The convenience seen or derived from E-banking is the most important reason E-banking is way ahead the crude way of banking. Based on Koskosas(2011) the advantages of e-banking are listed below:

- **Convenience:** The ability to do banking from anywhere not necessarily going to the baking hall. Payments, deposits and cash movement can be done in the convenient from home or office. Real time banking information can be received when banking halls are closed especially during the weekends.
- **Portability:** It creates a more mobile bank for customers. Mobile applications installed by customers can allow them to do business transactions from anywhere they can get phone reception. Alert to low balances are offered by some banks.
- **Cost Saving:** Cost saving opportunities is given to customers via E-banking. Paying of bills online, reduction in the amount of cheques used. It saves cashbook or cheques and gives broader access online, buying of goods and services online can be done and finding lower fees and more favorable interest rates can be achieved.

- **Tools and Services:** Electronic tax forms, loans and tools for budgeting and investment analysis are available free of charge.
  - **Track Spending:** Budgeting can be achieved or monitored using track spending tools of mobile bank applications. When a customer make purchases with his or her debit cards, pay bills online, car payment or other types of bills. The mobile application catalogues spending rates and purchasing habits.
  - **Mobile Advantage:** Accessing bank account details and other information can be done effortlessly from personal computers and mobile devices. These devices should be inter enabled.
  - **Industry benefits:** Cost of labour and supply can be minimized when customers use self-service tools on transactions. Money is saved on printing paper, postage by sending bank statements via the internet. ATM and personalized banking increases efficiency and flexibility.
  - **Security alerts:** When there are security breaches and fraudulent activities, banks can easily send security alerts to customers to minimize or stop any form of fraud.
- Disadvantages of E-banking are still prominent even when the advantages of using the services are limitless and convenient. Based on Koskosas(2011) the disadvantages of e-banking are listed below:

- **Ignorance:** A basic knowledge of using the internet and computer experience is necessary to be able to use online banking. It will be tedious and foreign for customers who are used to traditional banking methods.
- **Fraud and identity theft:** Online fraudulent schemes and activities are the biggest red marks and concern for customers. Stealing of debit cards, divulging of access pins and fraudulent emails and websites are ways by which fraudsters defraud gullible bank customers.
- **Tracking automated payments:** When automated payments are set up in mobile applications and are not monitored after some time a customer may come back to find that he or she has be overpaying especially when the bills have been changed. More money will be debited from the customer's account.

- **Impersonal banking experience:** Complex transactions like applying for a loan becomes tedious using online platforms. Subtle information cannot be easily conveyed when banking operations is carried out online and also the inability for the person at the other end to fully grasps your request.
- **Prioritization:** Online banking services gives priority to advertisements which helps to promote other banking services instead to help navigate customers on how to make use of the website. Advert links are prominent while help links are often down.
- **Internet reception:** For E-banking to be enjoyed, a working PC, smartphone and steady internet connection is needed. Sometimes bank mobile applications update comes up too.

### 3.4 Internet Banking Services

Electronic banking services are ranges of banking and other services or facilities that use electronic equipments and they include;

- **Online banking:** It is a method of banking in which transactions are conducted electronically over the internet.
- **ATM or Debit card services:** A debit card is a plastic payment card that can be used instead of cash when making purchases. A debit card allows instant withdrawal of cash, acting as an ATM card and can be used for payment at POS (Point of sale) terminals. ATM cards are used to perform transactions such as deposits, cash withdrawals, obtaining account information and transfer of funds.
- **Phone banking:** It is a service that enables bank customers perform monetary transactions over the telephone without the need to visit a bank branch or ATM. It is normally done on a 24hours basis, no time restrictions.
- **SMS banking:** It is a form of mobile banking some banks or financial institutions use to send messages which are called notifications or alerts to mobile phone using SMS messaging. Financial transactions can also be done using SMS. Banks in Nigeria provide number codes to transfer money to pay bills via SMS banking.



- **Electronic alert:** E-banking alerts services allow customers to request and receive messages via email or SMS (short messaging services). Electronic alert comes in mode like balance alerts, debit and credit purchase alert, deposit alerts, reminder alerts, insufficient funds fee alerts, withdrawal alerts and bank information alert.
- **Mobile banking:** Services whereby banks or any financial institutions allow customers to carryout financial services using internet enabled mobile devices such as smartphone or tablets. The banks mobile application or software is necessary to carry out mobile bank transactions like electronic bill payments and fund transfer can be done with mobile banking.
- **Fund transfer services:** Electronic fund transfer (EFT) is the electronic transfer of money from one bank account to another either inter-bank accounts or intra-bank accounts, via computer based system with the direct intervention of bank staff. Mobile banking phone banking and ATM can be used to achieve EFT.
- **Point of sale banking:** It is the point where a transaction is finalized or the moment where a customer tenders payment in exchange for goods and services. Mobile payments, debit or credit card payment can be used too.

### 3.4.1 Electronic payment

It is the financial exchange that takes place online or via the internet with a service provider and a customer. It is also between buyers and sellers. Digital financial instrument like debit cards, credit cards, encrypted credit card numbers, electronic cheques or digital cash that are backed by a bank or a middle man/legal tender.

Factors like decreasing technological cost reduced operational factors and processing cost and increasing online commerce that has led institution to make use of electronic payment. For electronic payment to be achieved, payment instruments are used. They are cards, credit transfer, direct debits, e-money and Automated teller machine (Mehmood et al, 2014).

### 3.4.2 Electronic money

Electronic money is money which exists only in banking computer system and it is not held in any physical form. It can be broadly defined as an electronic store of monetary

value on a technical device that may be widely used for making payments to entities other than the issuer.

It can be hardware based for example chip card or software based which can employed using specialized software that functions on common personal devices such as personal computers, tablets and smart phones. The best known example of electronic money is the Bitcoin which can be bought with real money and traded on an exchange like any other currency (Maditinos et al, 2013).

### **3.4.3 Electronic check**

It is referred to as e-check which is a form of payment made via the internet, designed to perform the same functions as a conventional paper check. Since the check is in an electronic format, it can be processed using lesser steps. It has more security features than standard paper check including authentication, public key cryptography, digital signature and encryption (Uchenna et al, 2011).

### **3.4.4 Smart cards**

Smart card can also be called chip card or ICC (Integrated circuit card). It is any pocket sized card that has embedded integrated circuits. The chip on the smart card can be either microcontroller chip or an embedded memory chip. Smart cards are designed to be tamper resistant and use encryption to provide protection for in-memory information.

Smart card connects to a reader either by direct physical contact or through a short-range wireless connectivity standard such as Near field communication (Uchenna et al, 2011).

#### **4. THE HISTORY OF NIGERIAN BANKING SYSTEM**

It will be improper to talk about the evolution of E-banking in Nigeria and the problem without talking about the history of how banking came into Nigeria, the dispensations and the growth through the years of the banking sector in Nigeria. This history of Nigerian banking will be divided into three different phases according to Oluduro (2015);

1. Nigerian banking history 1892-1952
2. Nigerian banking history 1952-1985
3. Nigerian banking history 1985- till date

##### **4.1 Nigerian Banking History (1892-1952)**

During the pre-colonial times, Nigeria was a hive of different trade and merchant activity. So there was a little bit unofficial banking and rendering of bank of services in the early 17<sup>th</sup> century (Oluduro, 2015). Currencies where flowing in and out of the then still colonized entity called Nigeria and there was a need for a banking system to control the importing of British shilling and its distribution too. As at that time, the British shilling was the official means of trading and the currency used by all colonized countries under the British colony.

According to Agu (1984), the introduction of shilling at the end of the 19<sup>th</sup> century necessitated the need for bank(s) in Nigeria. Harmonization of currencies in the British colonized West Africa was the basic need while the shilling was introduced because many varieties of currencies were in circulation. One currency exchange for business transaction was introduced after the settled and uniformed government came to power. An institution was necessary and required to oversee the movement/ distribution of the shilling, importation too and provision of credit loans to companies and government.

The chairman of Elder Dempster and company Mr. Alfred Jones was the first person to provide funds to establish a bank in Lagos. In August 1891, a branch of Africa Banking Corporation was opened in Lagos. Africa Banking Corporation became the first commercial bank in Nigeria.

Due to the mutual union between the Lagos state government and the Africa Banking Corporation, Bank of British West Africa (BBWA) was registered in December 1893 and it signaled the end of ABC in Nigeria.

Some British merchant in Nigeria came together to establish another bank in Nigeria because of the monopoly of banking and trade held only by the BBWA and it brought competition. Anglo-African bank was incorporated in 1899 and was headquartered in Calabar unlike BBWA that was headquartered in Lagos, just to avoid unfavorable competition.

Bank of Nigeria originated in 1905 because the Anglo-Africa bank changed its name. The growth of the bank and its consistency was impeccable and it became a major rival to BBWA until June 20<sup>th</sup> of the same year when they merged. The merger brought to an end the competition in the banking sector.

Colonial bank became the new competition in 1916 when it came on board and they were tough and resilient as BBWA. The establishment of the colonial bank brought back competition because they were as strong as BBWA until 1925 when it was absorbed and taken over by Barclays bank.

Other foreign banks trooped into the Nigerian economy that was growing steadily. In 1948, the United Bank of Africa came in a British-French Bank. Other banks followed. Imala (2005) wrote that incidence of overtrading became very high because there was no government controlled apex bank (Central bank) to regulate the supervision of banking operations. 25 banks were created between 1927 to 1951 but at the end of 1951, 22 out of the 25 banks crashed and failed.

## **4.2 Nigeria Banking History (1952 -1985)**

Oluduro (2015) wrote that many banks were established from 1952 through independence and to the late 1980s but this time, it had an apex bank (Central bank) that was in charge of regulation and supervision. The 1952 Bank Ordinance and the Banking Amendment act brought certain level of sanity to the banking system.

Establishment of specialized banks like development and merchant banks were seen. Example of such specialized banks are Nigeria Industrial Development Bank (NIDB), the Nigeria Bank of Commerce and Industry (NBCI) and the Nigeria Agricultural and Credit Bank. Nigeria Acceptance Limited (NAL) was established in 1969 when Phillip Hill Limited merged with another merchant bank.

Four other merchant banks were incorporated between 1973-1975 which include International Merchant Bank Limited, Continental Merchant Bank Limited, ICON (Merchant Bankers) Limited and Nigeria Merchant Bank.

Growth was seen in the banking sector between 1959-1985. More commercial banks became prominent and they increased from 14 to 29 in the space of 1970-1980. Banking capitalization increased too.

## **4.3 Nigerian Banking History (1985-till date)**

After the expansion of the 1960s and 1970s, expansion and structural changes were seen in the sector from 1989. As at 1991, there were 121 banks in Nigeria, 66 commercial banks and 55 merchant banks. In 1991 alone, 20 banks were licensed by the Central bank of Nigeria after the federal government economic deregulation programme. The free market enterprise, liberalization and the deregulation of the banking sector came with its own attending consequences. Among such consequences since 1996 have been closure, liquidation and thinning out of banks.

Mismanagement in form of grants, bad loans, ownership structures, technical issues, lack of adequate supervision and other factors were reasons that brought distress to many banks and the sector. Other factors were under capitalization, asymmetric

information, supervisory capacity, inadequate regulation, inappropriate corporate governance among numerous others. The distress in the banks brought crisis and destroying of public confidence and trust in the system. Distrust and commitment does not easily return when betrayed. Twenty seven banks crashed because of bank distress from 1994 to 2003.

Bank failures were not just a stand out quality of the first era, but it cut across other periods of the Nigeria banking history. Stern and drastic regulatory measures were taken after bank failures became more severe from 1986-2003. The drastic measures were taken to stop bank failures which was increasing daily and a ploy to bring back customers confident in the banking sector.

The NDIC (Nigeria Deposit Insurance Scheme) was established in 1988 by decree 22 to provide financial and technical assistance, insure deposit liabilities of licensed banks and contribute to the sanity of the banking sector of Nigeria.

The NDIC was created to save the sick banks with revoked banking licenses by the CBN. In 2004, the CBN increased capital base of all commercial banks to twenty five Billion Naira and it gave a period of 18 months for banks to comply to the directive. The decree brought about re-organization, merger and acquisition and twenty five banks were remaining after the exercise in 2006. The decree brought a whole lot of sanity and brought back to the banking sector. Electronic banking became more prominent during this era. Automated Teller Machines were installed by banks and various level of restructuring was seen from 2004-2009.

#### **4.4 Central Bank of Nigeria**

A central bank was founded in 1958 and is not dependent on any national authority, it conducts and creates monetary policies, regulatory framework and provides financial services including economic research. Stabilize the Naira, prevent inflation and keep unemployment low are the major goals of the Central Bank of Nigeria (Amadeo, 2017).

Controlling the liquidity in the financial system is one of the keys used by central banks to initiate growth. According to Amadeo (2017), they use three policy tools to achieve their aim and objectives.

1. They set templates which are used as standard requirements for other banks and financial institution. They are the sole bank involved in creating and writing policies which will other banks will follow as templates for operations.
2. They buy and sell securities from member banks using open market policies.
3. The apex bank is in charge of creating standards, implement targets for all banks and financial institutions and interest rates. The standards are used to rate the following;
  - i. Loans
  - ii. Mortgages
  - iii. Bonds
  - iv. Rising interest rate
  - v. Slow growth
  - vi. Inflation

The apex bank as it is called is the number one regulatory body in charge of banking in Nigeria. The founding of the apex came as a result of a detailed report carried out by the then colonial government to investigate practices and management of Banks in Nigeria. G.D Paton report was the basis of the 1952 first banking ordinance. The report was arranged to ensure orderly and smooth running of banking services in Nigeria and acts against the creation of banks that are not viable in the long run. In March 1958, a policy was presented to the legislative arm of government. July 1, 1959 was the date the policy was fully implemented and the Central Bank of Nigeria was birthed and it began full operations.

There were several amendment carried out by the legislature which constituted the legal framework of the operation of the CBN and how they regulates other banks.

The Structural Adjustment Program (SAP) of 1986 which followed several range of deregulation measures and economic liberalization brought about the establishment of more banks and financial houses. Decree 24 and 25 of the banks and other financial institutions (BOFI) of 1991 extended more powers to the central bank of Nigeria to control other financial houses that are not banks in order to achieve effective regulation

and supervision of banks and other financial institution and enhance monetary policy too (Olukotun et al, 2013)

The then military federal government in 1997 enacted a BOFI (amended) decree no 4 to remove the unsupervised, independent work by the CBN which the bank has been enjoying since 1991.

The CBN is also in charge of nurturing and controlling the money and capital markets. To ensure smooth running of the financial terrain, treasury bills and treasure certificate were introduced in 1960 and 1968 respective. In 1961, the central bank of Nigeria pushed for the establishment of the Lagos stock exchange. The Nigeria capital market is nurtured and controlled by the Security and Exchange Commission (Olukotun et al, 2013).

Several years before the millennium, banking failures was seen and many banks were liquidated or were merged with other banks because mismanagement. These banking failures brought about the need for banking reforms and consistent bank recapitalization. Olokoyo and Adegbaaju (2008) wrote in their study “Recapitalization and Banks’ performance: A case study of Nigeria examined the effect of continuous recapitalization of banks (increase of capital base) for optimum productivity. Nigerian banks were finding it difficult to deal with liquidity and liquidation was rampart before the increase of the capital base for all commercial banks in the country from N2billion to N25 billion in 2004 when the new CBN governor Professor Charles Soludo. One of the major reasons for the increase in bank capitalization and reforms in the nation’s financial sector was to combat the consistent bank failures and crisis which was due to banks having low capital base, weak regulatory and supervisory framework, indiscipline management actions and tolerating malpractice in the governance off banks (Uchendu, 2005).

Due to recapitalization in the banking sector in 2004, the number of banks in Nigeria fell to 25 commercial banks due to mergers and closure. Some of the commercial banks were not able to meet the N25 billion recapitalization fund which they were to meet by Dec 2005. Banks in Nigeria became stronger when it comes to giving out long term or short term loans and the banks were well liquidated (Olokoyo and Adegbaaju, 2008)



#### 4.5 Factors Affecting the Success of Electronic Banking System in Nigeria

Despite the positives associated with electronic banking and the seemingly ease of use, many bank customers in Nigeria has been slow in adopting or accepting the use of electronic banking still stick to the crude way of banking because of many factors.

Adelowo (2015) gave several reasons why the adoption of e-banking is slow with some customers. He enumerated access to internet service by customers, mobile banking facilities, the difficulty when it comes to learning, lack of face-to-face situation with bank staff, some complained about the incomprehensive nature of online banking and the unreliability of network. Prominent among the factors are security issues, internet fraud and fraudulent practices.

According to Chen and Barnes (2007) in a study using TAM methodology (Technology Acceptance Model ) gave two technological aspects why customers accept new technological products. The aspects were perceived usefulness of the technology and perceived ease of use of the technology. Some of the factors are discussed below:

- **Fraud and security issues:** The lack of sound security measures has been identified in multiple studies to be one of the inherent factors why bank customers are not in a haste to accept e-banking. According to Hussein and Saad (2016), fraudulent hackers, unauthorized account access, debit and credit card theft to access accounts, disclosure of online password can lead to monetary loss and violation of users' privacy.
- **Access to internet services:**The lack of internet in some less modern setting of a place can be a big hindrance to why the adoption is slow among bank customers. Muslime and Ramadhan (2011) discussed about the availability of internet access, relative cost, reliability of internet service, owning computers and mobile devices to access e-banking is a significant reason why the adoption is slow.
- **Resistant to change:** Consumer attitude towards change and behavioral attitude in accepting or rejecting technology is a key factor in adopting a new product or new way of doing things. Eriksson et al (2005) wrote that consumers attitudes are significant factors affecting customer behavior in accepting or rejecting/resisting technological change.

- **Awareness and accessibility:** When customers are not up to date about the availability and provision of e-banking services, they can't start using the product. Lack of awareness to a certain possibility or product or technology has been found to be a potent factor why customers are reluctant in using online banking.
- **Compatibility:**-Compatibility is a critical factor that acts majorly when it comes to the use of innovation and the use of new product (Mavetera et al, 2015). Compatibility is the rate at which an innovation is seen or perceived as consistent with values, past experiences and needs of customers that will adopt the innovation. In internet adoption, compatibility is a determinant of technology adoption.
- **Trust:**-Mavetera et al (2015) discussed that the internet is a network that is open and the security risk associated with financial transactions is very high. Chiemekwe et al (2006) wrote that insecurity is the major inhibiting factor to internet adoption. The perceived risk involved keeps coming as one of the major blockage in innovation adoption and electronic banking in particular. The lack of trust customers have in electronic banking is there customers lack faith in the system (banking system). Matvetera et al (2015) posited that trust has important and positive influence on consumer adoption of internet banking.
- **Capability:**-Akanbi et al (2014) revealed that capability to use a new product is one of the major factor used to measure how consumer react to use new product and more especially, internet banking. How capable are users when it comes to using mobile applications, Automated Teller Machine and other online platforms. When customers are capable of using a new system, the rate of adoption of the system is very fast and quick. The skill necessary to use internet banking solutions is necessary when it come to adoption.
- **Convenience:** Convenience is the ability to start with a endeavor without any difficulty. According to Sharman and Kristy (2006), convenience is using internet banking constitute the main reason why customers either choose to use internet banking or not. A well built mobile application or banking websites without unsolicited adverts which is easy and convenient for customers to use will make consumers to use a particular service more conveniently than others with issues. In

a recent survey carried out by Pew (2005), it was found out that convenience acts as a major factor why US consumer prefer electronic banking services. Sharman and Kristy (2006) also pointed out that convenience is a major motivator why people prefer using electronic banking services. The authors explained convenience in accessibility, habits, and ubiquity. Accessibility; particularly dedicated and unchallenged access contributes to perception and definition of convenience. Male perception of convenience may be associated with high levels of accessibility which is seen in workplace majorly and internet self-efficacy while female perception of convenience boils down to 24/7 home access.

- **Educational exposure:** According to Donnelie et al (2013), educational exposure enhances the understanding of new technology swiftly. An illiterate or someone who cannot read and write adequately will find it hard to understand and use internet channels in banking. Education is an increasingly contributor to the recruitment of new users when it comes to internet adoption. It is increasingly difficult for people who don't have the basic internet education to keep up with continuous increasing trends in technological developments in the society. Education is very important in fostering the adoption of e-banking and a significant level of education is very necessary to take up the use of the technology
- **Service quality:** Internet inconsistency and fluctuation is one of the critical factors that stop customers from adopting the use of electronic banking. Hassanudin et al (2012) found out that in their survey that respondents who has good internet reception and connectivity are 6 times more sure to engage in using internet banking compared to those who are dealing with bad network . In Nigeria, mobile network coverage which is arguably the major way by which customers get internet connection is not always reliable especially in rural areas. ATM errors are consistent features at ATM stands while network fluctuations are sometimes absents are also seen.

## **5. EMPIRICAL APPLICATION**

### **5.1 Research Methodology**

The research was based on quantitative analysis of specific amount of samples which were gotten through questionnaires. For the furtherance of the work, two hypotheses were tested and variables were tested using Chi square tests. The variables that were tested in the survey include two independent variables (Age and Education) and one dependent variable (Electronic banking usage).

Data were gotten via the use of questionnaires. The research was carried out in Nigeria where electronic banking is becoming prevalent and well used. Four hundred and fifty questionnaires were prepared and 400 came back valid and it was used as the sample size.

The study examined the factors affecting the use of E-Banking; a case of Nigeria. The study will specifically;

- i. Investigate the critical factors mitigating the adoption of electronic banking in Nigeria
- ii. Come a conclusion about the effect of electronic banking in the lives of the banking population of Nigerians
- iii. Ascertain the impact of e-banking on the lives of the Nigerian banking population.
- iv. Recommend solutions to improve the use of electronic banking by the Nigerian populace.

The following questions were asked in order to achieve the objectives of the thesis:

- i. What are the imminent and important factors that stand against the actual adoption of electronic banking in Nigeria?
- ii. What is the effect of these hindrances on the Nigerian economy?
- iii. What impact does e-banking have on the lives of Nigerian banking populace?

$$n = p \times q \times \left(\frac{Z}{e}\right)^2$$

n= sample size

p= who shop on the internet (0.05)

q= who do not shop on the internet (0.05)

Z= %95 confidence level (1.96)

e= confidence interval in order to have more generalizable results (0.05)

$$n = 0.05 \times 0.05 \times \left(\frac{1.96}{0.05}\right)^2 = 384$$

## 5.2 Research Hypothesis

Several hypotheses were tested during the survey.

$H_0$ = There is a relationship between age and use of electronic banking

$H_0$ = There is a relationship between education exposure and electronic banking usage.

$H_0$ = There is a relationship between gender and people who visit the bank for their individual transactions

$H_0$ = There is no relationship between income and electronic banking usage

## 5.3 Questionnaire Design

Four hundred and fifty participants were used in the research and the questionnaire. 400 copies of the questionnaires collected back were valid while the remaining 10 copies of the questionnaire had issues of discrepancies and were invalid. Questions were asked about sex, occupation, educational exposure, use of internet banking in various forms and many more. The break down of the information gotten from participants will be broken down in the various frequency tables.

## 5.4 Frequency, validity and reliability

### Reliability

**Table 5.1:** Cronbach's Alpha Reliability Statistics

Cronbach's Alpha	N of Items
.461	8

To estimate the reliability of the survey the Cronbach's alpha is used. Hinton et al, (2004) recommends four cut-off edges for reliability. If it is greater than 0.90 it is considered as excellent reliability, if it is between 0.70 and 0.90 it is considered as high reliability, if the value is between 0.50 and 0.70 it is considered as moderate reliability. If the Cronbach alpha value is less than 0.50 it is considered as a low reliability. Considering the 10 constructs excellent reliability accounts for four and high reliability exhibits six constructs, while moderate and low reliability is zero.(Table 5.1).Reliability statistics test was implemented by using Cronbach's alpha. Table 1 shows the Cronbach's alpha of the scale of 8 items. The value 0.461 is lower than 0.7, thus the section is considered as unreliable.

**Table 5.2:** Descriptive statistics of the Variables

	Variable								
	Gender	Education	Occupation	Age	Income	Accounts	Internet	ATM	ATM Error
<b>N</b>	400	400	400	400	400	400	400	400	400
<b>Mean</b>	1.45	3.28	3.59	2.09	2.15	0.31	2.46	1.45	1.39
<b>Median</b>	1	3	4	2	2	2	2	1	1
<b>Mode</b>	1	3	5	2	1	2	2	1	1
<b>S.d.</b>	0.498	0.947	1.465	0.99	1.242	0.865	0.599	0.67	0.603
	Variable								
	ATM Illegal	ATM damages	Hacking	E-challenges	E-banking or manual	E-banking challenges	E-banking solutions	Bank visitor	
<b>N</b>	400	400	400	400	400	400	400	400	
<b>Mean</b>	3.63	3.82	2.65	4.07	1.82	2.1	1.92	2.41s	
<b>Median</b>	4	4	3	4	1	2	2	2	
<b>Mode</b>	4	5	3	5	1	2	2	2	
<b>S.d.</b>	1.158	1.169	0.478	0.9	0.89	0.729	0.925	1.349	

Table 5.2 shows the mean, median, mode and standard deviation of all the variables used in the questionnaire. The mode of education is 3 meaning majority of people who participated in the survey are degree holder (First degree holders).The mode for occupation is 5, meaning most Nigerians engage in other business venture which is not law, medicine or the rest. The mode of age is 2, meaning most people that participated in the survey are in the age range of 26-40. The modal income is 1 which means most Nigerians who participated in the survey live under the income value of 0-100,000 which is low too The mode of number accounts held by the participants is 2 and it shows that the average number of accounts held per person is two The mode of internet banking usage is 2. It shows that most Nigerians use internet banking daily. The mode of ATM usage is 1 and it shows that most Nigerians use the ATM daily The mode of ATM error is 1 and it shows that network failure occur more frequently when ATM is used. The mode of illegal ATM transactions is 4, meaning most Nigerians agree that illegal ATM transactions happens more frequently

**Table 5.3:** Frequency of Gender

	<b>Frequency</b>	<b>Percent</b>
<b>Male</b>	221	55.3
<b>Female</b>	179	44.8
<b>Total</b>	400	100.0

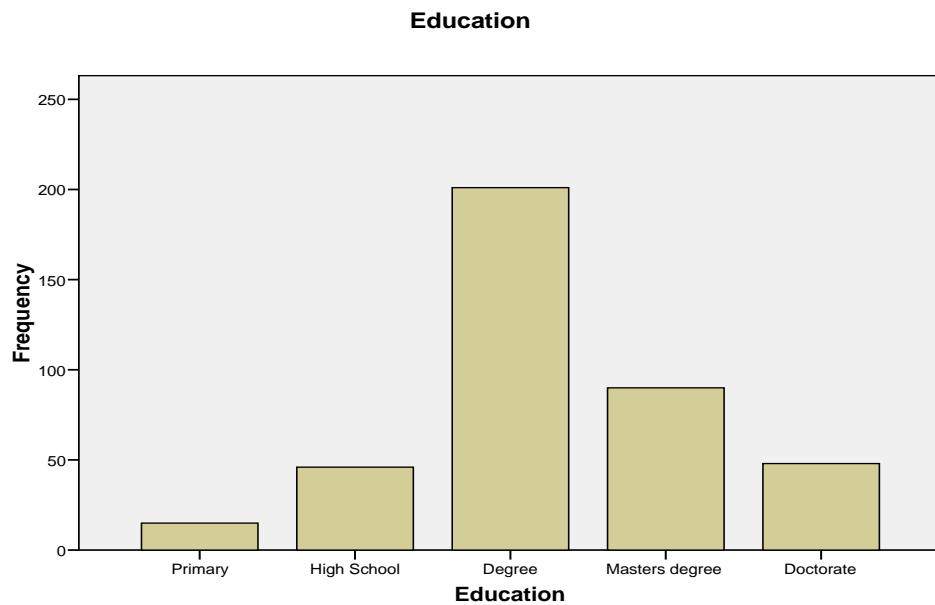
Table 5.3 shows that more %55.3 male participated in the study compared to the %44.3 female.

**Table 5.4:** Frequency of Educational qualification

	<b>Frequency</b>	<b>Percent</b>
<b>Primary</b>	15	3.8
<b>High school</b>	46	11.5
<b>Degree</b>	201	50.3
<b>Masters degree</b>	90	22.5
<b>Doctorate</b>	48	12.0
<b>Total</b>	400	100.0



Table 5.4 shows that more individuals with an average of degree certificate use electronic banking more and it accumulate 50.3% of the total amount of people used in the survey. It was followed slightly behind by high school graduate which accumulated 46% of participant. The result shows that most Nigerians are degree holders.



**Figure 5.1:** Bar graph of Educational qualification

Figure 5.1 like the table above shows the distribution of participants based on educational level. People with just degree as their qualification were higher with 201 entries while Msc graduates followed behind with 90 entries.

**Table 5.5:** Frequency of Occupation

	<b>Frequency</b>	<b>Percent</b>
<b>Medical practitioners</b>	50	12.5
<b>Law</b>	77	17.3
<b>Labourers</b>	13	3.3
<b>Others</b>	107	26.8
<b>Others</b>	153	38.3
<b>Total</b>	400	100.0

Table 5.5 shows that more individuals which were neither medical practitioners, lawyers nor laborers participated in the survey and it contributed 65.1%. Law practitioners and medical practitioners contributed 19.3% and 12.5% respectively.



**Figure 5.2:** Bar graph of occupation

Figure 5.2 is a bar graph of the occupation of participants, 260 out of 400 participants in the survey were involved in occupations other than medicine, law or labourers.

**Table 5.6:** Frequency of Age

	<b>Frequency</b>	<b>Percent</b>
<b>25 years or younger</b>	129	32.3
<b>26-40 years</b>	156	39.0
<b>41-55 years</b>	65	16.3
<b>56 years or older</b>	50	12.5
<b>Total</b>	400	100.0

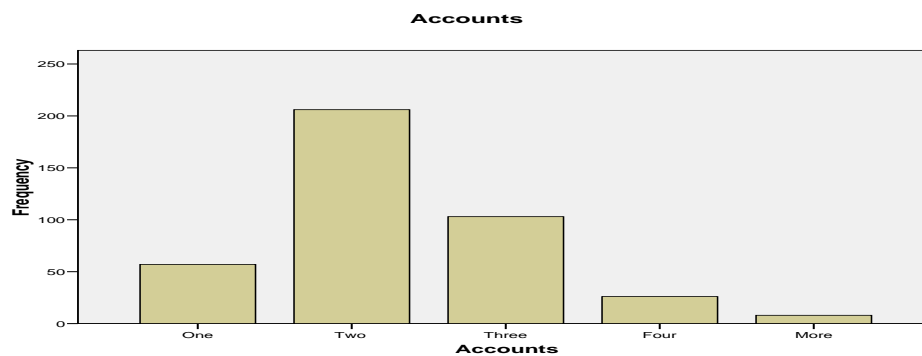
Table 5.6 shows that the age range from 26-40 years which contributed 39% of participants in the survey. 32.3% of 25 years and younger while 16.5% of 41-55 years were also the main contributors. 156 participant in the range of 26-40 years from were

more, followed slightly behind by 25-younger with 129 participants.

**Table 5.7:** Frequency of Accounts

	<b>Frequency</b>	<b>Percent</b>
<b>One</b>	57	14.3
<b>Two</b>	206	51.5
<b>Three</b>	103	25.8
<b>Four</b>	26	6.5
<b>More</b>	8	2.0
<b>Total</b>	400	100.0

Table 5.7 also showed that 51.5% of Nigerians operate with a maximum of two bank accounts followed behind by 25.8% which has three accounts.



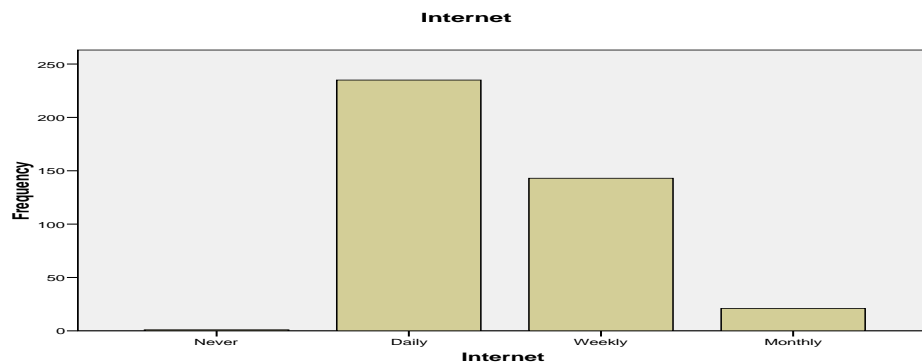
**Figure 5.3:** Bar graph of accounts

Figure 5.3 above shows the distribution based on the number of accounts held by participant in the survey. Majority of participants in the survey have just two accounts and they were number 206 and followed closely by three accounts with 103 participants.

**Table 5.8:** Frequency of Internet

	<b>Frequency</b>	<b>Percent</b>
<b>Never</b>	1	3
<b>Daily</b>	235	58.8
<b>Weekly</b>	143	35.8
<b>Monthly</b>	21	5.3
<b>Total</b>	400	100.0

Table 5.8 shows that 58.8% of Nigerians use internet banking daily to conduct monetary transactions and payments. It shows that many of the participants have embraced the idea of internet banking.



**Figure 5.4:** Bar graph of internet usage

Figure 5.4 shows the distribution of users using internet banking for banking transactions, 235 participants use it on a daily basis while 143 use it weekly.

**Table 5.9:** Frequency of ATM

	<b>Frequency</b>	<b>Percent</b>
<b>Daily</b>	260	65.0
<b>Weekly</b>	100	25.0
<b>Monthly</b>	40	10.0
<b>Total</b>	400	100.0

Table 5.9 shows that 65.0% of Nigerians use the ATM daily followed by 25.0% of folks who uses it weekly. According to the values in percentage, it shows that most Nigerians use the ATM more than often. 260 people use ATM daily while 100 use it weekly.

**Table 5.10:** Frequency of ATM Error

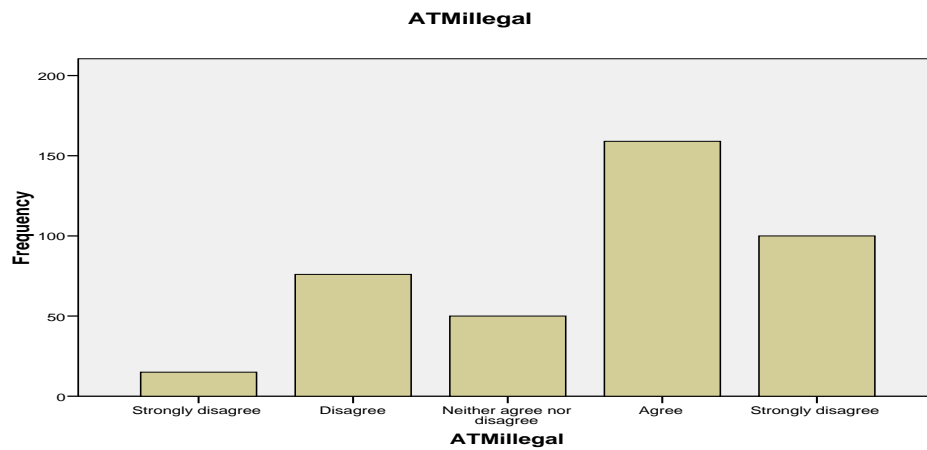
	<b>Frequency</b>	<b>Percent</b>
<b>Network Failure</b>	270	67.5
<b>Seldomly</b>	105	26
<b>Hardly</b>	25	6.3
<b>Total</b>	400	100.0

Table 5.10 shows that 67.5% respondents thinks there is always network failure while 6.3% of participant disagree to the notion. The values shows a big disparity when you compare to the different in percentage between folks who agree to network failure and those who think there is hardly network failure. 270 people think there is always network while 105 persons think it happen seldomly.

**Table 5.11:** Frequency of ATM Illegal operations

	<b>Frequency</b>	<b>Percent</b>
<b>Strongly disagree</b>	15	3.8
<b>Disagree</b>	76	19.0
<b>Neither agree or disagree</b>	50	12.5
<b>Agree</b>	159	39.0
<b>Strongly agree</b>	100	25.0
<b>Total</b>	400	100.0

Table 5.11 shows that 39.8% and 25.0% of respondents agree and strongly agree respectively that banks should be held liable for illegal ATM transactions.



**Figure 5.5:** Bar graph of illegal ATM operations

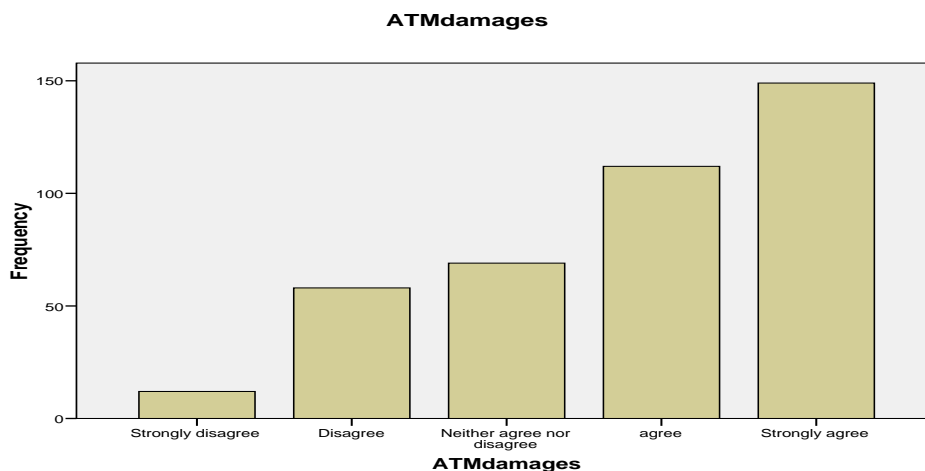
Figure 5.5 shows the distribution of people who think and refuse to agree that banks should be held liable for illegal ATM transactions. 159 agree that they should be held

liable while 100 people strongly agree.

**Table 5.12:** Frequency of ATM Damages

	<b>Frequency</b>	<b>Percent</b>
<b>Strongly disagree</b>	12	3.0
<b>Disagree</b>	58	14.5
<b>Neither agree or disagree</b>	69	17.3
<b>Agree</b>	112	28.0
<b>Strongly agree</b>	149	37.3
<b>Total</b>	400	100.0

Table 5.12 shows that 28.0% and 37.3% of respondents agree and strongly agree respectively that a customer should be entitled to claim for damages for delay in the reversal of ATM error where his account is debited while cash is not dispensed.



**Figure 5.6:** Bar graph of ATM damages

Figure 5.6 shows the distribution of people based on ATM damages. 149 participants strongly agree that banks should pay for damages if they are debit but not paid during an ATM transaction while 112 persons agree.

**Table 5.13:** Frequency of Hacking

	<b>Frequency</b>	<b>Percent</b>
<b>Bank</b>	140	35.0
<b>Interswitching agency</b>	260	65.0
<b>Total</b>	400	100.0

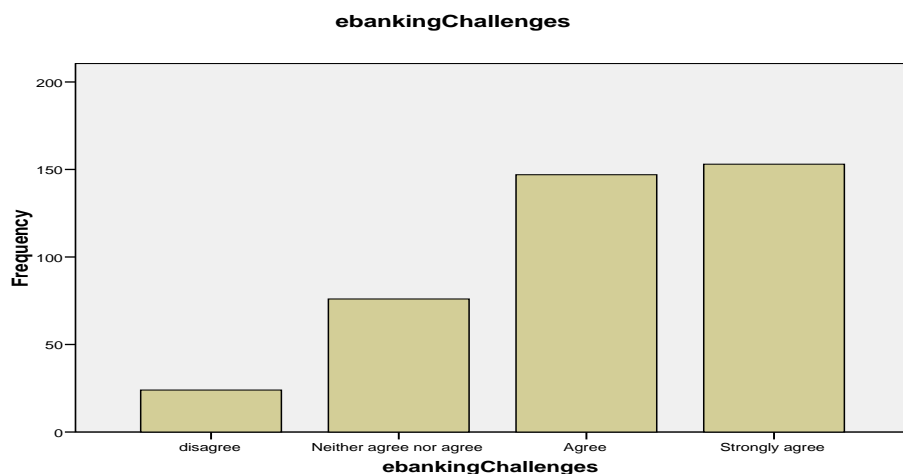
Table 5.13 shows that 65% of respondents were in favor of interswitching agency being responsible when hacking is brought into the picture. 35% of respondent said banks should be held liable. 260 participants think interswitching agencies should be held liable when there is hacking. 140 of the participants think banks should be held liable.

**Table 5.14:** Frequency of e-banking Challenges

	<b>Frequency</b>	<b>Percent</b>
<b>Disagree</b>	24	6.0
<b>Neither agree or disagree</b>	76	19.0
<b>Agree</b>	147	36.3
<b>Strongly</b>	153	38.3
<b>Total</b>	400	100.0

Table 5.14 shows that 36.8% and 38.3% of respondents in the pool agree and strongly agree respectively that there will be improvement on how electronic banking activities will be done.





**Figure 5.7:** Bar graph of e-banking challenges

Figure 5.7 shows the distribution of participants based on improvement in electronic banking. 153 strongly agree there will be improvement when it comes to electronic banking in Nigeria while 147 persons agree there will be improvement.

**Table 5.15:** Frequency of e-banking Or manual banking

	<b>Frequency</b>	<b>Percent</b>
<b>Electronic Banking</b>	202	50.5
<b>Manual Banking</b>	70	17.5
<b>Indifferent</b>	128	32.0
<b>Total</b>	400	100.0

Table 5.15 shows that 50.5% of respondents actually prefer the use of internet banking to manual banking which pooled 17.5%. Nigerians are more e-banking focused but there are still various limiting factors. 202 participants prefer online/internet banking while 70 still prefers manual banking transactions.

**Table 5.16:** Frequency of e-banking issues

	<b>Frequency</b>	<b>Percent</b>
<b>ATM error</b>	88	22.0
<b>Cybercrime</b>	184	46.0
<b>Network failure</b>	128	32.0
<b>Total</b>	400	100.0

Table 5.16 shows that 46% of Nigerians believe that the biggest challenge limiting the total use of e-banking is cybercrime while Network failure was the closest with 32%, 184 thinks cybercrime is the biggest challenge while 128 and 88 think it is network failure and ATM error respectively.

**Table 5.17:** Frequency of e-banking solutions

	<b>Frequency</b>	<b>Percent</b>
<b>Stable network</b>	188	47.0
<b>Stable power supply</b>	56	14.0
<b>Adequate internet security</b>	156	39.0
<b>Total</b>	400	100.0

Based on the participating individuals, table 5.17 shows that a stable network from internet network providers will be of great impact to the use of E-banking with 47% while 39% believe adequate security will work, 188 thinks stable network will deal with e-banking challenges while others think stable power supply and adequate internet security in 56 and 156 respectively.

**Table 5.18:** Frequency of bank visits

	<b>Frequency</b>	<b>Percent</b>
<b>Make a deposit</b>	102	25.5
<b>Investment advice</b>	188	47.0
<b>Balance inquiry</b>	15	3.8
<b>Cash withdrawal</b>	36	9.0
<b>Other</b>	59	14.8
<b>Total</b>	400	100.0

Table 5.18 shows that 47% of customers go to their bank offices for investment advice while 25% go to make deposits, 188 participants go to the bank for investment advice from their bankers while 102 participants go to the bank to make deposits.

## **5.5 Hypothesis testing**

### **1. Relationship between age and use of electronic banking**

$H_0$ = There is no relationship between age and use of electronic banking.

Mchugh (2013) defined Chi-square test of independence as one of the most appropriate statistics for testing hypotheses when the variables are nominal. Chi Square ( $X^2$ ) provides information not only on the significance of any observed differences but also provides detailed information on exactly which categories account of any differences found.

The test is also a non-parametric statistic which is also called a distributive free test. Non-parametric tests should be used when any one of the following conditions pertains to the data.

- The level of measurement of all the variables is nominal and ordinal

- The sample sizes of the study groups are unequal for the  $\chi^2$  the group may be of equal or unequal size whereas some parametric tests require groups of equal or approximately equal size.
- The original data were measured at an interval or ratio.

**Table 5.19:** Chi-square result of relationship between age and use of electronic banking

	ebankingOrManual
Pearson $\chi^2$ Stat.	31.383(a)
Df	6
p	.000

Due to the fact that P-value (31.383) is greater than the significance level ( $\alpha = 0.05$ ), null hypothesis can not be rejected, therefore we hereby say there is no adequate information to show an association between age and usage of electronic banking.

## 2. Relationship between education exposure and use of electronic banking.

$H_0$ = There is no relationship between education exposure and use of electronic banking.

McDonald (2014) defined Kruskal-Wallis test as a non-parametric test, which means that it does not assume that the data come from a distribution that can be completely described by two parameters, mean and standard deviation. Kruskal-Wallis test is performed on ranked data, so you convert the measurement observations to these ranks in the overall data set. You lose information when you substitute ranks for the original values, which can make this a somewhat less powerful test than on way anova. The author recommended Kruskal-Wallis test should be used when original data set consists of one nominal variable and one ranked variables, in this case one cannot do a one-way anova and must use the Kruskal-Wallis test.

**Table 5.20:** Kruskal-Wallis result of the relationship between education exposure and use of electronic banking

	ebankingOrManual
$\chi^2$ Stat.	6.362
Df	4
p	.174

Null hypothesis can not be rejected ( $p=0.174>0.05$ ), there is no difference in level of education between internet banking usage.

### 3. Relationship between gender and use of electronic banking

$H_0$ = There is no relationship between age and use of electronic banking

**Table 5.21:** Chi-square result of relationship between gender and use of electronic banking

	Value	df	p
Pearson $\chi^2$ Stat.	1.115(a)	2	.573

The null hypothesis cannot be ( $p$ -value  $1.115>0.05$ ) rejected, There is no relationship between age and electronic banking usage.

### 4. Relationship between income and use of electronic banking

$H_0$ = There is no relationship between income and use of electronic banking

**Table 5.22:** Kruskal-Wallis Test result of relationship between income and use of electronic banking

	ebankingOrManual
$\chi^2$ Stat.	5.155
Df	4
p	.272

The null hypothesis can not be rejected due to P-value 0.272 greater than 0.05 significance value, there is no difference in income levels based on the electronic bank usage.

**5. Relationship number of accounts operated by a customer and electronic banking usage**

Ho= There is no relationship between number of accounts and electronic banking usage

**Table 5.23:** Kruskal-Wallis Test result of relationship between number of accounts operated by a customer and electronic banking usage.

	ebankingOrManual
$\chi^2$ Stat.	1.981
Df	4
p	.739

The null hypothesis cannot be rejected ( $p=0.739$ ,  $0.739 > 0.05$ ); There is no difference in the number of accounts owned by a customer between the use of electronic banking.

**6. Relationship between ATM and income level**

Ho= There is no relationship between how often a bank customer uses an Automated teller machine and income level

**Table 5.24:** Kruskal-Wallis Test result of the Relationship between ATM and income level.

	ATM
$\chi^2$ Stat.	13.790
Df	4
p	.008

The null hypothesis is ( $p = 0.008 < 0.05$ ) rejected, There is a difference in income levels between ATM usage, Customers that earns much salary tends to use the Automated Teller Machine often than those that earns penny.



## 6 CONCLUSION

E-banking can be described as a system involving procedures in which individuals can get to and control accounts and carry out exchanges by methods using computers, mobile phones and other internet enabling devices. The full meaning of e-banking is called electronic banking. E-banking is the delivery of banking services through the internet directly to the homes of customers and private addresses. Due to the enhancement of technology and expansion in the financial market, electronic banking is perceived as an important tool and as an obviously cordial alternative to help decrease the use of paper of manual kind of banking. There are so many aspects of e-banking which was discussed and they include; online banking, ATM or debit card services, phone banking, SMS banking, electronic alert, mobile banking, fund transfer services, point of sale payment. In e-banking, there are electronic money, electronic check and smart cards. E-banking comes with its advantages and disadvantages based on several factors and they include convenience, portal, cost saving, track spending, it has mobile advantage and industry benefits. Despite the several advantages, e-banking has its own disadvantages which include the ignorance, fraudulent identity theft, tracking automated payments, impersonal bank experiences, prioritization and bad internet reception.

The important of electronic banking in the Nigeria banking sector include easy fund transfer and mobile payments, easy access to cash from the ATM and other ease that comes with using e-banking services.

The Nigeria banking sector has gone through several dispensations from its inception in 1891 when Bank of British West Africa was opened. The Nigeria banking sector went through several levels of deregulation and recapitalization from inception. There have been several bank failures and establishment of many policies which have been enacted to deal with several issues. The CBN is the apex bank of the country which was established in 1952. The bank was charged with supervision and regulation of the



banking sector. The Central Bank of Nigeria controls all other banks in the sector, it is the bank directly involved with providing credits, loans, printing currencies and overall regulation. Controlling the liquidity in the financial system is one of the keys used by central banks to initiate growth and development in the sector. In regulation, the NDIC works with the CBN in checking the excesses with commercial banks in Nigeria.

In 2004, the banking sector went through a period of recapitalization when the then governor of the CBN Governor Soludo took charge and increased the capital base of banks to N25 billion and trimmed down the number of banks from 95 to 25 banks. Other aspects of the recapitalization, was the introduction and the implementation of the electronic banking. After the 2005 banking recapitalization and the 2009 banking crisis, the banking sector in Nigeria has seen systematic growth and development. Majority of the banks in Nigeria, are part of the top 50 banks in Africa and major players in the economic growth of the country.

In the empirical aspects of the study, several variables were tested in the survey and they were used as questions in the questionnaires. Four hundred and fifty participant were used in the research and the questionnaire. 400 copies of the questionnaires collected back were valid while the remaining 10 copies of the questionnaire had issues of discrepancies and were invalid. Questions were asked about sex, occupation, educational exposure, use of internet banking in various forms and many more. The break down of the information gotten from participants was broken down in the various frequency tables.

The variables include, educational qualification, age, internet exposure, gender, income, number of accounts, occupation and electronic banking challenges. The data collected based on the variables were gotten from the questionnaires. Frequency tables were drawn and charts were drawn too. The descriptive statistics of the variables is the using of descriptive statistical tools like mean, median, mode and standard deviation to check the validity of various variables used in the survey.

The result of the descriptive statistics of the variables shows that most Nigerians and those who participated in the survey were first degree holders which was and majority of people using internet banking are in the age range of 26-40 which accumulated to 36% of the respondent. It also shows that most Nigerians live under the 0-100,000 Naira income range and it attested to 41.8% of the total population of people in the survey. 58.8% of respondents use internet banking on a daily basis. Other results from the descriptive statistics shows that ATM error and network failure occurs more frequently when ATM is used and most Nigerians agree that illegal ATM transactions happens frequently. The amount of bank customers who goes to bank to make deposits fell to 25% while most bank frequenters go to the bank for investment advice. Many of the respondents (51.5%) operate a maximum of two bank accounts. 65% of respondents use the ATM daily while 65% of responders believe interswitching agencies should be held responsible for online hacking. 50.5% of respondents actually prefer internet banking to manual banking.

The relationship between age and the use of electronic banking was tested. The result shows that the hypothesis can not be rejected, which is an indication that there was no adequate information to show an association between age and usage of electronic banking. The relationship between age and use of electronic banking was tested. The result shows that the hypothesis cannot be rejected; therefore, there was no relationship between age and electronic banking usage. The relationship between education exposure and use of electronic banking was tested. The result shows that the hypothesis can not be rejected; therefore there was no difference in level of education between internet banking usage. The relationship between income and use of electronic banking was tested. The result shows that the hypothesis can not be rejected; there is no difference in income levels based on the electronic bank usage. The relationship between number of accounts and electronic banking usage was tested. The result shows that the hypothesis cannot be rejected; there is no difference in the number of accounts owned by a customer between the use of electronic banking. The relationship between how often a bank customer uses an Automated teller machine and income level was tested. The result shows that the hypothesis is rejected, there is a difference in income levels

between ATM usage, Customers that earns much salary tends to use the Automated Teller Machine often than those that earns penny

In conclusion, there are still other factors which hinder most Nigerians when it comes to embracing electronic banking. These factors according to data collected from the questionnaires are steady internet supply, ATM error, internet fraud and fraudulent activities, deducting money without prompt service delivered, mobile apps and the difficulty in using them and many more.

The use of electronic banking has come to stay in the Nigerian banking system. For efficiency and total embrace of the type of banking, the mitigating factors hindering the total use of electronic banking should be dealt with for customers to have more faith in the banking sector when it comes to electronic banking. Electronic banking makes banking easy and convenient but the lack of faith in the system should be the number priority of deposit money banks and the CBN. For further research, investigation should be carried out on the likely effect of online banking on the economy of Nigeria.

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## QUESTIONNAIRE

Dear Sir/Ma,

I am AbiodunOlomofe, a Masters student of the Department of Business Administration, Faculty of Social Sciences, Istanbul Aydin University, Istanbul, conducting research for a thesis titled “Electronic banking in Ghana”.

Your contribution is strongly valuable to facilitate the analysis of data to be collated through the administration of this questionnaire. Your answer/information will be treated with utmost confidentiality.

Please complete the columns below appropriately:

1. Gender:

Male ( )

Female ( )

2 What is your highest qualification of education that you currently own to date?

Primary ( )

High School Graduate/A levels/BTEC National Diploma ( )

Degree ( )

Master's Degree ( )

Doctorate ( )

3 Which of the following best describes your role in industry?



- Medical Practitioner ( )
- Law ( )
- labourer ( )
- Business Person ( )
- others ( )

4. What is your age?

- (a) 25 or younger ( )
- (b) 26-40 ( )
- (c) 41-55 ( )
- (d) 56 or older ( )

5. Income (GhanaCedis)

- (a) 0 – 100,000 ( )
- (b) 100,001 – 200,000 ( )
- (c) 200,001 – 300,000 ( )
- (d) 300,001 – 400,000 ( )
- (e) 400,001 -  $\infty$  ( )

6. How many bank accounts do you think a customer can operate?

- a) One
- b) Two
- c) Three
- d) Four
- e) More

7. How often do you use internet banking?

- a) Daily
- b) Weekly
- c) Monthly
- d) Yearly
- e) Never

8. How often do you use automated teller machine (ATM)?

- a) Daily
- b) Weekly
- c) Monthly
- d) Quarterly
- e) Yearly

9. How often do you experience machine error while using ATM?

- a) Always
- b) Seldomly
- c) Hardly

10. Should a bank be liable for a wrong or illegal ATM transaction?

- a) Strongly disagree      ()
- b) Disagree               ()
- c ) Neither agree nor disagree ()
- d ) Agree                 ()
- e ) Strongly agree       ()

11. Do you think a customer should be entitled to claim for damages for delay in the reversal of ATM error where his account is debited while cash is not dispensed?

- a) Strongly disagree      ()
- b) Disagree               ()
- c ) Neither agree nor disagree ()
- d ) Agree                 ()
- e ) Strongly agree       ()

12. Who do you think should bear the responsibility for loss occasioned in a customer's account by activities of a third party (hacker) due to no negligence of the bank, customer or interswitching agency?

- a) Customer               ()
- b) Bank                   ()
- c) Interswitching agency   ()

13. Do you think the challenges of electronic banking are surmountable in the Nigerian context?

- a) Strongly disagree      ()
- b) Disagree               ()

- c ) Neither agree nor disagree ( )
- d ) Agree ( )
- e ) Strongly agree ( )

14. Which do you prefer – electronic banking or conventional manual banking?

- a) Electronic banking ( )
- b) Manual banking ( )
- c) Indifferent ( )

15. What in your opinion is the common challenge of electronic banking in Nigeria?

- a) ATM error ( )
- b) Cybercrime ( )
- c) Network failure ( )

16. What do you think is more of a solution to electronic banking in Nigeria?

- a) Stable network ( )
- b) Stable power supply ( )
- c) Adequate internet security ( )

17. What is the main reason that you typically visit your bank branch (please choose the single most important reason)?

- a) Make a deposit ( )
- b) Investment advice ( )
- c) Balance inquiry ( )
- d) Cash withdrawal ( )

e) Other ( )

Thank you for your cooperation.



## APPENDIX

### APPENDIX I

		N	%
Cases	Valid	400	100.0
	Excluded(a)	0	.0
	Total	400	100.0

a Listwise deletion based on all variables in the procedure.

#### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Education	18.16	9.505	.263	.402
Age	19.35	8.749	.377	.347
Accounts	19.13	9.579	.300	.390
Internet	18.98	10.593	.252	.421
ATM	19.99	10.047	.339	.391
ATMillegal	17.81	9.992	.082	.491
ebankingChallenges	17.37	10.338	.136	.454
Income	19.29	9.939	.058	.511

## APPENDIX II

### Cronbach's Alpha Reliability Statistics

Cronbach's Alpha	N of Items
.511	7

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Education	16.01	8.030	.189	.500
Age	17.20	7.195	.332	.432
Accounts	16.98	8.015	.240	.476
Internet	16.83	8.445	.325	.458
ATM	17.84	7.792	.454	.409
ATMillegal	15.65	7.656	.147	.535
ebankingChallenges	15.21	8.143	.192	.497

Evrak Tarih ve Sayısı: 07/06/2017-3483



T.C.  
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07/06/2017

Sayın Abiodun OLOMOFE

Enstitümüz Y1412.130008 numaralı İşletme Anabilim Dalı İşletme Yönetimi İngilizce Tuzlu Yüksek Lisans programı öğrencilerinden Abiodun OLOMOFE'nin "FACTORS AFFECTING E-BANKING: THE CASE OF NIGERIA" adlı tez çalışması gereği "E-Bankacılık" ile ilgili anketi ile ilgili anketleri 24.05.2017 tarih ve 2017/11 İstanbul Aydın Üniversitesi Etik Komisyon Kararı ile etik olarak uygun olduğuna karar verilmiştir. Bilgilerinize rica ederim.

Prof. Dr. Özer KANBUROĞLU  
Müdür V.

Evrakla Doğrulamak İçin : <http://evm.kodogrua.aydin.edu.tr/en/Vision/Doğrulama/getDoğrulama.aspx?V=88083623>

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Uyuzun: Anstifiil İletişim





## RESUME

Phone: +905360673407  
E-mail: lekanonline@gmail.com

# Olomofe, Abiodun

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### Personal Data

Date Of Birth	Dec 31st, 1988
Sex	Male
State Of Origin	Ekiti State

### Personal Profile:

- Integrity and Honesty
- Self motivated and target oriented
- Excellent oral and written communication skills
- Good interpersonal skills
- Ability to work effectively on a team

### Education

[2018]	Masters of Business Administration (MBA) Istanbul Aydin University
[2012]	National Youth Service Corps (NYSC)
[2011]	B.Agric, (Hons), Agriculture University of Ilorin, Kwara State
[2005]	Government Science College Iyin Ekiti, Ekiti State.
[2002]	Ben Folarin College Ado Ekiti, Ekiti State.

**Work experience**

2011 - 2012

National Population Commission

IJumu Local Govt. Kogi State

Responsibilities:

National Youth Service Corp (NYSC)

2011

Final Year Project

(The effect of weeds on different morphological type of maize and yield of maize in Ilorin)

2009

Ministry of Agriculture and Rural Development  
Industrial training (IT)

2010

Farm Practical Training.

**Objective**

To work and build a career in a challenging organization where I can fully explore and utilize my potentials and skills to achieve managerial goals and targets.

**Countries Visited**

- United Arab Emirates, United state of America, Poland, Barcelona

**Languages**

- Yoruba and English

**Interests and Hobbies**

- Reading, Singing and Traveling

**References**

**MR J.S FATOBA  
Permanent Secretary  
Local Govt. Service Commission  
Ado-Ekiti  
Ekiti State  
08035645191**

