

**THE ROLE OF TRUST AS A MEDIATOR IN THE RELATIONSHIP
BETWEEN TECHNOLOGY FACTORS AND INTENTION TO
ACCEPT INTERNET BANKING IN NIGERIA**

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DEDICATION

Dedicated this research work to my beloved parents and Lilian Solomon

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ABSTRACT

This study had been carried out to investigate factors that influence the intention to accept internet banking and examined the mediating role of trust between technology factors and the intention to accept an internet banking. This study reviewed related technology acceptance theories and trust models. The decomposed theory of planned behaviour, innovation diffusion theory and trustworthiness technology were adopted. The aforementioned adopted models suggested five main factors namely; perceived behaviour control, attitude, subjective norm, trust and intention to accept internet banking. This was a quantitative research method. Questionnaire was adopted to 559 bank customers within Lagos, Port-harcourt and Abuja in Nigeria. The response rate is 55.85%, representing 391 worth questionnaires. SPSS and AMOS version 20 tools were utilized to analyze the data in reference to descriptive statistics, standardized regression and mediation effects. The initial model without mediation analyzes revealed 71% variance (R^2) in customer intent to accept internet banking. However, when modified with trust mediating factors, the results revealed 74% variance, implying that trust contributed a 3% to the model. Consequently serves as a partial mediator towards the intention to accept internet banking in Nigeria. As a result, thorough understanding of this may assist practitioners in analyzing reason(s) for slow pace in acceptance of the technology, provide efficient measures to improving customers' acceptance and provide an insight for academia about internet usage in Nigeria. Future studies can be directed towards replicating the use of this model in other locations and different analytical techniques.

ABSTRAK

Kajian ini dijalankan untuk mengkaji faktor-faktor yang mempengaruhi kecenderungan untuk menerima perbankan internet dan menganalisis peranan pengantara kepercayaan antara faktor-faktor teknologi dan kecenderungan menerima perbankan internet. Kajian ini mengkaji teori-teori penerimaan teknologi dan model-model kepercayaan yang berkaitan. Teori kelakuan terancang, teori-teori penyebaran teknologi, dan teori teknologi dipercayai telah digunakan. Model-model berkenaan telah menyediakan lima faktor utama iaitu: sangkaan kawalan kelakuan, sikap, norma subjektif, kepercayaan dan kecenderungan untuk menerima perbankan internet. Kajian ini menggunakan kaedah kuantitatif. Soal selidik telah diedarkan kepada 559 pelanggan bank di Lagos, Port-harcourt dan Abuja di Nigeria. Kadar pulangan semula adalah 55.85 peratus, mewakili 391 soal selidik yang boleh digunakan. Perisian SPSS dan AMOS versi 20 telah digunakan untuk menganalisa data merujuk kepada statistik deskriptif, regresi biasa dan kesan pengantara. Analisis model awal tanpa pengantara mendapati 71% varians (R^2) dalam kecenderungan pelanggan untuk menerima perbankan internet. Walau bagaimanapun, apabila diubahsuai dengan faktor kepercayaan, keputusan mendedahkan 74% varians menunjukkan bahawa kepercayaan menyumbang 3% kepada model tersebut. Hasilnya, factor kepercayaan adalah pengantara separa terhadap kecenderungan untuk menerima perbankan internet di Nigeria. Kesimpulannya, dapatan kajian ini akan membantu pengamal dalam perbankan internet dalam menganalisa sebab-sebab kepada kelembapan penerimaan teknologi ini, menyediakan kayu ukur yang cekap untuk menambahbaik penerimaan pelanggan dan memberi tinjauan kepada ahli akademik tentang penggunaan internet di Nigeria. Kajian akan datang boleh dilaksanakan terhadap penggunaan semula model ini di lokasi-lokasi lain dan menggunakan teknik-teknik analisis yang berbeza.

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LIST OF SYMBOLS AND ABBREVIATIONS

AGFI	:	Adjusted Good of Fit Index
AMOS	:	Analyzes of Movement Structure
ATM	:	Automated Teller Machine
AVE	:	Average Variance Extracted
CBN	:	Central Bank of Nigeria
CFA	:	Confirmatory Factor Analysis
CFI	:	Comparative Fit Index
CR	:	Critical Ratio
DTPB	:	Decomposed Theory of Planned Behavior
EFA	:	Exploratory Factor Analysis
FCT	:	Federal Capital Territory
GFI	:	Goodness of Fit Index
ICT	:	Information and Communication Technology
IDT	:	Innovation Diffusion Theory
IT	:	Information Technology
N'	:	Naira

NCC	:	Nigerian Communications Commission
NFI	:	Normed Fit Index
NNFI	:	Non-Normed Fit Index
PIIT	:	Personal Information Innovation Technology
PIN	:	Personal Identification Number
RMR	:	Root Mean Squared Residual
RMSEA	:	Root Mean Squared Error of Approximation
SEM	:	Structural Equation Modeling
SPSS	:	Statistical Package for the Social Sciences
TAM	:	Technology Acceptance Model
TPB	:	Theory of Planned Behavior
TRA	:	Theory of Reasoned Action
TCT	:	Technology Continuance Theory
USA	:	United State of America
UTHM	:	Universiti Tun Hussein Onn Malaysia
UTM	:	Universiti Teknologi Malaysia
%	:	Percentage
<	:	Less Than
>	:	Greater Than

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CHAPTER 1

INTRODUCTION

Chapter one introduced an overview of the going concern about the role of trust as a mediator in the relationship between technology factors and intention to accept internet banking in Nigeria. Chapter one provided background of the study, the state of internet banking in Nigeria, problem statement, research questions and objectives, the importance of the study, the scope of the study, related terminologies, and thesis structure discussed.

1.1 Background of the study

The impact of technology on daily transactions cannot be underestimated (Adam *et al.*, 1992). Several investigations and substantial facts showed that internet technology provides organizations with ample opportunities to ease commercial transactions and satisfactory services to their customers (Abiola & Adebayo, 2013; Akinola & Iordoo, 2013; Harvey, 2005; Viosca *et al.*, 2004). The introducing hypertext transfer protocol (HTTP) after hypertext markup language (HTML) and World Wide Web in the 1990s, the result show many business opportunities including the internet banking.

The definite increase in technologies led to the evolutions associated with internet banking within the banking world. Internet banking has recently modified conventional methods, as banks adopting the technology as strategy in competing to keep customers and gain prospective ones (Borghoff, 2011; Odior & Richard, 2013).

Internet banking encountering remarkable credibility that turn out to be one of the leading means to provide unique product or service in banking sectors (Turban & Lai, 2008). This rapid growth and development of internet banking system attracted the interest of countless researchers (Borghoff, 2011; Oni & Ayo, 2010; Mohamed *et al.*, 2009) to deal with research in this particular area. Studies defined internet banking differently, for instant, Thulani *et al.* (2009) defined banking via internet as a way through which bank customers could access their account and overall history of their transactions conveniently

Ramayah *et al.* (2009) described banking via the internet as a provision of bank account details along with services via the internet web-based on the concerned banks. This signifies that by internet banking, bank customers have access to banks' services without the stress of searching for automated teller machine (ATM), point of sale (PoS) or other cards as means of making payment, since could be done on their own internet resources and relish the comfort and ease linked with the using internet banking whenever from their geographical place.

Most of the studies on banking via internet aimed at the factors, examining impacting or influencing customers to adopt of internet banking and these studies had been adopting technology theories and models, including innovation diffusion theory (IDT), the theory of reasoned action (TRA), the theory of planned behavior (TPB) and technology acceptance model (TAM), the technology continuance theory (TCT) and decomposed theory of planned behavior (DTPB). In most studies, researchers adopt any or combine two or adopt related factors from the theories towards investigating factors influencing technology acceptance such as internet banking system.

Further, Teo & Liu (2005); Mayer *et al.* (1995); Brian *et al.* (2003); McKnight & Chervany (2002) established trust model that could incorporate with the technology theories and behavioral intention. Studies such as (Amin, 2007; Chiemeké *et al.*, 2006; Bakker *et al.*, 2006; Nor Khalil & Pearson, 2008; Oni & Ayo, 2010; Fida, 2011; AliSaleh & Nor Khalil, 2013) confirmed the significance of integrating trust towards technology acceptance

Studies acknowledged that usage level considered low as compared with the providers anticipation (Suh & Han, 2002; Muhammed & Khalil, 2011; Wasfi *et al.*, 2012) in relation to internet banking acceptance. Meanwhile, some studies agreed that internet banking could be hindered by operating systems. If these challenges could be eliminated, a large number of bank customers may accept the internet banking system (AliSaleh & Nor Khalil, 2013; Baraghani, 2007).

Oni & Ayo (2010) confirmed that internet banking is advantageous for banks and their customers. Perception of banks, internet banking allows banks to lessen their functioning expenses with the decline in physical option such as personnel resources, reduce waiting time at bank branches, acceptance the technology expected to improve sales targeted and larger worldwide accomplishments.

Internet banking allows customers to perform a number of bank transactions digitally via the website wherever and whenever (Grabner-Kräuter & Faullant, 2008; Al-Gahtani *et al.*, 2007), Kumbhar (2011) suggested that internet banking could be used at any time irrespective of the mileage for balance authentication, cash transfer, settlement of bills and others. This means that customers can achieve their specific transactions at any geographical location with ease and anytime with the technology.

Undesirably, taking into consideration those benefits associated with internet banking; many customers still prefer conventional banking methods (AliSaleh & Nor Khalil, 2013). However, the situation could not be exceptional as other innovations confronted challenges in terms of acceptance and usage, thus, internet banking system expected to confront quite a few challenges related to the acceptance and usage (Nor Khalil & Pearson, 2007). Earlier studies traced this unwillingness in accepting internet banking to some motivational control, attitudinal factors and deficiency of customers trust in banking via internet. Trust has a critical turn on buying decisions (Olasanmi, 2010). In accordance with Kolsaker *et al.* (2004) as an example, trust has become the primary factor that has impact on buying via internet.

Considering the fact that trust has a crucial role towards decision associated with acceptance of the technology (internet banking), developing better approaches to gain customers' trust is considered very important for banks offering internet banking

system. Gefen (2003) and Yap *et al.* (2009) stated that trust is a crucial factor towards strengthening acceptance of technology such as internet banking technology, trust as a factor would influence and strengthen the customers' attitude to use the technology, trust established lessen customers' threat conception (Kim *et al.*, 2010; Gefen *et al.*, 2008; Nicolaou & McKnight, 2006; Pavlou & Gefen, 2004). Having considered these facts, it is crucial to structure a proficient model that might develop customers' trust in internet banking system. Malek & Kamariah (2011) stated that banks need to have established a perfect system that might improve internet banking acceptance with trust foundation.

Taking into account that satisfaction or dissatisfaction regarding a particular technology ought to count upon the extent at which it is accepted. Therefore, need well established factors that could explain customers' acceptance of internet banking system. In spite of the significance of trust structuring for internet banking acceptance, there is insufficient study in this area most especially in Nigeria in particular, this current study attempted to answer related questions on the role of trust in the relationship between technology factor and intention to accept internet banking in Nigeria.

Based on the facts that satisfaction or dissatisfaction regarding a particular technology ought to count upon the extent to which it is accepted. Therefore, there is absolute need for a well-established factors that could explain customers' acceptance of the technology. In spite of the significance of trust in relation to structuring internet banking acceptance, an insufficient study in this area most especially in Nigeria seems limited, this current study attempted to investigate the role of trust as a mediator in the relationship between technology factor and intent to accept internet banking in context Nigeria

1.2 Internet banking acceptance in Nigeria

Internet banking considered unique, but significantly less established with a minimal accepting level in Nigeria. The emerging trend started in the Nigeria banking industry

in 2003 the moment the Central Bank of Nigeria made it compulsory for all banks to offer internet banking. In June 2004, the Central Bank of Nigeria (CBN) introduced economic reforms and monetary policy as a guideline for banking activities in Nigeria. The reformation practice left Nigeria with twenty-one strong and reliable commercial banks against 89 banks already in existence (Edwin & Adele, 2014).

The twenty-one commercial banks surviving the recapitalization exercise have tremendously involved the use of internet based technology as a platform for achieving efficiency of the system (Muhammad & Mukhtar, 2013; Oni & Ayo, 2010). List of twenty-one commercial banks that fully offers internet banking systems with their websites in Nigeria, presented in Table 1.1.

Table 1.1: List of banks that offer internet banking service in Nigeria
(Central Bank of Nigeria website, 2015)

No	Commercial Banks	Definition
1	Access Bank Plc	www.accessbankplc.com
2	Citibank Nigeria Ltd	www.citibank.com/tts/global_network/.../nigeria.htm
3	Diamond Bank	www.diamondbank.com
4	Eco Bank Nigeria Plc	www.ecobank.com
5	Enterprise Bank	www.enterprisebanking.com
6	First Bank of Nigeria	www.firstbanknigeria.com .
7	Fidelity Bank	www.fidelitybank.com
8	First City Monument Bank Ltd	www.fcmb.com
9	First Inland Bank Plc	www.banksinnigeria.net/first-inland-bank-finbank
10	Guaranty Trust Bank	www.gtbank.com
11	Key Stone Bank	www.keystonebankng.com
12	MainStreet Bank Limited	www.mainstreetbanklimited.com
13	Skye Bank Nigeria	www.skyebankng.com
14	Stanbic IBTC Bank Plc	www.stanbicibtcbank.com
15	Standard Chartered Bank Plc	www.sc.com/ng
16	Sterling bank Nigeria	www.sterlingbankng.com
17	Union Bank of Nigeria	www.unionbankng.com
18	Unity Bank Nigeria	www.unitybankng.com
19	United Bank for Africa	www.ubagroup.com
20	Wema Bank Nigeria	www.wemabank.com
21	Zenith Bank	www.zenithbank.com

Nigeria populated with more than 186 million populations, 130 million bank account holders (CIA, 2012; Internet Live Stats, 2016), (Okeke & Okpala, 2014; Odior & Richard, 2013). The growth and usages of the internet have augmented in Nigeria in the last decade years due to the auction of the license of telecommunication services. In August 2001, The Nigeria government auctioned licenses to the telecommunication

service in Nigeria (NCC, 2015). Hence, the auction of these licenses coupled with electronic services by the banks enhances the growth of the industry in Nigeria.

The increment in telecommunication subscribers increase the percentage of internet users. The analysis of the recent statistics on world internet users (Table 1.2 top ten world internet users), indicates that Nigeria is the seventh country among the top ten countries with largest internet users reported (Internet Live Stats, 2016). The percentage growth of internet subscribers in Nigeria could be as a result of Nigerian Communications Commission reformation policies on internet providers (Olukolajo *et al.*, 2015; Abubakar & Rosmaini, 2012; Oduh & Oduh, 2012; Stephen & Ikpefan, 2012). Ogbuji, *et al.* (2012) stated that internet banking system could serve as a means in monitoring the physical cash flow in the economy.

Tijani & Ilugbemi (2015) suggested that the introduction of the biometrics also known as bank verification umber (BVN) project by Central bank of Nigeria may solve the problem of untraceable identity in the banking sector, will increase internet banking trust worth and decrease inter based crime rate in Nigeria. Thus, top ten world internet users illustrates in Table 1.2.

Table 1.2: Top ten world internet users
(International Telecommunication Union, 2015)

Rank	Country	Population 2015. Est.	Internet Users Year 2000	Internet Users 30 Nov 2015	Penetration (% Population)	% Growth 2000 - 2015
1	China	1,361,512,535	22,500,000	674,000,000	49.50%	2895.60%
2	India	1,251,695,584	5,000,000	375,000,000	30.00%	7400.00%
3	United States	321,368,864	95,354,000	280,742,532	87.40%	194.40%
4	Brazil	204,259,812	5,000,000	117,653,652	57.60%	2253.10%
5	Japan	126,919,659	47,080,000	114,963,827	90.60%	144.20%
6	Russia	146,267,288	3,100,000	103,147,691	70.50%	3227.30%
7	Nigeria	181,562,056	200,000	92,699,924	51.10%	46250.00%
8	Indonesia	255,993,674	2,000,000	78,000,000	30.50%	3800.00%
9	Germany	81,174,000	24,000,000	71,727,551	88.40%	198.90%
10	Mexico	121,736,809	2,712,400	60,000,000	49.30%	2112.10%

As noted in the previous paragraphs, the statistics of internet users in Nigeria illustrate an increase in the percentage number of internet users, but, the increase does not show in the acceptance rate of internet banking (Ojeka & Ikpefan, 2011; Tijani &

Ilugbemi, 2015; Aderiyike *et al.*, 2015), most of the commercial bank customers still prefer the conventional banking system for their transactions. Table 1.3 indicated the extracted internet based transactions in Nigeria.

Table 1.3: Extracted internet based transactions in Nigeria.
(Central Bank Nigeria, 2014)

Internet based Payment	Transaction Value	Percentage Value
Automated teller machine (ATM)	200 Trillion	51.3
Point of Sales (PoS Terminals)	165 Trillion	42.3
Mobile	14 Trillion	3.6
Internet	11Trillion	2.8

Automated teller machine (ATM) defined as a dispensing machine that could be used by bank customers in carrying out their transactions at the banking halls or any secured places. ATM considered one the internet based banking system associated cards codes to complete transactions (Onyedimekwu & Kepeghom, 2013; Yu, 2012; Lin, 2011). Point of sales defined as a portable mobile cashless machine that could be used for instant payment, but lack dispensary functions. As shown in the Table 1.3, based on 390 trillion transactions, ATM has the largest transactions 51.3%, followed by transactions via point of sales with approximately 41%. This signified that majority of the customers prefer the ATM and PoS for their transactions instead of using mobile and internet banking in Nigeria, acceptability of ATM and PoS among the customers could be as a result of referrer users, time and cost effectiveness.

Mobile and internet banking are other means that could be used to complete transactions from home, offices and anywhere as long as your devices connected to the internet, mobile and internet banking transactions, suggested very low 3.6 and only 2.8 percent respectively as illustrated in the Table 1.3, internet banking that seems to be more dependable has the lowest transactions. Low acceptance of internet banking could be due to lack trust in the system, low standard of living and publicity about the benefits the system (Idisemi *et al.*, 2011, Ayo *et al.*, 2011; Aderiyike *et al.*, 2015).

Sachin & and NordSec (2007) and White & Nteli (2004) study identifying factors hindering internet banking acceptance, stated that internet criminal activities may be attributed to decrease in intention to trust internet banking system, and studies (Fatimah, 2011; Aburrous *et al.*, 2010; Cecil, 2010; Ganesan & Vivekananda, 2009;

Grazioli & Jarvenpaa, 2001; Jarvenpaa *et al.*, 2000) suggest that bank customers prefer conventional methods of banking instead of internet banking system, customers opposed that internet based banking seems exposed to unbearable losses. Further, studies such as (Adewale *et al.*, 2014; Ogunlowore & Oladele, 2014; Anah *et al.*, 2012) stated that some of the internet frauds always involving the Nigerians and the country among the top five countries in terms the internet fraudulent cases, these undesirable reports may be part of the reasons why customers not embracing internet banking system.

After unbearable losses suffered by customers and country, studies emerged trying to find the roots of fraudulent cases and solution in Nigeria. In 2014, the Nigeria Inter-Bank Settlement System (NIBSS) reported that a significant rise of up to a 78% in the volume of fraudulent cases in 2014 compared to 2013, a huge increase in the moneys lost via e-payment to internet fraudsters. The report also illustrates electronic platforms such as internet banking, PoS, ATM, and Mobile banking) and fraud volume in 2014. Extracted details illustrated in Table 1.4

Table 1.4: Fraud volume via channels of electronic payment
(NIBSS, 2015)

Electronic platforms	Volume
Internet Banking	287
POS	166
ATM	491
Mobile	21
Total	965

Based on previous paragraphs and (NIBSS, 2014) reports shows that to build trust in internet banking system a model need to be developed. Fraud via ATM has the highest volume with 491 cases, followed by internet banking 287 cases as illustrated in the Table 1.4, this could be traced to the fact that customers perceived easy use of ATM and also banks always issue an ATM card upon account opening without proper caution on code and passwords sharing, fraudsters always on this to scam the innocent customers.

Reports on internet banking could be attributed unaware of the importance of the users name and authentication codes to form security. Most of the victims might have been fooled to share their security codes, PoS fraudulent cases seem similar to

that of an ATM and Mobile banking frauds seems minimal, which could be attributed to lack of trust in the system, and compatibility of the system with their life style.

Idisemi *et al.* (2011) study stated that internet banking acceptance could be hindered by previous internet crime reports, Aderiyike *et al.* (2015) study suggested that attitude of customers and trust towards the intention to accept internet banking system in developing countries should be investigated. Nigerian banks need to review their internet banking system, by addressing the lack of acceptance of internet banking system. Hence, proposed to review technology acceptance theories and trust models towards identifying a set of factors that could improve acceptance of internet banking in Nigeria.

1.3 Problem statement

Several studies have been carried out on acceptability of internet banking (AliSaleh & Nor Khalil, 2013; Oni & Ayo, 2010; Fida, 2011). Due to the significance of trust in internet banking acceptance frameworks, trust has been studied in different technology acceptance contexts (Suh & Han, 2002; McKnight & Chervany, 2002; Yousafzai *et al.*, 2005; Zhou *et al.*, 2011; Gholam, 2012; Wasfi *et al.*, 2012, Zakaria, 2013). Most of these studies trust influencing the intention to accept technology.

Trust in internet banking suggested as an important factor that inhibits the acceptance of internet banking because the unwillingness to accept internet banking attributed to the level trust in the technology by the customers. The unwillingness of customers not to trust internet banking system seems to be a serious challenge to the commercial banks in Nigeria predominantly where the internet banking acceptance considered crawling, the low acceptance of internet banking due to deficiency in trust might spontaneously affect the profitability level of the banks. Ankit and Singh (2012) and Lee *et al* (2007) stated that when trust exists, it allows partners to overlook short run inequity or risk to focus on long term profits.

Naimat (2014) despite the unbearable circumstance in the internet banking acceptance, developing countries like Lebanon and Malaysia still accounted for 62% and 61% of households compared to 20% of the other countries in the same region (Nor Khalil & Pearson, 2008), this could be achieved in other developing countries

Towards the development and improvement of internet banking acceptance, globally governments and banks are investing in information and telecommunication technology development such as internet banking and system securities. In August, 2001, the National Communication Commission introduced low tariff, tremendously increase the volume of subscribers from less than 3 million in the year 2001, 80 million in the year 2012 and over 151 million in the year 2015 (NCC, 2015).

Olukolajo *et al.* (2015) stated that economic reforms and monetary policy introduce by Nigeria government in 2004 reduced 89 banks to twenty-one dependable ones, and bank verification number (BVN) to monitor all banking activities of all bank account holders in and outside the country (CBN, 2015), the reformation policy could be attributed to why Nigeria placed seventh among the highest top ten countries users' of internet (Olukolajo *et al.*, 2015; Internet Live Stats, 2016).

Conversely, increase on internet usage does not show on acceptance rate of internet banking system (Tijani & Ilugbemi; 2015), Aderiyike *et al.*(2015) reported that majority of Nigerians prefer going to ATM stations and bank branches to wait in line for turns before transactions and ignoring the benefits of internet banking against other channels, the study stated that internet banking transactions accounted for about 2.8%; Mobile banking transactions about 36%; PoS transactions accounted 42%, and ATM transactions accounted 51% out of 390 Trillion transactions in the first quarterly (CBN, 2015), this may be part of the reasons why most of the customers are unwilling to accept internet banking in Nigeria.

Oni and Ayo (2010) suggested that level of trust in the security and privacy internet banking in Nigeria very low. However, studies acknowledged that lack of trust could be part of the reasons why customers unwilling to make payment via the internet (Naimat, 2014; Wasfi *et al.*, 2012; Ankit & Singh 2012; Fida, 2011; Oni & Ayo, 2010;

Ramayah *et al.*, 2009), these studies suggested that a structured trust technology model might increase acceptance

Fatimah (2011) stated that lack of trust among commercial bank customers could be based on the web-crimes, identity thefts and security reported. For instance, the \$10 million internet fraud against Citibank, internet banking egg case in the United Kingdom and the fire alarm company case in Arkansas which accounted for more than \$110,000 stolen when the company's internet banking official documents and deplete its payroll accounts, NIBSS (2014) reported a significant rise of up to 78% in the volume of fraudulent cases in 2014 compared to 2013 electronic means of payment.

The acceptance rate of internet banking by Nigerian suggested low compared to their counterparts in other countries, the low acceptance of internet banking in Nigeria is due to lack of trust and integrity in the system, this indicate that more studies are necessary in the area of trust and strategies to build customers trust needed (Oni & Ayo, 2010; Chiemekwe *et al.*, 2006), studies on trust in technology included (Mayer *et al.*, 1995; McKnight *et al.*, 2002), the antecedents to customer trust models (Azam *et al.*, 2013; Zhou *et al.*, 2011), the role of customer characteristics on trust model (Suh & Han 2002, Wasfi *et al.*, 2012; Gholam, 2012).

Zakaria (2013) stated that online trust absolutely influence internet banking and trust building models (McKnight & Chervany, 2002; Yousafzai *et al.*, 2005; Yap *et al.*, 2010; Ahmed & Mahmood, 2013). This shows that trust in technology had been investigated in different backgrounds, but investigation in the structuring trust model or trust as mediator for internet banking acceptance seems limited. Most of the notable studies related to trust technology had been carried out in developed countries and South Africa (Fatimah, 2011; Molla & Licker, 2005; Sayar & Wolfe 2007), trust in the relationship with internet banking had been an area of research in Asia (Suddin *et al.*, 2009; Nor Khalil & Pearson, 2008;). Naimat (2014) affirmed that there is an increasing trend of internet banking acceptance in developed countries compared to the developing countries, and a comprehensive research in the areas of the internet banking suggested insufficient in Nigeria.

This current study admitted that trust, influence technology acceptance in the previous studies, these studies have less interest to examine the effect of trust in the relationship between technology factors and acceptance of internet banking (Wasfi *et al.*, 2012; Ankit & Singh, 2012; Fida, 2011; Oni & Ayo, 2010; Ramayah *et al.*, 2009). This signified the need to fill the gap to investigate the role of trust as a mediator in the relationship between technology factors and internet banking acceptance.

Conclusively, this current study proposed to investigate the role of trust as a mediator in the relationship between the technology acceptance factors and intention to accept internet banking, considering commercial bank customers that never accept internet banking technology in Nigeria. The outcome of this proposed study expected to add to the academic databases, customers a might recognize important of internet banking technology acceptance and commercial banks would be suggested with basic direction and strategies to improve their banking services.

1.4 Research questions

Based on the objectives of this study, research questions are presented:

- i) What are the factors influencing intention to accept internet banking system in Nigeria?
- ii) What are the specific factors affecting the customer's attitude, subjective norm and perceived behavioral control towards intent to accept internet banking?
- iii) What are the specific factors affecting the customer's trust towards intention to accept internet banking?
- iv) What is the mediation role of trust in the relationship between the technology factors and the intention to accept internet banking?
- v) Does DTPB, IDT and Trustworthiness model to provide an adaptable a set of factors for trust internet banking technology acceptance model?

1.5 Research objectives

This study considered technology acceptance factors and trust models to propose the role of trust as a mediator in the relationship towards internet banking acceptance in Nigeria. The following research objectives proposed.

- i) To investigate factors influencing intent to accept internet banking system in Nigeria.
- ii) To access the specific factors affecting the customer's attitude, subjective norm and perceived behavioral control towards intent to accept internet banking.
- iii) To access the specific factors affecting the customer's trust towards intent to accept internet banking.
- iv) To propose the mediation role of trust in the relationship between technology factors and intention to accept internet banking.
- vi) To propose the DTPB, IDT and Trustworthiness model to provide an adaptable a set of factors for trust internet banking technology acceptance model.

1.6 The importance of the study

Previous studies affirmed the huge investment by banks and government on technology to embrace internet banking system, many customers still feel reluctant to accept the services most especially in developing countries, due to low level of trust in the system (Akinola & Iordoo, 2013; AliSaleh & Nor Khalil, 2013; Ankit & Singh, 2012).

Structuring a trust model for internet banking customers suggested crucial to the banks; an integrated model could possibly enhance acceptance and build trust in the customers to accept internet banking without fear. Studies had been concentrated on some facets of electronic banking; a few on impact of the technology in accordance with the benefits that banks will derive and fulfilling government policy solely, this

justified the need to develop hypotheses based on updated trust models and technology acceptance theories towards structuring trust as a mediator in the relationship between technology factors and intention to accept internet banking. Thus, investigates the role of trust as a mediator in the relationship between technology factors and intention to internet banking acceptance based on the perception of commercial bank customers in Nigeria.

In conclusion, key findings of this study might suggest a better understanding towards mediating roles of trust in internet banking acceptance and it might help the experts to discover the factors influencing internet banking acceptance. Also, findings expected to add to the database of social science field of studies and support robustness of technology factors and trust model adopted.

1.7 Scope of the study

This proposed study considered technology acceptance and trust models especially in the case internet banking in the context of Nigeria where trust seems to be an important factor hindering acceptance of internet banking. In order to support this deficiency, prospective literatures referred from several sources such as government agencies and associations and professional data, publications on the technology management, social science studies, related methodology and analytical technique considered, framework considered two decades publications. Though, fewer old references cited.

The location for this current study limited to banks in Lagos, Abuja and Port-Harcourt in Nigeria, because these parts of Nigeria has a majority of the banks, houses, industries and the headquarters of almost banks. In addition, selected locations could represent the three ethnicities in Nigeria (Okeke & Okpala, 2014; Shehu & Aliyu, 2013; Dumbili, 2013; Velmurugan, 2012).

Furthermore, commercial bank customers with active either current accounts or savings accounts and never embrace internet banking system in Nigeria considered. Although, using the Nigerian banking individual customers at these three locations of

might be among the limitations towards generability of this current study. Conversely, this study suggested that the selected participants, variance based structural equation model with the automated moment of structures software (AMOS) and locations are relevant to explain the intention to accept an internet banking technology in Nigeria.

1.8 Operational terminologies related to the study

This proposed study suggested that relative advantage, compatibility, ease of use and trialability on attitude; social influence on subjective norm; self-efficacy and resource facilitating conditions on the perceived behavioural control and trust beliefs towards intention to accept internet banking briefly defined to provide an insight understanding of this proposed study

1.8.1 Operational roles of attitude in the study

Attitude described as the degree person has a satisfactory/unsatisfactory assessment of the behaviour in an inquiry, could be adopted to investigate the behavioral intention of the people (Ajzen, 2006). Thus, proposed that attitude commercial bank customers may affect attitude towards the intention to accept internet banking in Nigeria

1.8.1.1 Operational role of relative advantage in the study

Relative advantage described as the degree to which an innovation perceived as being better or supersedes the others ideas, relative advantage related to benefits of using the technology (Rogers, 1995). Thus, proposed that relative advantage of using the system may affect attitude towards the intention to accept the technology in Nigeria.

1.8.1.2 Operational role of compatibility in the study

Compatibility described as the degree to which an innovation perceived as consistent with someone's values, past experiences, and lifestyle (Rogers, 1995). Compatibility related socio-cultural values and beliefs, previously introduced ideas, and needs of the technology in the relationship to the users' lifestyle. Thus, proposed that compatibility of using the system may affect attitudes towards the intention to accept the technology in Nigeria

1.8.1.3 Operational role of ease of use in the study

Ease of use described as perception at which user understands the technology, ease of use related to levels of physical or mental efforts necessary to use technology (Rogers, 1995). Thus, proposed that perceived ease of use affect attitudes towards intention to accept the technology in Nigeria.

1.8.1.4 Operational of trialability in the study

Trialability described as the degree at which user experiments the specific technology with a limited basis, trialability allows the prospective user to have a demo trial of the technology to enhance understanding of the users (Rogers, 1995). Thus, suggested that trialability may affect attitude towards intention to accept internet banking in Nigeria.

1.8.2 Operational roles of subjective norm in the study

Subjective norm regarded as a person's opinion of the social pressure to engage in a thorough action. The notion recommended that feelings and beliefs of others users might influence behaviour non users towards acceptance of a particular technology

(Ajzen, 2006). Thus, proposed that subjective norm might affect the intention to accept internet banking in Nigeria.

1.8.2.1 Operational role social members' influence in the study

Social influence causes a normative influence that occurs when individual conform to the expectations of other groups, social pressure on individuals to act may be influence of the groups associated (Venkatesh *et al.*, 2003). Thus, proposed that social members' influence may affect subjective norm to accept internet banking in Nigeria.

1.8.3 Operational roles of perceived behavioural control in the study

Perceived behavioural control could be the internal and external supporting resources to perform target behaviour. The internal reflects one's self-capacity to perform target behaviour and the external perception reflects one's beliefs regarding the accessibility of external resources to embrace specified technology (Ajzen, 2006). Thus, proposed that perceived behavioural control might affect intention to accept internet banking in Nigeria.

1.8.3.1 Operational role of resource facilitating conditions in the study

Resource facilitating conditions in this study refer to beliefs about the accessibility of resources that needed to engage in the usage of the technology such as computer and internet (AliSaleh & Nor Khalil, 2013; Ajzen, 2006; Taylor & Todd, 1995a). Thus, proposed that resource facilitating conditions have effect on the perceived behavioural control towards intention to accept the technology in Nigeria.

1.8.3.2 Operational role of self-efficacy in the study

Self-efficacy could be described as physical and mental ways of handling difficulties towards the intention to embrace a given technology individually (Ajzen, 2006; Taylor & Todd, 1995a). Thus, proposed that self-efficacy may affect perceived behavioural control towards the intention to accept the technology in Nigeria.

1.8.4 Operational roles of trust in the study

Trust defined as ability to perceive assurance and redemption if consequence during transactions via the technology from the service providers (Yousafzai *et al.*, 2005). Suggested trust beliefs included disposition to trust, structural assurance, competence, benevolence, integrity and predictability may affect trusting intention to accept a given technology (McKnight & Chervany, 2002). Based on the earlier study, facets of trust examined and suggested trust as a mediator between technology factors and intention to accept internet banking

1.8.4.1 Operational role disposition to trust in the study

Disposition to trust describes a broad tendency when it comes to trusting people. It is actually a personality-based trust which clarifies the reason some people develop the tendency to trust or otherwise in other people (McKnight *et al.*, 2002). It is a stable belief and has been suggested that one is born with it or that it is developed (Nor Khalil & Pearson, 2007). Thus, suggested that disposition to trust may affect intention to trust internet banking in Nigeria.

1.8.4.2 Operational role of structural assurance in the study

Structural assurance reflects security, guarantees, safety and structure one perceived about a circumstance. In the context of this study, structural assurance associated with guarantees and legal safeguards makes the environment feel trustworthy. Structural assurance suggested to increase level of trust when security and safety assured that all transactions would be expected to be completed with utmost good faith (McKnight & Chervany, 2002). Hence, proposed that perceived structural assurance might affect trust towards intention to accept internet banking in Nigeria.

1.8.4.3 Operational role of competence in the study

Competence is one of the attributes of interpersonal trust, refers to the situation where the trustor believes that trustee has the authority to fulfill his or her needs. Competence in the context of internet banking means that customers believe that commercial banks offering online services are capable of providing an effective and convenient service (Nor Khalil & Pearson, 2007). Thus, perceived competence might affect trust towards intention to accept an internet banking in Nigeria.

1.8.4.4 Operational role of benevolence in the study

Benevolence also suggested as one of the attributes of interpersonal trust, refers to the situation where a trustor believes that a trustee will act in utmost good faith a trustor. In this context, benevolence means that customers believe that the commercial banks care about their customers and act in their customers' interest (Yousafzai *et al.*, 2009). Thus, perceived benevolence might affect trust towards intention to accept an internet banking in Nigeria.

1.8.4.5 Operational role of integrity in the study

Integrity refers to the situation where service providers are truthful in their operations, keep their commitments, act ethically and fulfill promises to make online services safe and secure. In this context, means that commercial banks keen to keep promises about safe and secure transactions via internet (Yousafzai et al., 2009). Thus, proposed that perceived integrity may affect trust towards intention to accept an internet banking in Nigeria.

1.8.4.6 Operational role of predictability in the study

Predictability refers to the situation where one believes that the other party's actions (good or bad) are consistent enough that one can forecast them in a given situation (McKnight & Chervany, 2002). In this context, customers that perceived high trusting belief-predictability believe they can predict future behaviour of the service providers at a given circumstances. Thus, proposed that perceived predictability may affect trust towards intention to accept an internet banking in Nigeria.

1.8.5 Internet banking

Internet banking described as an aspect of electronic banking which can be use at the home or the office to complete transactions provided there is accessibility of computer with internet, this channel associated with confidential created passwords and codes by customers to complete transactions, also provide internet security such as pin, token numbers and authentication codes via the customers' mobile to confirm complete safer transactions (Ahmad & Mahmood, 2013; Yousafzai *et al.*, 2009). However, trust and other technology factors suggested as independent constructs and intention to accept internet banking proposed as the dependent construct.

1.9 Structure of the thesis

Figure 1.1 presents the structure of this current thesis. The content of this thesis started with an introduction, background of the study, internet banking in Nigeria, problem statement, research objectives and questions, the importance of the study, the scope of the study, and terminologies related to internet banking in Chapter one.

The Chapter two comprises of technology acceptance theories, models related to trust, proposed independent factors, and trust as a mediator in the relationship between technology factors and intention to accept internet banking, Chapter two concluded with development of the hypotheses and a conceptualized framework. Chapter three presents research methodology. Chapter four presents analysis and findings based on the data received, and Chapter five presents discussions and recommendation of the study to the academic and the business industries. Thus, presents the structure of the thesis in Figure 1.1 of this chapter one.

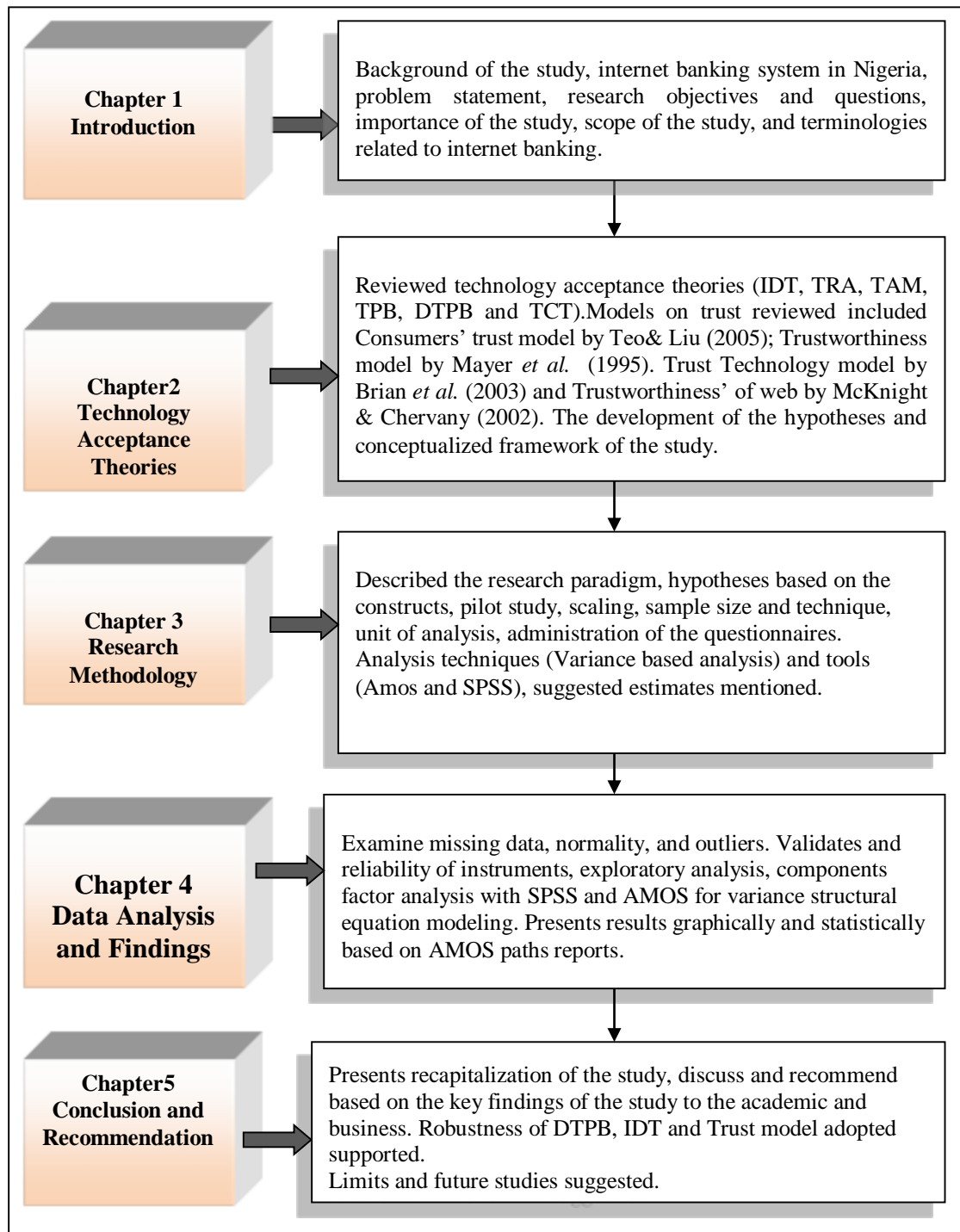


Figure 1.1: Structure of the thesis

Chapter one of this proposed study concluded with the structure of the thesis illustrated in Figure 1.1. Thus, suggests literature review on technology acceptance theories and trust model related to the proposed study in Chapter two of thesis.

CHAPTER 2

TECHNOLOGY ACCEPTANCE THEORIES

2.1 Introduction

This chapter two reviews, technology theories and trust model that have been used to investigate studies related to acceptance of a technology. The suggested technology acceptance theories included innovation diffusion theory, theory of reasoned action, theory of planned behavior, technology acceptance model, the decomposed theory of planned behaviour and technology continuance theory and trust model included. Additionally, the relationship, critics of each technology acceptance theory and model, the importance and the rationale of the technology discussed in this Chapter two.

2.1.1 Innovation diffusion theory (IDT)

The innovation diffusion theory has been adopted to describe the innovation-decision process for more than twenty decades. (Rogers, 1985). Rogers (1983) established that dissemination of innovation as the progression in which an innovation communicated through certain channels over time among the members of a societal system. As expressed in this definition: the characteristics of innovation, and the characteristics of the individual user, the distribution over time adopter, posted networks, innovation and adopter categories, and individual acceptance process. Rogers (1995) established five attributes that could persuade an individual to adopt the innovation relative advantage, compatibility, complexity, trialability and observability.

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