Adoption of E-Banking and Customers' Satisfaction in Money Deposit Banks in Ibadan Oyo State, Nigeria.

Wasiu Adeyemi RUFAI
LCU/PG/001578

Being a PhD Thesis Presentation Submitted to the Department of Management & Accounting, Faculty of Management & Social Sciences, Lead City University, Ibadan, Oyo State, Nigeria

In Partial Fulfilment of the Requirements for the Award of Doctor of Philosophy Degree
(PhD) in Marketing

2024

Certification

This is to certify that this thesis was carried out by **Wasiu Adeyemi RUFAI** with Matriculation number **LCU/PG/001578,** in the Department of Management & Accounting under my thorough supervision in the Faculty of Management and Social Sciences, Lead City University, Ibadan, Nigeria and that this work had not been previously submitted.

Dr. O.T. Oreagba **Date**
Supervisor

Dr. T.M. Akinbo **Date**
Head of Department

Dedication

This thesis is dedicated to the Almighty Allah, my late foster parents; my late Uncle Alhaji (Imam) Fatai Alamu Rufai and His late wife Alhaja Anotallahi Ajoke Rufai.

Acknowledgement

"Haaza min Fadli Robii" ("This is indeed a favour from my Lord"). Allah in His infinite mercies have done a great work in my life again. His unseen hands have greatly manifested conspicuously in the course of my pursuing this programme. He gave me hope when I was hopeless, strength when I was weak and protection in all ramifications. To him alone I return all the glory. I wish to express my profound gratitude to Lead City University, Ibadan, Nigeria for the opportunity given me to undergo this degree. I appreciate the Vice-Chancellor of the University, Professor K.A. Adeyemo, Provost, Postgraduate College, Prof. Oredein, Heads of Departments, Lecturers and other non-academic staff members of the University.

Words are inadequate to express the wonderful input of my supervisor Dr Oreagba for her constructive criticism, special attention and advice during this research work. I want to specially acknowledge the contribution of Dr. F. Igbadumhe for taking me under his tutelage. I also acknowledge the contributions of all my lecturers too numerous to mention, and specifically the Head of Department; Dr T.M. Akinbo.

My appreciation to Meesr Olanipekun Adebutu (Managing Director Fortune Heights Farms) for part funding/ sponsoring this programme, Mrs Oluyemisi Iranloye (Managing Director Psaltry International Limited) for your immense support. I acknowledge the support of Alhaja Morufat Adepeju Ilupeju, my bosom friend and brother Teslim Kunle (Teskom), Oladimeji Taofeek Abimbola (Etokebe), Engr Idris Adeoye and all members of Soccer Ambassadors FC for their understanding and prayers. To Professor Akeem Amodu, thank you for the encouragement to begin this worthy journey. To Senator Teslim Kolawole Folarin and the TKF political team I appreciate your support.

To my Boss, Eze Nwakanma and colleagues in the Department of Agribusiness, Export and Sustainability, Temitope Sam-Odu, Utomi Ezinwa and Lawrence Nze, I acknowledge your

support and understanding. Not forgetting my Union Bank Oyo Branch team and Mazi Emeka Obialo. To Abayomi Abdulrahman Awofeso, Ogunleye Tayo Clement, Hon Sunday Nurein Solarin (PhD), Nosa Aigbiniode, Olalekan Kazeem Owolabi, Barristers Rotimi Alli and Sikiru Adewoye,your motivation and moral support spur me to this lofty endeavor.

To my prayer warrior and mother-in-law, Madam Esther Ipadeola and all the Ipadeola clan Femi, Sope and Tolu, you guys are awesome. My live in foster family, Igbang Victor, Dadamu Mayowa and Boluwatife Ogunleye, your help and assistance is of great value to me.

My heartfelt appreciation goes to the women in my life Mistura Adedoyin Rufai (PhD), Adejumoke Oluwatosin Ipadeola-Rufai (FCCA) and my children, Halimah, Habeebulah, Hamidah, Azeezah and Halim for their support and understanding.

With heart full of thanks, I appreciate posthumously my foster parents Alhaji F.A Rufai and Alhaja Anotallahi Rufai for believing in me. To my late brother Waliu Adewale Rufai. To late Alhaji Abass Yusuff and Alhaja Sidikat Yusuff and Elder Johnson Ipadeola.

To my support system, late Olabode George Abikoye, Oluwademilade Odukoya, Angela Folarin, your death was a big blow to the me. To all my deceased acquittances who has one way or the other contributed to my endeavors in life I miss you all dearly.

I thank my parents Alhaji Ganiu Adisa Rufai and Alhaja Nimotallahi Taiwo Rufai for birthing me and taking me through life. To all my brothers and Sisters, my cousins all family members far and near I say thank you for your support.

To all my friends and colleagues that stood firmly by me during this work I say thank you, God bless you.

“Even though the above institutions and persons have assisted in the process of this research work, I alone stand responsible for the errors, if any found in this work”.

Abstract

Today, banks across the world offer electronic banking (e-banking) services to their customers and these new innovations have brought tremendous benefits in terms of convenience, cost reductions, accessibility, improved brand visibility and subsequent profits for the banks and their customers. Despite the many benefits of e-banking to customers, the level of customer satisfaction has raised a lot of concern amongst scholars and practitioners. The study examined the interaction effect between e-banking adoption and customers' satisfaction in selected deposit money banks in Ibadan, Oyo State. The study is hinged on four notable theories-Technology Acceptance Model, Diffusion of Innovation Theory, Theory of Reasoned Action, and Theory of Planned Behavior. A cross sectional survey research design was employed. 500 copies of structured questionnaire were distributed to customers of selected deposit money banks in Ibadan, Oyo State. 369 copies of the questionnaire were recovered and analysed, representing a 73.8% response rate. Findings revealed statistically significant path coefficients between E-banking adoption and customers' responsiveness (β=0.388, Tstat = 4.206, p=.000); E-banking adoption and customers' accessibility (β=.635, Tstat = 6.345, p=.000);H_{o3}: E-banking adoption and customers' convenience (β=.607, Tstat = 6.383, p=.000); E-banking adoption and customers' reliability (β=.854, Tstat = 22.653, p=.000); E-banking adoption and customers' costs (β=.813, Tstat = 15.845, p=.000); moderating role of demographic variables on the relationship between e-banking adoption and customer service satisfaction (β= 0.710, R^2= 0.504; P-value =0.000 <0.05). It was recommended that financial institutions should prioritise optimising digital accessibility features across online banking, mobile banking, and ATM services. For all consumer segments, including those with disabilities, this means empowering them with clear instructions through educational campaigns and upholding accessibility standards. Also, Financial institutions should emphasise streamlining the user experience across online banking, mobile banking, and ATM services, ensuring seamless access and consistent functionality. It is essential to prioritise personalisation and customisation of services according to user preferences, using data analytics to predict user demands and provide customised solutions. To enhance consumer convenience and satisfaction, e-banking services must be available around the clock, integrated with third-party conveniences, and offer extensive educational materials.

Keywords: Adoption, Customers, E-Banking, Money Deposit Banks, Satisfaction.

Word count: 350

Table of Contents

Content		Page
Title Page		i
Certification		ii
Dedication		iii
Acknowledgement		iv
Abstract		vii
Table of Contents		viii
List of Tables		xii
List of Figure		xiv
Chapter One: Introduction		
1.1	Background to the Study	1
1.2	Statement of the Problem	5
1.3	Aim and Objectives of the Study	8
1.4	Research Questions	8
1.5	Hypotheses	9
1.6	Significance of the Study	9
1.7	Scope of the Study	11
1.8	Limitation of the Study	12
1.9	Operational Definition of Terms	12
	Endnotes	14
Chapter Two: Literature Review		
2.1	Conceptual Review	17
2.1.1	Customer Satisfaction	17
2.1.2	Electronic Banking	24

2.1.3 Demographic Characteristics of Internet Banking Adopters 41

2.2 Theoretical Framework 43

2.2.1 Technology Acceptance Model 44

2.2.2 Diffusion of Innovation Theory 45

2.2.3 Theory of Reasoned Action 47

2.2.4 Theory of Planned Behaviour 48

2.3 Review of Empirical Studies 49

2.4 Conceptual Framework 64

2.5 Summary of Gap in Literature Reviewed 64

Endnotes 66

Chapter Three: Methodology

3.1 Research Design 81

3.2 Population of the Study 82

3.3 Sample and Sampling Techniques 82

3.4 Description of the Research Instrument 84

3.5 Validity and Reliability of Research Instrument 85

3.6 Method of Data Collection 86

3.7 Method of Data Analysis 87

Endnotes 88

Chapter Four: Results and Discussion of Findings

4.1 Demographic Data Analysis 90

4.1.1 Response Rate 90

4.1.2 Demographic Profiles of Respondents 91

4.2 Presentation of Data 94

4.2.1 Descriptive Statistics 94

4.2.2 Test of Hypotheses 107

4.3 Discussion of Findings 151

4.3.1 E-banking Adoption and Customers' E-Service Responsiveness 151

4.3.2 E-banking Adoption and Customers' E-Service Accessibility 152

4.3.3 E-banking Adoption and Customers' E-Service Convenience 154

4.3.4 E-banking Adoption and Customers' E-Service Reliability 156

4.3.5 E-banking Adoption and Customers' E-Service Cost 157

4.3.6 E-banking Adoption, Demographic Variable and Customers' E-Service Satisfaction 159

Endnotes 162

Chapter Five: Conclusion

5.1 Summary of Findings 165

5.2 Conclusion 166

5.3 Recommendations 169

5.4 Contribution to Knowledge 171

5.5 Suggestions for Further Studies 172

Bibliography **174**

Appendix I: Questionnaire **191**

Appendix II: SEM Results **197**

Bio-data **214**

The University Compliance Certification **217**

List of Tables

Table	Title	Page
4.1	Respondent's Response Rate	90
4.2	Demographic Profiles	91
4.3	Online Internet Banking	94
4.4	Mobile Banking	96
4.5	ATM Machine Services	98
4.6	Satisfaction	99
4.7	Service Accessibility	101
4.8	Customer's E-Service Convenience	103
4.9	Customer's E-Service Reliability	105
4.10	Customer's E-Service Cost	106
4.11	Factor Loading for E-banking Adoption and Customers' E-Service Responsiveness	109
4.12	Path Co-efficient for E-banking Adoption and Customers' E-Service Responsiveness	112
4.13	Common Method Bias for E-banking Adoption and Customers' E-service Responsiveness	114
4.14	Model Fit Index for E-banking Adoption and Customers' E-service Responsiveness	116
4.15	Factor Loading for E-banking Adoption and Customers' E-Service Accessibility	118
4.16	Path Co-efficient for E-banking Adoption and Customers' E-Service Accessibility	120
4.17	Common Method Bias for E-banking Adoption and Customers' E-service Accessibility	122
4.18	Model Fit Index for E-Banking Adoption and Customers' E-Service Accessibility	123
4.19	Factor Loading for E-banking Adoption and Customers' E-Service Convenience	124

4.20	Path Co-efficient for E-banking Adoption and Customers' E-Service Convenience	127
4.21:	Common Method Bias for E-banking Adoption and Customers' E-Service Convenience	129
4.22	Model Fit Index for E-Banking Adoption and Customers' E-service Convenience	131
4.23	Factor Loading for E-banking Adoption and Customers' E-Service Reliability	132
4.24	Path Co-efficient for E-banking Adoption and Customers' E-Service Reliability	135
4.25	Common Method Bias for E-banking Adoption and Customers' E-Service Reliability	137
4.26	Model Fit Index for E-Banking Adoption and Customers' E-Service Reliability	138
4.27	Factor Loading for E-banking Adoption and Customers' E-Service Cost	139
4.28	Path Co-efficient for E-banking Adoption and Customers' E-Service Cost	142
4.29	Common Method Bias for E-banking Adoption and Customers' E-Service Cost	144
4.30	Model Fit Index for E-Banking Adoption and Customers' E-Service Cost	145
4.31	Model Fit Index for E-Banking Adoption, Demographic Variables and Customers' E-Service Satisfaction	149
4.32	Coefficient Value of Hypothesis Six	150

List of Figures

Figure	Title	Page
2.1	Conceptual Framework for the Study	64
4.1	Path Co-efficient and P-values for E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) on Customers' E-Service Responsiveness	111
4.2	Path Co-efficient and P-values for E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) on Customers' E-Service Accessibility	119
4.3	Path Co-efficient and P-values for E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) on Customers' E-Service Convenience	126
4.4	Path Co-efficient and P-values for E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) on Customers' E-Service Reliability	134
4.5	Path Co-efficient and P-values for E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) on Customers' E-Service Cost	141
4.6	E-banking Adoption, Demographic Variables, and Customer Service Satisfaction Model	147
5.1	E-banking Adoption, Demographic Variable and Customers' E-Service Satisfaction Model	172

Chapter One

Introduction

1.1 Background of the Study

In the service industry, particularly the banking sector, across the world, the delivery of high-quality services to customers is a key factor affecting the performance of firms. It is thus realistic to state that the industry is synonymous with competition as a result of continued improvement in the service delivery. This improvement is a reflection of the high expectation of bank customers. This quest for continued improvement has thus made the banking sector to face enormous challenges of rapid environmental changes which eventually translate to stiff competition among banks. This competition equivocally made the banks to jostle for leadership positions in the industry and thus imperative for banks to at least meet the target customers' satisfaction with quality of services expected by them since customers' quest for improved services has become non- negotiable. The essence of this competition bothers on which bank could actually offer customers services or offerings that will be more attractive to customers than that of a competing bank[1].

Service Industry is growing very fast as its major contribution to the development of the world economy is capturing the attention of all Stakeholders. Today, the service industry accounts for almost two-thirds of the world economic outputs as the trade service sector constitutes one-fifth of the global trade while the commercial services export sectors are also growing very fast. The contribution of the service sector to the economic development of countries such as Canada, USA, Japan and other industrialized countries of Europe in terms of GDP and employment generation cannot be underrated. Importantly, the service sector in USA creates between 80% and 88% of available jobs while it enables USA to also achieve trade surplus arising from services exportation[1,2].

Banking, being a sub-sector of the service industry, is also playing a pivotal role in the economy development of the world at large as the sector is supporting and propelling the real sector through mobilization of fund from surplus to the deficit end (Central Bank of Nigeria[3]. Banks today occupy the center point of the global service industry enabling businesses to be done across the border especially with the advent of information technology and high penetration of internet. For instance, it has been argued that Nigeria banks are majorly contributing to the substantial growth of Nigeria GDP reaching 10.5% in 2009, while a recent information states that the share of service sector to Nigeria GDP has increased from 50.2% in 2013 to 61% in 2022 [3].

In the recent business environment especially with substantial contribution of the service sector like banking to the development of world economy therefore, internet has become one of the indispensable technology tools being used by various business organizations [4]. The reason for this is not far-fetched since almost all aspects of human endeavors such as governance, buying and selling, learning, communications, banking and so on, are being touched by the proliferation of the World Wide Web[5]. Particularly, the technological breakthrough in the fields of computing, communication engineering and electronic has helped many banking organizations to further embrace electronic banking (here called e-banking) as a way to serve their customers better than the traditional banking system[6].

The increasing competitive nature of the financial service market has resulted in the need to develop and utilize alternative delivery channel. The most recent delivery channel introduced is online banking. In the last few decades, banks have seen a shift in their objectives and strategies due to the emergence of an information and communications revolution in the financial and banking markets. This has prompted banks to move towards the introduction of a new type of services based on information technology (IT), offering what is known as

"electronic banking services", or E-banking in addition to traditional banking services[7]. The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamentals importance and concerns to all banks and indeed a prerequisite for local and global competitiveness in banking industry. As a result of this technological improvement business environment in financial sector is extremely dynamic and experience rapid changes and demands banks to serve their customer electronically[8].

E-banking is a service that provides customers the opportunity to gain access to their accounts, execute transactions, and obtain information on financial products and services through a public or private network, including the internet[9]. It is the means by which the services and products of banks are made available to their customers through the use of internet and electronic digital devices irrespective of the location of the customer and time of carrying out the transaction. Furthermore, this implies that electronic banking channels enable customers to carry out transactions on their own with ease and convenience[10]. Consequently, customers can carry out banking transactions, such as withdrawal of cash, deposits or transfer of funds, make payment for goods and services online without the direct help of the bank. Today, almost all banks are adopting electronic banking as a means of enhancing service quality of banking services. They are providing electronic banking to their customers to increase customers' satisfaction in banking service[11].

E-banking has been defined by different authors as a type of banking service that enables customers of banks to transfer funds, make enquiries on their accounts, settle bills, manage stocks online and perform other transactions through electronic communication channels without interacting with the officials of the banks directly[12,13]. Generally, e-banking channels include Mobile banking, Internet banking, Automated Teller Machines, PC Banking,

electronic cheque clearing system and so on[14,15]. These banking alternative channels are highly evolving and have brought significant paradigm shift in the banking sector and e-commerce industry. E-banking plays a crucial role in the banking industry by creating value for banks and customers. E-banking has enabled banking institutions to compete more effectively in the global environment by extending their and services beyond the restriction of time and space[6]. E-banking is one of the most recent channels of distribution used in financial services organizations[7,8].

Consequently, in the last few decades e-banking has therefore become an important channel through which banks now made their services available to customers in many countries. It is also becoming one of the necessary tools for succeeding in the global and international business arena as most businesses are being carried out via e-banking [9]. For instance, it is estimated that there are thousands of e-banking websites across the globe making business transactions to be facilitated easily across borders of many countries and bringing development across the globe[10].

With the rapid global growth in e-banking, commercial banks are attempting to gain a competitive advantage by using e-banking to interact with customers. Banks with the most experience and success in using e-banking are beginning to realize that the key determinants of success or failure include electronic service quality. Customer satisfaction and customer retention are increasingly developing into key success factors in e-banking. Most importantly, profitable e-banking requires a strong focus not only on the acquisition of new customers but also on the retention of existing customers, since the acquisition costs in online banking exceed that of traditional offline business by 20-40 %[8]. Consequently, establishing long-term customer relationships is a prerequisite for generating positive customer value on the internet[9].

In the face of rapid expansion of electronic payment systems throughout the world, the Nigeria, financial sector cannot remain an exception in expanding the use of the system[6]. In the Nigerian context, banks today are seriously into new electronic delivery channels for banking products and services with a view to delivering better services and satisfying customers and banks that cannot offer these services are increasingly losing their customers'. The growth and development of the banking sector is a sine qua non for economic growth, hence every country seeks the development of that sector and just as banks depend on customers' patronage either for deposit, loan, or other services in order to make profit and grow customers satisfaction in order to continue transacting business with such bank[10].

Despite that the benefits of e-banking have been widely acknowledged; evidence has however shown that its rate of adoption is very low in Nigeria when compared with some other African countries for instance reveals that despite those online financial transactions have reached over N65 billion Naira in 2022[10]. Factors such as insufficient information about e-banking benefits, issues of security, poor quality service and lack of fun are some of the factors undermining full usage of e-banking in Nigeria[11]. In spite of the challenges being faced by e-banking adoption, literature that delve into the reasons for its low adoption in developing countries are very scarce as most of previous studies emanated from developed countries[10,11,12]. Where previous authors are from developing countries however, the results of their studies are mixed, inconclusive and make it difficult to articulate factors that can be used to predict adoption of electronic banking[8]. In view of this, several authors have called for further studies that will help to explicate factors that can enhance the adoption of e-banking especially in context of developing countries[13,14,15].

1.2 Statement of the Problem

Traditional banking practice in Nigeria in the time past was done without much regards to how customers' really felt about their performances, and this led to loss of customer confidence in the service delivery of banks[16]. The paradigm shift to online banking however brought about relief to customers thus their expectations that service delivery of their banks will improve. The success on-online banking depends on the delivery of superior e-service quality, satisfaction and trust to its customers. Today, banks across the world offer electronic banking (e-banking) services to their customers and these new innovations have brought tremendous benefits in terms of convenience, cost reductions and subsequent profits for the banks and their customers[16,17,18]. As a result, banking services have been carried out in the simplest form through automated teller machines (ATM), point of sales (POS), internet banking platforms, USSD. This has allowed bank customers to carry out banking transactions even after banking hours[15]. Similarly, in Nigeria, the introduction of electronic banking technology to banking operations has brought about a reaction characterised by a fundamental change in the content and quality of services and banking business.

Despite being hopeful, customers were still skeptical in the sense that series of complaints ranging from wrong debiting of account, non- availability of network, machine breakdown, lack of security, Personal Identification Number (PIN) challenges, employees lack of sense of humane, privacy concerns, frequent cases of account hacks etc. were all occurrences that customers get exposed to. Also, a closer observation of the Nigerian banking system, reveals the presence of queues in banking halls, problems of frequent network failures, and inadequate awareness of E-banking products[18]. In banking halls in the country, it is common to see bank cashiers complaining of poor network while collecting cash from customers or processing customer complaints. Queues at ATMs are familiar sights, and customers are often frustrated due to the slow nature of dispensing cash.

It is also not uncommon to hear bank customers complaining of being debited wrongly or their inability to assess their account balance. Communications over the internet can be insecure and often congested, and banks sometimes have to deal with the challenges that come with the use of internet services such as security, quality of services and various aberration in electronic finance[19]. In spite of the challenges being faced by e-banking adoption, literature that delve into the reasons for its low adoption in developing countries are very scarce as most of previous studies emanated from developed countries[20,21,22]. Where previous authors are from developing countries however, the results of their studies are mixed, inconclusive and make it difficult to articulate factors that can be used to predict customer satisfaction of electronic banking[25,26].

Consequently, extant studies have discussed the relationship between e-banking adoption and its determinants with the purpose of finding better ways of resolving the problem of low adoption, however, disagreement remains about how this technology can effectively be adopted[27,28]. One of the reasons that account for this is the inconsistencies in the findings of previous studies and which indicates that e-banking adoption research is still inconclusive especially in developing countries[28,29]. Also, findings have shown that studies that delve into what brings about online satisfaction generally are quite sparse, especially in e-banking, it has just started attracting the attention of marketing researchers.

In view of the above therefore, extant authors have empirically established determinants of satisfaction especially but a few of them concentrated on e-banking adoption while none of them has established the effect of e-banking adoption on customers' satisfaction[30].Based on the aforementioned practical issues, this empirical study will investigate the relationships between adoption of e-banking system (online banking, mobile banking, ATM machines) and employee satisfaction in terms of responsiveness, accessibility convenience , speed and cost).

This study shall also examine the moderating effects of demographic variables of e-banking adopters on the relationship between e-banking adoption and customers satisfaction.

1.3 Aim & Objectives of the Study

The aim of this study is to investigate the interaction effect of e-banking adoption on customers' satisfaction of selected money deposit banks in Nigeria. The specific objectives are to

i. ascertain the effect of e-banking adoption (online banking, mobile banking and ATM machines services) on service responsiveness

ii. determine the effect of e-banking adoption (online banking, mobile banking and ATM machines services) on service accessibility

iii. determine the effect of e-banking adoption (online banking, mobile banking and ATM machines services) on service convenience

iv. examine the moderating effect of banking adoption (online banking, mobile banking and ATM machines services) on service reliability

v. examine the effect of e-banking adoption (online banking, mobile banking and ATM machines services) on service cost

vi. examine the moderating effects of demographic variables of e-banking adopters on the relationship between e-banking adoption and customers satisfaction

1.4 Research Questions

Following the problem statement and research objectives, the following research questions are raised:

1. in what way does e-banking services affect customers' satisfaction?
2. how does adoption of e-banking services affect efficiency of customers transaction?
3. is there any association between customers' demographic variable and customers' satisfaction?
4. what is the level of customer satisfaction in commercial banks in Nigeria in relation to cost, speed and accessibility?
5. What areas of customer's experience needs to be improved upon?

1.5 Hypotheses

The study tests the following null hypotheses:

$H_0$1: E-banking adoption has no significant effect on customers' service responsiveness.

$H_0$2: There is no significant effect of e-banking adoption on customers' service accessibility.

$H_0$3: There is no significant effect of e-banking adoption on customer service convenience.

$H_0$4: E-banking adoption has no significant effect on customers' service reliability.

$H_0$5: There is no significant effect of e-banking adoption on customer service cost.

$H_0$6: The demographic variables of e-banking adopters play no moderating role on the relationship between e-banking adoption and customers satisfaction.

1.6 Significance of the Study

This study will enable policymakers at strategic levels in the banking industry to be aware of customers's needs so that efforts toward improving e-service qualitywould be initiated. At this point, It would be clearer to the policy makers in banks the extent to which customers are ready to churn services rendered by the banks if they can be offered better services in other competing banks; hence abide by the code of conducts as spelt out by the Central Bank of Nigeria.

The knowledge gained from this study will be beneficial to the government, researchers in the sense that the study would afford the academic world the opportunity to be more accessible to material and local literature that would further enrich knowledge.At the level of business practice, it is hoped that this study would be useful to banks. These banks would not only be interested in profitability alone, but also on customer orientation approaches or programmes to further enhance customer satisfaction. Theoretically, this study would enable policy makers at strategic levels in the banking industry to be aware of customer's needs so that efforts toward improving e-service quality would be initiated. It is definitely of necessity that this study would afford policymakers in the banking industry to further appreciate the fact that bank customers are rational and as such must be given very good value for money and time spent in patronizing them. The benefit of this study to the banks would therefore mean more profit, larger investment opportunity and better service delivery to its customers which would invariably bring about retention of existing customers and the cultivation of potential customers.

This study would equally be beneficial to customers in the sense that they would be more exposed to better e-banking service delivery from the banks. This would further enjoin them to continue to patronize e-banking channels and even encourage others to do so. This would

invariably improve customer confidence in the patronage of e-banking service delivery channels. This study would also benefit the bank employees as increase in profitability for banks will transform to exposure of employees to more training and development programs and may bring about additional incentive packages. The findings of this study will be considered important to provide insight into the relationships between electronic banking services and customer satisfaction. Particularly, the study is significant because, provide crucial facts about the impact of electronic banking services on customers' satisfaction and understand the impact of variable of electronic banking on customers' satisfaction.

Practically, this study will contribute majorly through recommendations for the purpose of improving the rate of e-banking adoption in Nigeria. Since extant studies have found that majority of e-banking users are not satisfied with and do not trust e-banking channels in Nigeria, the findings of this study would assist management of banks and policy makers to come up with innovative and good policies and strategies that can help in the enhancement of e-banking channels designs with good interface and that are easy to operate. Aside, the study also makes recommendations towards ensuring that banks and the governement make available necessary infrastructure that will enhance e-banking usage as well as ensuring that the banks always embark on awareness campaign and promotion for the purpose of informing the users and intending users about the full benefits of e-banking.

1.7 Scope of the Study

This study will assess the relationship between adoption of e-banking system (online banking, mobile banking, ATM machines) and employee satisfaction in terms of responsiveness, accessibility convenience, peed cost). This study shall also examine the moderating effects of demographic variables of e-banking adopters on the relationship between e-banking adoption and customers satisfaction. The study will focus on two major areas. This comprises of the

contextual and geographical scope of the study. Contextually, the research would emphasise on impact of the adoption of electronic banking on customers' satisfaction. Geographical the study will focus on customers of money deposit banks in Ibadan metropolis. Ibadan is purposely selected because all the money deposit banks in Nigeria have their presence in Ibadan metropolis. The study will adopt a descriptive research design. The purposive sample technique will be adopted to obtain samples from the customers of the banks.

1.8 Limitation of the Study

i. Sampling Location: Since the study focuses primarily on customers of selected deposit money banks in Ibadan, Oyo State, Nigeria, the findings are generalisable to other parts of Nigeria, as well as other nations. Customers' banking behaviours and preferences may differ significantly among geographies or cultural contexts, thereby affecting the application of the study's conclusions on a larger scale.

ii. Methodological Approach: Using questionnaires to obtain information from respondents restricts the depth of insights that can be acquired. Incorporating interviews alongside the questionnaire could have offered deeper qualitative data, giving complete insight into consumers' experiences and perceptions of e-banking uptake and satisfaction.

iii. The study's dependence on self-report measures raises the possibilities of common method bias and social desirability bias. Respondents may have offered answers that

they considered socially desirable or biased, which could impact the data's accuracy and dependability.

iv. Demographic characteristics (gender, age, marital status, educational qualification) were the only moderating variables evaluated in the study. While these demographic characteristics can impact consumers' banking behaviours and satisfaction levels, other relevant variables, such as income level and technical competency, may also play important moderating roles.

1.9 Operational Definitions of Terms

Customer Efficiency: refers to the ability of the customers to get to the Website, find their desired product and information associated with it and check out with minimal effort.

Customer Satisfaction: is an "evaluation of the perceived discrepancy between prior expectations and the actual performance of the product or service. It is a collection of outcomes of perception, evaluation, and psychological reactions to the consumption experience with a product/service.

Customer Service: is a system of activities that comprises customer support systems, complaint processing, speed of complaint processing, ease of reporting complaint and friendliness when reporting complaint.

E-Banking: is the delivery of banks' information and services by banks to customers via different delivery platforms that can be used with different terminal devices such as a personal computer and a mobile phone with browser or desktop software, telephone or digital television.

Mobile Banking: is a product that offers Customers of a Bank to access services as you go. Customer can make their transactions anywhere such as account balance, transaction

enquiries, stop checks, and other customer's service instructions, Balance Inquiry, Account Verification, Bill Payment, Electronic fund transfer, Account Balances, updates and history, Customer service via mobile, Transfer between accounts etc.

Responsiveness: is the ability of a company to provide appropriate information to customers when a problem occurs, have mechanisms for handling returns and providing online guarantees.

Endnotes

1. T., Omodele, & C. Onyeiwu. *The impact of electronic banking service quality oncustomer satisfaction.* **International Journal of Economics, Commerce and Management,** 8(8), 2019. 302-316.

2. M., Nnamani, & S., Makwe. *Impact of electronic banking on customer satisfaction.* **IDOSR Journal of Science and Technology,** 4(1): 2019, 23-35.

3. N., Odusina, & A. Onakoya. *Electronic payment system and customers' retention in banks: implications for entrepreneurial development in Nigeria.* **Global Journal of Management and Business Research,** 17(6), 2017, 9-14.

4. M.A., Nso. *Impact of technology on e-banking; Cameroon perspectives.* **International Journal of Advanced Networking and Applications,** 9(6), 2018, pp.3645-3653.

5. D.G., Nayanajith, R.A.S., Weerasiri, & K.A., Damunupola. *A review on e-banking adoption in the context of e-service quality.* **Sri Lanka Journal of Marketing,** 5(2), 2019.

6. N., Sathiyavany, & S., Shivany. *E-banking service qualities, e-customer satisfaction, and e-loyalty: A conceptual model.* **The International Journal of Social Sciences and Humanities Invention,** 5(6), 2018, pp.4808-4819.

7. C., Belbergui, E., Najib, & H., Rachid. *"E-banking overview: Concepts, challenges and solutions." Wireless Personal Communications,* 117: 2021, 1059-1078.

8. S., Lusaya, & B., Kalumba. *The challenges of adopting the use of e-banking to the customers: The case of Kasama district banking customers.* **Scholar Journal of Applied Sciences and Research,** 1(2), 2018, pp.26-31.

9. S., Sardana, & V.N., Bajpai. *E-banking service quality and customer satisfaction: An exploratory study on India.* **International Journal of Services and Operations Management,** 35(2), 2020, pp.223-247.

10. S.A., Das, & N., Ravi. *A study on the impact of e-banking service quality on customer satisfaction.* **Asian Journal of Economics, Finance and Management,** 2021, pp.450-458.

11. A., Shankar, & C., Jebarajakirthy. *The influence of e-banking service quality on customer loyalty: A moderated mediation approach.* **International Journal of Bank Marketing,** 37(5), 2019, pp.1119-1142.

12. T., Altobishi, G., Erboz, & S.J.I.J.O.M.S, Podruzsik. *E-Banking effects on customer satisfaction: The survey on clients in Jordan banking sector.* **International Journal of Marketing Studies,** 10(2), 2018, pp.151-161.

13. H.F., Khan. *E-Banking system benefits and issues. Dr. Bhatt, KN (Ed.), Insights into Economics and Management,* Book Publisher International (a part of Sciencedomain International), 11, 2021, pp.40-48.

14. O.B., Al-Gharaibah. *Predictors of E-banking service adoption in Malaysia using an extended technology acceptance model.* **Int. J. Contemp. Manag. Inf. Technol,** 1(1), 2020, pp.23-29.

15. A., Banker, D., Jadhav, & V., Bhatt. *A classification of E-Banking users based on impact of service quality parameters in banking industry.* **PalArch's Journal of Archaeology of Egypt/Egyptology,** 17(12), 2020, pp.1746-1758.

16. D.S.M., Rajasulochana. *E-banking and customers' satisfaction in public and private sector banks in Karnataka: An empirical analysis.* **Journal of Positive School Psychology,** 6(8), 2022, pp.8270-8279.

17. Y., Nustini, & N., Fadhillah. *Factors that influence the use of e-banking and the effect on consumptivism.* **Review of Integrative Business and Economics Research,** 9, 2020, pp.330-345.

18. S., Sandhu, & S., Arora. *Customers' usage behaviour of e-banking services: Interplay of electronic banking and traditional banking.* **International Journal of Finance & Economics,** 27(2), 2022, pp.2169-2181.

19. K.S., Ogboye, F.I., Akande, & J., Kwarbai. *Determinants of digital banking convenience and customer satisfaction of selected deposit money banks in*

Nigeria. **European Journal of Accounting, Auditing and Finance Research,** 10(2), 2022, pp.1-30.

20. H.H.M., Rashwan, A.L., Mansi, & H.E., Hassan. *Exploring electronic-loyalty antecedents in Egyptian commercial banks; Electronic customer relationship management and banking electronic satisfaction.* **Journal of Business and Retail Management Research,** 14(2), 2020.

21. J.A., Goodie-Okio. *Mobile banking service quality and customer satisfaction of deposit money banks in Port Harcourt.* **International Academic Journal of Management & Marketing,** 2022.

22. G.C., Ogonu. *Ethical employee behaviour an deposit money banks in.* **International Journal of Management and Marketing Systems,** 2020.

23. M.S., Shabbir. *Nexus between customer preference and operation of conventional banks Islamic windows in Pakistan.* **Journal of Islamic Marketing,** 11(1), 2020, pp.50-65.

24. P.L., AmmaraPhakdeeburi. *Creative service values in Thailand 4.0 finance industry.* **Turkish Journal of Computer and Mathematics Education (TURCOMAT),** 12(14), 2021, pp.5872-5884.

25. O.K., Omoregie, J.A., Addae, S., Coffie, G.O.A., Ampong, & K.S., Ofori. *Factors influencing consumer loyalty: evidence from the Ghanaian retail banking industry.* **International Journal of Bank Marketing,** 37(3), 2019, pp.798-820.

26. M., Jaiwani, S., Gopalkrishnan, S.P., Mohanty, & N., Murthy. *Understanding service quality, customer satisfaction and banking behaviour from an e-banking perspective: An empirical approach.* In 2022 International Conference on Sustainable Islamic Business and Finance (SIBF) 2022, pp. 12-20.

27. I., Alamu. *Impact of mobile banking adoption on customer satisfaction among selected deposit money banks in Ilorin metropolis* (Doctoral dissertation, Kwara State University (Nigeria)), 2018.

28. I., Khattab, A.M., Ahmed, & O.A.O., Al-Magli. *The implications of e-banking channels on job security and personal development.* Banking & Financial Studies,(35), 2020, pp.9-39.

29. L., Lin, & W., Shiqian. *Factors influencing the behavior intention of E-banking transactions through mobile phones in China.* **Journal of Internet Banking and Commerce,** 23(1), 2018, pp.1-11.

30. D.M.K., Rajasulochana. *Service quality in SBI: An assessment of customer satisfaction on e-banking services.* **Journal of Positive School Psychology,** 2022, pp.4585-4590.

Chapter Two

Literature Review

2.1 Conceptual Review

This chapter presents a detail review of literature with respect to adoption of e-banking and customer satisfaction in Nigerian Money Deposit Bank. The chapter generally discusses the conceptual and empirical reviews, as well as underpinning theories of the study.

2.1.1 Customer Satisfaction

The concept of customer satisfaction occupies a central position in marketing thought and practice. In today's competitive environment delivering high quality service is the key for a sustainable competitive advantage. Hence, it is one of the best-studied areas in marketing, because it has become a principal factor in achieving organizational goals and is considered a baseline standard of performance and a possible standard of excellence for any organization. Firms owe their duty of care because the consuming public must have to be made to realize that they have spent money or time judiciously. Many studies confirmed that the measurement of CS regarding the service quality of firms is a necessary means by which organizations study the minds of its customers for useful feedback that could form the basis for effective marketingstrategy[1,2,3].

Since firms exist to satisfy customers by meeting their requirements, it is crucial for banks that offer internet banking services to periodically and consistently measure the satisfaction of their customers[4]. As customers use the banking internet services, it might be that they are not satisfied, or that they are satisfied to some extent, with certain dimensions of the service quality. Satisfaction is a person's feeling of pleasure or disappointment resulting from comparing product's performance (outcome) in relation to his or her expectation. Customer

satisfaction is the process of customers' overall subjective evaluation of the product/service quality against his/her expectations or desires over a time period.

Recent studies have found that satisfaction is as an outcome or end result during the process of the consumption of a service is viewed as a post-purchase experience[4,5]. This view has its roots in motivation theories which postulates that people are driven by the desire to satisfy their needs or that their behaviour is directed at the achievement of relevant goals[6]. In this way satisfaction is perceived as a goal to be achieve and can be described as consumer fulfillment response[6]. In the context of this study, customer satisfaction is defined from process perspective because we believe that in internet banking arena, customers' evaluation of internet banking service quality takes place predominantly during the service delivery process and continues, but not just an outcome that customers strive to achieve[7].

One of the most significant factors underlying the success and adoption of information system is satisfaction. Satisfaction is a reflection of cumulative feeling which customers developed in the course of multiple interactions with e-banking service provider and it does reflect a gap between perceived service expectation and actual performance. Importantly, when actual performance exceeds perceived expectation, satisfaction will result[7]. Studies have shown that that satisfaction has a positive significant impact on company's performance. The impacts are classified into transaction-specific satisfaction and overall satisfaction[9]. The transaction-specific satisfaction is regarded as the critical evaluation of customer's experiences and consequent reactions with respect to a specific service encounter, while overall satisfaction refers to the overall customer's evaluations of his consumption experience[10].

Customer satisfaction is defined as a collection of outcomes of perception, evaluation and psychological reactions to the consumption experience with a product/service. In other words,

it is a cognitive and affective evaluation where some comparison standard is compared to the actually perceived performance[11]. If the performance perceived is less than expected, customers will be dissatisfied. On the other hand, if the perceived performance exceeds expectations, customer will be satisfied[12]. It is a measure of how products and services supplied by a company meet or surpass customer expectation. It is also "the number of customers or percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals. It is seen as a key performance indicator within business and is often part of a Balanced Scorecard. In a competitive marketplace where businesses compete for customers[5]. It can also be defined as the overall customer approach towards service rendered or an emotional response to the differences between what customer expected and what is being offered, regarding the accomplishment of some need, goal, or desire[13]. It is a verdict following consumption knowledge about the particular service being rendered if it meets its expectation to the customer[14].

Customer satisfaction leads to customers' retention and this is a measure of how products or services meet or surpassed customer expectations. In a competitive market like the banking industry, it consists of various strategies aimed at keeping, meeting or exceeding customers' expectations. In other words, it is a result of a cognitive and affective evaluation where some consumption standard is compared to the actually perceived performance. Thus, if the performance perceived is less than expected, customers will be dissatisfied, and where the perceived performance exceeds expectations, customers will be satisfied and this would lead to positive behaviours or outcome[15]. A satisfied customer tends to be loyal, takes less time, are less sensitive to prices and pay less attention to competitors advertising[16].

Customer satisfaction is very important in today's business world as the ability of a service provider to create high degree of satisfaction is crucial for product differentiation and

developing strong relationship with customers. Customer satisfaction makes the customers loyal to business organization. Previous researchers have found that satisfaction of the customers can help the brands to build long and profitable relationships with their customers. Though it is costly to generate satisfied and loyal customers but that would prove profitable in a long run for a firm[17]. Therefore, a business organization should concentrate on the improvement of service quality and charge appropriate fair price in order to satisfy their customers which would ultimately help the firm to retain its customers[18]. It is a common phenomenon that the services a brand offers and the price it charges actually determine the level of satisfaction among its customers, than any other measure. Customer's involvement is also important as when buyer consider the product important and invests time to seek information then it ultimately enhances the satisfaction level[19]. This satisfaction may influence the concerned company by repurchase, purchase of more products, positive word of mouth and willingness of customer to pay more for the particular brand[6]. Any business is likely to lose market share, customers and investors if it fails to satisfy customers as effectively and efficiently as its competitors is doing[20].

The Electronic services have provided benefits for customer satisfaction in dealing with financial institutions with the number of services rendered to their customers. Customers find it very easy and satisfactory in operating in modern banking these days because most of the activities done are at their own convenient which has ended the era of queue system in the banking hall[21].

The focus of most studies is on overall satisfaction which measures overall level of satisfaction or dissatisfaction that may arise from overall experiences and encounters with e-banking service provider. Empirically, many studies have established that when customers are dissatisfied, they may not ask for additional service in the future and perhaps engage in act of switching to other service provider or patronize other alternative channels like branch

services[22]. However, the era of online transactions has given rise to the new ways through which customers are being satisfied and this has clearly demarcated online satisfaction from traditional satisfaction[21,22,23]. The role of satisfaction in this realm has been found to be very significant especially that e-customers do not deal directly with the staff or company that is offering the service[7]. Furthermore, the era of internet technology where customers interact with computers extensively especially in e-commerce-based businesses has evoked many studies in this field, and this implies that the perception of customers about satisfaction is totally different when compared with that of their offline counterparts. Likewise, the important consequences of overall online service satisfaction may also be diverse[23,24,]. Findings have however shown that studies that delve into what brings about online satisfaction generally are quite sparse and especially in e-banking since it has just started attracting the attention of marketing researchers[24].

2.1.1.1 Measuring Customers' Satisfaction

Customers have different levels of satisfaction as they have different attitudes and experiences as perceived by the company. Customer satisfaction level is affected by the importance placed by the customers on each of the attitudes of the product and/or service. Customer satisfaction measurement allows an organisation to understand the key drivers that create satisfaction or dissatisfaction and what is really driving their satisfaction during a service experience. One main aspect of this research is to understand to what extent or level the online banking services offered by banks would affect the satisfaction of the customer in the banking sector.

i. Accessibility

Accessibility defines the ability of users to access information and services from the web and is dependent on many factors. These include the content format; the user's hardware,

software and settings; internet connections; the environmental conditions and the user's abilities anddisabilities[25]. The term "web accessibility" generally relates to the implementation of website content in such a way as to maximise the ability of users with disabilities to access it. For example, providing a text equivalent for image content of a web page, allows users with some visual disabilities access to the information via a screen reader[26].The techniques and approaches that create more accessible web pages for people with disabilities also address many other access issues such as download and speed. Accessibility has to do with reliable/prompt responses, attentiveness, and ease of use which has considerable impacts on both customers perceived overall service quality and satisfaction.

ii. Convenience

All the banking transactions can be performed from the comfort of the home or office or from the place a customer wants to. "Convenience of conducting banking outside the branch official open hours has been found significant in cases of adoption of e-banking and banks provide customers convenient and inexpensive access to the bank 24 hours a day and seven days a kaweek". The provision of customer service delivery is an important criterion that attracts users in the delivery of Electronic Banking. Today, convenience is considered to be one of the influential factors of the customer service delivery of e-base banks. Research has proven that, positive relationship between convenience and service delivery as a critical factor on the use of Electronic Banking[27]. As a result, it is confirmed that convenience has a significant influence on customer service delivery. Electronic banking provides a higher degree of convenience that enables customers to access bank services at all times around the globe[18]. Thus, the same study also indicated that the perceived convenience was the most influential variable of overall adoption of all three service delivery activities investigated. Thus, having reviewed the logic of customer service delivery, it is imagined that convenience has a positive effect on customer service delivery on electronic banking services; because it is

easy to use[28]. The measure for the convenient in this context consists of: Ease of use, awareness, internet access anytime and anywhere, no queue, save time as compared to conventional banking, user friendly, easy login, check transaction details, efficiency[29]. Convenience is a significant quality attribute in the perceived usefulness of Internet banking, which positively influences consumers' willingness to use Internet- based e-banking and has a significant impact on customers' adoption of banking channels[21]. E-banking provides higher degree of convenience that enables customers to access internet bank at all times and places. Apart from that, the ease of access of computers is perceived as a measure of relative advantage[30].

iii. Cost Effectiveness

Cost is one of the major factors that influence consumers' adoption of innovation. For consumers to use new technologies, the technologies must be reasonably priced relative to alternatives. Otherwise, the acceptance of the new technology may not be viable from the standpoint of the customer. Providing high quality services at lower cost is potential competitive advantage in e-banking concept. Studies have shown that e-banking has successfully reduced operating and administrative costs[22,23,24]. Cost savings help e-based banks to offer lower or no service fees, & offer higher rates on interest bearing accounts than traditional banks[30]. Therefore, offering high quality services to satisfy consumers' needs, at lower cost and fees, will be the potential competitive advantage of electronic banking sustainability and growth in the future[31]. At present, studies show that electronic banking has successfully reduced operating and administrative cost and fees, while at the same time research has proven that, cost and fees savings have helped e-based banks offer lower or no service cost/fees[31,32]. Cost was once considered as the major competitive priority and a key aspect for the future development in every organization[29]. Prior research has empirically found a positive relationship between cost/fees and customer service delivery as a critical

factor with the use of electronic banking[30]. On the same note, the cost/fees determine by e-base banks are an important element to facilitate the usage of electronic banking which is reflected in the customer service delivery and is the answer to reduce cost/fees

iv. Speed

Speed of download depends on the nature of the site downloaded content, the computing hardware and method of connection used to download information. Most sites demonstration is small snapshots, and some users have to download the program in order to view the demonstration. Most people perceive downloading may import unwanted viruses, and consume hard disk space. Very often, slow response time after any e interaction leads to a delay of service delivery and makes consumers unsure about whether or not the transaction is completed[32]. certain actions, such as increasing the speed of processing information and customers, are likely to have an important effect in terms of pleasing customers; however other activities, such as improving the reliability of equipment, will lessen dissatisfaction rather than delight customers and suggests that it is more important to ensure that the dissatisfies are dealt with before the satisfiers. Thus, it is hypothesized that speed has positive effect on customer satisfaction.

2.1.2 Electronic Banking

In the past few years, Nigerian banks and the financial services industry have embraced the use of electronic means of transaction. This has emerged as a new channel for marketing banking product/services to customers in many emerging economies like Nigeria, Ghana etc. Electronic Banking System is an innovative service delivery mode that offers diversified financial services like cash withdrawal, funds transfer, cash deposits, payment of utility and credit card bills, cheque book requests, and other financial enquiries[32]. Electronic banking is the delivery of banks' information and services by banks to customers via different delivery

platforms that can be used with different terminal devices such as personal computer and mobile phone with browser or desktop software, telephone or digital television[33]. It is an internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments[34]. It is intended to offer customers more value such as convenience and easy access to their money and other banking information they require. Intensified competition among banks and the quest to meet up with global standard of banking operations made stakeholders in the banking sector to ensure that Nigeria gets more competitive or alive in the scheme of things.

In Nigeria, ATM was conventionally introduced as an electronic delivery channel in 1989, and was first installed by National Cash Registers (NCR) for the defunct Societe Generale Bank of Nigeria (SGBN) in the same year at their Broad Street and Apapa branches. This signified the emergence or genesis of electronic banking in Nigeria. Since its introduction, many Nigerian banks have installed ATM in response to the changing nature of modern banking operations[35]. Until 2003, a small number of banks operated their own propriety ATM fleets. The main shared ATM network in Nigeria, Inter Switch, began operations in 2003 with 5 ATMs from United Bank for Africa (UBA) and First Bank of Nigeria (FBN)[37].

Electronic banking (e-banking) has experienced explosive growth and has transformed traditional practices in banking thereby making studies speculate that these would lead to a massive shift in marketing practices and superior business performance. In fact, it has become the main means for banks to market and sell their products and services and is perceived to be a necessity in order to stay profitable and successful[38]. The changes occurring in the banking sector can be attributed to increasing deregulation and globalization, the major stimulus for rationalization, consolidation, and an increasing focus oncosts[39]. One offspring of this has been the rapid development and use of various new and innovative technologies by banks in the form of electronic bankingservices[39]. The implementation of e-banking, such

as internet banking and the use of computer-based office banking software hold several obvious advantages for banks.

It improves the bank's profit levels through the reduction of both variable and infrastructure costs, provides a source of differentiation and competitive advantage, provides global reach, adds another communication and feedback channel, increases customer satisfaction through the reduction of waiting times and thus improving service performance, or otherwise enabling the bank to more fully realise its sales potential through the achievement of higher sales volume[40]. As can be appreciated, the advantages to banks are manifold. These have led many banks to undertake high levels of marketing effort in the bid to push more customers, in particular businesses, into implementing e-banking into their business processes. This current strategic approach undertaken by banks, however, may be seen as contrary to the views of many authors of relationship marketing, who proposes that marketers need to devise strategies with the primary objective of sustaining and enhancing relationships with their customers over time[41].

As a whole, customers' motivation to use E-banking services comes from a number of factors: freedom of time and space, speed, convenience, 24 hours a day availability and price incentiveness[42]. Despite all the advantages the Internet offers to both banks and their customers in terms of increased productivity and reduced costs, it also hides a lot of disadvantages and challenges for the service providers. On the internet, the comparison between different service offerings is much easier and switching costs are lower, which makes it easier for customers to change service providers[43].

This, on its behalf, posts a challenge for the banks to not only acquire new customers, but retain their existing ones as well corroborating other writer that the cost of acquiring new customer is five times higher than maintaining an existing customer. To retain its customers,

banks should try to make them satisfied with their services and offerings and this can be achieved through delivering high quality services. Delivering high quality online services requires understanding of the online service quality dimensions considered crucial and trying to improve the quality of the services provided so that a competitive advantage is gained.

2.1.2.1 E-banking Delivery Channels

The information technology revolution in the banking industry distribution channels began in the early 1970s, with the introduction of the credit card, the Automatic Teller Machine (ATM) and the ATM networks. This was followed by telephone banking, cable television banking in the 1980s, and the progress of Personal Computer (PC) banking in the late 1980s and in the early 1990s[43]. Recent economic turmoil and increasing market complexity has placed unprecedented pressure on financial institutions. The demand for a digital lifestyle and the technological revolution are subjecting the financial sector to a host of new challenges in a time of severe market uncertainty. In a bid to drive even greater differentiation from the competition, financial services institutes are now exploring alternative banking channels, including the internet, telebanking, self-service halls, cell-phone and fax banking.

i. **Automated Teller Machine (ATM)**

The Automated Teller Machine (ATM) is a self-service machine that dispenses cash and performs some human teller functions like balance enquiry, bills payments, mini statements and so on. ATM transactions are carried out through the use of a debit/credit card which enables the card holder(s) to access and carry out banking transactions without a teller[43]. It is usually in stores, shopping malls, fuel stations etc. On most modern ATMs, the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic smart card with a chip that contains a unique card number and some security information such as an expiration date. Authentication is provided by the customer through entering a personal

identification number (PIN). InterSwitch, VPay, ETranzact, and QuickCash are some of the leaders in ATM deployment in Nigeria. InterSwitch today has all banks in the country connected to her network. This actually makes it possible to use their cards in all bank branches nationwide and in almost all machines[45]. Different ATM service providers are also interconnected so you do not need to worry which company services a particular ATM machine.

The basic function of Automated Teller Machine (ATM) is to dispense cash and makes services to be available 24 hours a day through stand-alone machine. The machine allows the customers to also perform other transactions such as transfer of cash, cash deposit, balance of enquiries, and online purchase without interacting with bank officials. Operating through ATM however requires a Personal Identification Number (PIN) and usage of smart card in some instances. ATM which is the mostly used e-banking channels in Nigeria has steadily grown between 2003 and 2010. Further, today's ATM operates through interconnectivity among operators as facilitated by the Inter-switch company. The company helps all the ATM service providers to connect, reconcile issues and settle bills among themselves through usage of cards.

Transactions on ATMs include fund transfer, Account Balance Enquiry, Cash Withdrawal, Pin Change, Quick Teller Option (online payments), Virtual Top Up. The use of ATM is however beneficial to the bank as well as its customers. The benefits of using ATM to the bank includes an alternative service delivery channel for their esteemed customers, increased customer acquisition and retention, opens up new business opportunities, additional revenue streams and decongestion of the banking halls. The benefits of using ATM to the Customer includes convenience of banking transaction, Quick service, 24-Hour Access to funds, provision of security for funds since it is safer to carry cards than cash in wallets and

accessibility to additional Transaction's value-added services like purchase of airtime for self & third party and utility bill settlement.

ii. Electronic Cards

Credit cards: These are plastic cards encoded with electromagnetic identification -The card is incorporated with circuit on which value is loaded. Customers can use the card to carry out transactions on the ATMs deployed by the issuing banks at strategic locations as well as point of sale terminals with designated signs of the producer of such card[44]. Among the companies that are offering this service to banks are Visa International, which is the leading payment solution system with presence in about 120 countries globally, the Master Card Inc. which is also the second largest credit card brand[44].

Debit card: This is an electronic card with very advanced feature including the use of microchip, whereby transaction is validated against the chip rather than a magnetic stripe. Among the companies that are offering this service to banks are also Visa international, Master card incorporated and an indigenous company called smart switch Nigeria Ltd. Among banks in Nigeria operating this service are Diamond Bank, United Bank for Africa, Eco bank and Skye Bank (Skye card debit) and GTB cash plus. This card can be used on ATMs deployed by the banks and also various point of sales terminals deployed in strategic locations especially in banks, hotels, eateries, fuel stations etc[44].

iii. Point of Sales (POS) Terminal

A Point of Sales (POS) Terminal is a machine used to accept cards for payment of goods and services[45]. POS Terminal allows a cardholder to have a real-time online access to funds and

information in his/her bank account through debit or cash cards. Here, a debit card transaction is initiated to the purchase of a good or service. A Retail Point of Sales system typically includes a computer, monitor, cash drawer, receipt printer, customer display and a barcode scanner, and the majority of retail POS systems also include a debit/credit card reader. It can also include a weight scale, integrated credit card processing system, a signature capture device and a customer pin pad device[46]. In this case, the consumer presents a debit card (which again was issued by the bank holding the checking account) to a merchant, and the consumer either enters a PIN (online debit) or signs a receipt (offline debit) to verify the consumer's identity. The merchant, in turn, sends information about the transaction across one or more debit card networks, and if the transaction is approved, the consumer receives the good or service and the checking account is correspondingly debited. The merchant is reimbursed by a credit to its bank account. The benefit of using Point Of Sale Terminal includes elimination of cash theft and fake currency, 24/7 access and secured transaction, ability to track sales and collections, cheaper means of transaction for both individual and corporate, and encouragement of spontaneous buying by cardholder[44,45,46].

iv. Mobile Banking

This is otherwise known as M- Banking. It is the implementation of banking and trading transactions using an Internet-enabled wireless device (mobile phones, PDAs, handheld computers etc.). It can thus be assertive that mobile banking (m-banking) is a subset of Internet banking (I-banking). It is one of the recent mobile technological wonders and one of the most recent innovations in the financial services sector, which has added the element of pure mobility to service consumption and enabled consumers to gain convenient access to value-added and banking services, even in countries with low incomes[46]. It is at the core of the CBN's cashless policy that allows users to create an e-wallet for storing funds on their phone. It is, consequently, becoming an inseparable part of how business is being done

today[47]. Once value is stored on your mobile phone, you can use it to pay for goods and services at merchant locations that support mobile money. The philosophy behind mobile money is that most Nigerians now have mobile phones (not as many have bank accounts). To this extent, a customers' e-wallet can be funded via authorized agents of his/her mobile money service, partner banks and networks of his/her mobile money service, transfers from the customers 'ATM/Debit cards, or any other funding method offered by his/her service provider[47].

It is thus imperative to note that it can be used to send money to family and friends, buy airtime of any network, Pay bills like DSTV, Hi TV, MyTV, PHCN bills, etc. The Central Bank of Nigeria (CBN) in had in the past issued operating licenses to 11 mobile money firms, namely: Fortis Mobile Money, UBA/Afripay, GTBank Mobile Money, Pagatech, eTranzact, Eartholeum, Paycom, FET, Ecobank and Kudi. The operating license allows the companies to provide products such as electronic payments through mobile phones[48]. Here, Mobile phone provide many of the services in banking sector such as request for account balance, business from account, transfer funds, trading or buying and selling, price information etc[49]. It should be very clear that from mobiles phones it is not necessary to have net access on phone because now banks are offering wireless service connections with or without mediating internet on phones here mobile banking refers to any kind of banking services through phone[50].

v. Telephone Banking

Telephone banking services are computer-based keypad response or voice recognition technologies allowing customers to perform banking activities over the telephone[51]. Most telephone banking services use an automated phone answering system with phone keypad response or voice recognition capability[52]. Using this banking service enables bank clients to

obtain information concerning active and passive banking products, but a client can also actively use the bank payment system and request, for example, a payment order or a collection order, open or cancel a term deposit or a current account, and as such have 24 hours round-the-clock access to his or her account[53].

vi. Internet Banking

Banks have traditionally been in the forefront of harnessing technology to improve their products, services and efficiency. They have, over a long time, been using electronic and telecommunication networks for delivering a wide range of value-added products and services. The delivery channels include direct dial – up connections, private networks, public networks etc and the devices include telephone, Personal Computers including the Automated Teller Machines, etc. With the popularity of PCs, easy access to Internet and World Wide Web (www), Internet is increasingly used by banks as a channel for receiving instructions and delivering their products and services to their customers[54].

This has emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost by replacing paper based and labour-intensive methods with automated processes thus leading to higher productivity and profitability. This form of banking is generally referred to as Internet Banking, although the range of products and services offered by different banks vary widely both in their content and sophistication. The table below shows the brand names given to internet banking by banks being used in this study[54]. This form of banking is conducted by completing bank transactions by directly accessing the bank through the Internet.

Nowadays, Internet banking customers can access many different services online, which makes physical banks open even after office hours. In means of offline banking is becoming to be online banking while physical banks are not opened (out of office hours), so customers do not need to go to the banks or call them any more unless there is an issue that cannot be handled online. Internet banking can be conducted either by accessing the internet with a computer or by using a phone that has Internet features[55]. To this extent, internet banking (IB) has been a radical technological innovation with potential to change the structure and nature of banking so that sustenance of business competitiveness and customer satisfaction can be guaranteed. The advantages of internet banking include customer's convenience, more efficient rates, better service, and ease of use while he was quick to see transaction issues, service issues and security as possible shortcomings. The aforementioned shortcomings led this study to look at some regulatory functions of the Central Bank in the usage of e-banking delivery channels[56,57].

2.1.2.2 Brief History of Banking Industry in Nigeria

The business of modern banking was started in Nigeria in 1892 by the British West Africa to which the Standard Bank of Nigeria Limited, now First Bank of Nigeria Plc, is a successor bank. Prior to 1952, there were all kinds of speculative investors who started mushroom banks in Nigeria. About 1925, Barclays Bank acquired the Colonial Bank and opened a branch in Lagos. The National Bank of Nigeria Limited was established in 1933 while the African Continental Bank Limited came into being in 1947. The United Bank for Africa Limited was established initially as the British and French Bank in 1947 soon after the Second World War and took on its present name in 1961, while the Bank of the North was established in 1961. Most of the banks operated in Nigeria at this period were incorporated abroad, and only came to do business in Nigeria, and as such, were basically foreign companies to register in Nigeria. All the other commercial and co-operative banks were

established in the late sixties or early seventies, all of them being wholly owned by Nigerian Institutions and individuals. Basically, their activities centre on commercial banking relating to the financing of exports and imports and not much on industries[58,59,60].

The business of Merchant Banking did not come into being in any meaningful form until 1961, when an outpost was opened in Nigeria by Hill, Samuel & Company, a United Kingdom Merchant Bank, under the name Philip Hill Limited. This same year, John Holt Limited operated a kind of finance firm in Nigeria around 1961 under the name of Nigerian Acceptances. The two companies later merged under the name – Nigerian Acceptances in 1969. In August 1973, United Dominions Corporation (Nigeria) Limited, a wholly owned subsidiary of UDT International which is in turn wholly owned by United Dominions Trust Limited, a hire purchases company, received approval to convert its hire purchase business into that of merchant banking in a bid to avert the contravention of the hire purchase regulations of 1968. In 1975, the Nigerian Industrial Development Bank Limited transformed ICON Securities into ICON Limited (Merchant Bankers). As a result of the Nigerian Enterprises Promotion Act of 1977, the City Bank went into voluntary liquidation and since then there were five Merchant Banks in Nigeria until recently, (especially in the 1990s), when new ones were opened. The number of banks in Nigeria as at June 2004 was 89. However, mergers and acquisitions through consolidation and recapitalization trimmed down the number from 89 to 25 in January 2006[61,62].

2.1.2.3 Central Bank of Nigeria and Regulatory Measures on the Use E- Delivery Channels

Due to increasing response of banks to e-banking in Nigeria coupled with the supervisory role of Central Bank of Nigeria led to the setting up of Technical Committee on e-banking in 2003 and also the formulation of guideline on e-banking based on the report submitted by the

committee in 2003. The CBN in one of its official documents in 2003 gave yardsticks or regulatory frameworks on the use of e- delivery channels in Nigeria. The CBN Technical Committee on E-Banking thus produced a report, which anticipates the likely impact of the movement towards electronic banking and payments on the achievement of CBN's core objectives[63,64]. Following from the findings and recommendations of the Committee, four categories of guidelines have been developed as follows:

- Information and Communications Technology (ICT) standards, to address issues relating to technology solutions deployed, and ensure that they meet the needs of consumers, the 62 economy and international best practice in the areas of communication, hardware, software and security.
- Monetary Policy, to address issues relating to how increased usage of Internet banking and electronic payments delivery channels would affect the achievement of CBN's monetary policy objectives.
- Legal guidelines to address issues on banking regulations and consumer rights protection.
- Regulatory and Supervisory, to address issues that, though peculiar to payments system in general, may be amplified by the use of electronic media.

The Guidelines are expected to inform the future conduct of financial institutions in e=banking and electronic payments delivery. The guidelines put in place include the following:

- Restriction of issuance of e-money products to only licensed banks under the supervisory purview of the CBN or eligible subsidiary companies of it.
- Any bank or company intending to serve as issuer of e-money to seek and obtain prior clearance and approval of CBN.

- The bank or subsidiary company to submit a detailed feasibility report covering areas such as the scheme structure, documentation including prototype (sample card) products, clearing and settlement arrangements, security and system control, float management business plan and contingency plans i.e. disaster recovery plan and contingency system.
- The promoter of e-products to enter into contractual agreement with the Nigerian Inter Bank Settlement System (NIBSS) for the clearing and settlement of e-money products

2.1.2.4 Benefits of E-banking

E-banking in today's technology-based world has become an important tool that is preferred by most customers to meet their ever-changing needs. Importantly, the rate of its growth is far higher than other e-commerce sectors since financial service transactions are moving away from physical to data based orientation[65]. Today, virtually all the banks are being compelled to embrace technology using alternative channels such as debit/credit cards, ATMs, RTGS, ECS-credit, ECS-debit, EFTs, mobile banking, internet banking and so on that are helping the banks to execute e-business activities such as transfer of funds, balance enquiry, bills payments, stop payment order, cheque book requisition, and so on at high rate of speed and efficiency. The growth of e-banking across the world has been explosive and its attendant benefits are enormous to customers and the banks alike[66].

2.1.2.5 E-banking Benefits for Banks

Benefits of e-banking are numerous for banks. Extant scholars have documented some of the benefits to include cost savings, securing of new customers, efficiency in operations,

improvement in reputations of banks, and customer satisfaction through fast and speedy services[67,68,69].

For instance, in the area of cost reduction, studies have shown that it costs about US$1 – 2 million to set up a specialized e-banking facility as this is much lower than setting up a traditional banking branch. In addition, the authors conclude that costs for running a traditional bank could gulp as much as 50% to 60% of the branch's revenue. This particular position has been corroborated by other studies which equally assert that the costs of running a transaction through online banking is far lower than similar transaction being carried out through branch[70,71,72].

Among other essential factors that influence the adoption of e-banking facilities by banks is the necessity to build very strong barriers that will not allow the customers to switch to another service provider. The position of the author is that once the customers have embraced and become familiar with the e-banking services, they found it difficult to patronize another bank because the cost of switching might be high in terms of time and cost that may be involved. Finally, the author further emphasizes that e-banking implementation can foster competitive advantages among banks especially in today's highly competitive banking environment[73].

E-banking due to application of internet facility also makes it possible for banks to offer 24 hours per day and 7 days a week service to their numerous customers[74]. E-banking can improve customer satisfaction with the bank due to the fact that it makes customers less price sensitive, and improves their intention to e-purchase, and more loyalty to the bank through favorable words of mouth[75,76,77].

2.1.2.6 E-banking Benefits for Customers

The benefits of e-banking are not meant for banks alone; customers as well enjoy many advantages of the e-banking. The tremendous benefits of e-banking have been made possible through internet which makes it possible for customers to access their accounts irrespective of place and time[78]. Asides, customers of today enjoy different and variety of services, especially those that are not being offered by the traditional branches. In fact extant scholars have asserted that one of the important benefits of e-banking is cost reduction since its adoption and usage is quite not expensive[79,80]. Though some customers believe that price is one of the primary inhibitors of e-banking adoption bases on the general consensus of authors is that e-banking is relative cheaper for customers than traditional banking[81,82,83]. For instance, studies have argued that a typical e-banking-based transaction costs an average of $.01, while the cost of similar transactions at a traditional branch costs average of $1.07[84,85,86]. However, the issue of price determination is significantly influenced by a number of factors such as differences in geographic location and cost of internet connections and other facilities.

Furthermore, it is also believed that banks that are offering e-banking services today have become increasingly flexible to the changing needs and demands of customers[87]. This is necessary since customers of today are more demanding and want to utilize e-banking to save time and money. In addition to the benefits which customers can derive from e-banking, other authors have equally assert that accessibility and convenience are some of the factors that can bring satisfaction and loyalty[89]. Today, customers can operate banking transactions at their convenience, whenever they want and where they can enjoy a lot of privacy with more benefits than traditional banking[90]. This position has further been corroborated by other authors when they further argue that the benefits of e-banking services are enormous in terms of its time and space limitless, cost reduction, swift complaints handling and better products and services offering[91,92,93].

2.1.2.7 Key E-banking Issues in Nigeria

There is no doubt that today the global world is experiencing and facing problematic e-banking services. Equally important too is the fact that these issues have not been addressed adequately resolved for the purpose of achieving e-banking objectives[94]. Furthermore, these issues have become perennial and seriously undermining the process of e-banking services globally, particularly developing countries like Nigeria[95]. These issues have elicited the reactions of various e-banking scholars with different and often conflicting opinions on the fundamental issues at stake; how the issues can be resolved; and the significance of such resolution in the highly competitive banking environment. Some of the e-banking issues identified are as follows:

i. **E-Readiness**

There is a strong position that there is a great lack of strategic ‘’e-readiness‟ for e-banking in developing countries in particular[96]. E-readiness has become a fundamental tool that is being used to generate different variants for the successful implementation of e-banking. These variants include different infrastructures, such as, legal system; data system; human resource; technology; strategic leadership and thinking. These variants of e-readiness pose different strategic challenges to e-banking in Nigeria[97]. E-readiness variants availability and their operations are at the macro-level of the whole nation, and they form important predictors of successful implementation of e-banking in Nigeria.

ii. **Security Issue**

Successful and effective implementation of e-banking in Nigeria cannot be possible except the issue of security is addressed. Since e-banking is virtually dependent on Information and Communication Technology (ICT), the increase in convenience that it has brought therefore

requires high level of insecurity[98,99]. The core security areas that require attention include integrity of transaction, confidentiality of information, fraud prevention and so on. Issue of frauds especially needs to be addressed as its cases have continued to intimidate users. Experience has shown that various types and forms of fraud which include advanced fee fraud, plastic card and ATM fraud, cheque fraud through clearing system, internal conspiracy and etc have been committed in Nigeria[100]. For instance, as a result of different form of frauds, a recent report has accounted for cumulative lost of N160 billion as at first quarter of 2020[101]. Another key concern is that of intrusion of privacy. Nigeria e-banking channels and websites are seriously fraught with phishing and other related fraudulent activities which have importantly become enigma for banking authorities and the customers alike[102]. Doing business on the web requires provision of user ID, password and other information which may be easily compromised and exposed if adequate and effective security measures are not put in place. The issue of insecurity has adversely affected the level of trust and confidence in the e-banking channels in Nigeria, and requires further investigation[103].

iii. **System Availability Assurance**

Another issue of e-banking in Nigeria is epileptic internet and other facilitating support facilities. Since e-banking is totally dependent on internet availability, experience has shown that telecommunications services are still at best epileptic in Nigeria. This has importantly affected the rate of e-banking adoption when compared with other African countries among primary users [104]. Importantly too, the service providers and government need to put in place supporting facilities such as fault tolerance, technical support, legal framework, backup facilities, and robust ICT setup. All these are important challenges and issues bordering on the adoption of e-banking in Nigeria.

iv. **Awareness**

Another issue of concern is awareness of e-banking availability and benefits in Nigeria. Extant e-banking authors in Nigeria have asserted that much efforts still need be put in place to create awareness about the availability of electronic banking products and services, how they operate and their benefits[106]. Importantly, other authors have arguably maintained that lack of awareness has become an important impediment to the adoption of e-banking[107]. Furthermore, studies have shown that most people have no general knowledge of Internet, let alone the existence of e-payments. The authors further argue that people are not familiar with ICT developments which are new trends in banking. Importantly, most people in Nigeria are still using physical cash for payment and deposit and not electronic banking since they are not aware of its existence and benefits[108,109,110].

v. **Poor Service Quality**

Another major issue identified is poor quality service which has importantly affected level of customer satisfaction in Nigeria. Consistently there is a decline in overall satisfaction with e-banking channels such as internet banking and ATM. Importantly, KPMG noted that majority of customers (70%) still prefer to patronize a branch to make enquiries about their balance and for other transactions compared to only 30% of customers who use e-banking channels. KPMG also found out that many of Nigeria banking customers want an improved e-banking service in the areas of online security, reduced ATM cash dispense errors, convenience, service quality, more user-friendly e-banking platforms and so on[111, 112].

vi. **Usability of Electronic Banking Channels**

The issue of usability of electronic banking channels can be viewed from perspectives of usefulness and ease of use. Generally, there are cases of e–banking abandonment as over 50%

of those who tried e-banking in developing countries jettisoned usage either because the channels are not user-friendly, complex or do not serve their purpose of achieving their daily objectives[113]. In fact extant authors have found that the low rate of e-banking adoption has largely been empirically traced to lack of usefulness and user-friendliness of the e-banking channels.

2.1.3 Demographic Characteristics of Internet Banking Adopters

Demography is the study of human population statics, including age, sex race, location, occupation, income, education, and other characteristics. Each of these characteristics influences the nature of customer needs and wants, ability to buy products the perceived importance of various attributes or choices criteria used to evaluate alternative brands, and attitudes towards and preference for different products[114]. Marketers often segment market on the basis of demographics information because it is widely available and often relates to consumers buying and consuming behavior. Only with a clear understanding of major consumers characteristic can employee satisfaction begin to be appreciated[115]. Age, educational level, income and occupation are the most influential demographic variables affecting internet usage.

Typically, internet banking users tends to be well educated, relatively young and are high income earners. It has been widely recognized that demographic factors have a great impact on consumer attitudes and behavior towards internet banking[116]. The consumer demographics factors relevant to this study are therefore age, education level and occupation. These are discussed as following.

1. **Age**

   The goods and services peoples buy varies during the different stages of their lives. For example, the kind of food that appeals to youths is unlikely to be the choices of

adults. Furthermore, peoples taste in clothes, furniture and recreation are also age related[117]. Peoples in different age groups often share distinctive values, meanings and behaviors. Markets must be cautious, however, about segmenting consumers on the basis of actual age. Most adult consumers often think of themselves as younger than they really are. Their behavior and cognition are more closely related to their psychological age than their chronological age[118]. The greatest concentration of computer owners who have banked online are in the 18 to 34 years age group and represents 30percents of the market. By way of contrast only 15percent of the population in 55 to 64-year age group owns a computer and only 9percent of this group banks online[19,120]. This shows that age has an impact on the use of internet banking. The results of past studies imply that the typical users are between 35 and 50[121,122,123]. Therefore, this study undertaken to determine whether age has a moderating role on the relationship between e-banking adoption and customer satisfaction.

2. **Education Level**

There is strong relationship between income and education level. More educated consumers have more money available to spend, due to better education and this affects their life styles. As people attain higher education, it affects which types of products they buy, what kind of stores to buy them in, and what price they are willing to pay[124]. A person level of education can impact strongly on their ability to generate income and their consumer spending potential. In short, better educated consumers tend to have better paying occupation than those who are not well educated[126]. Therefore, this study intends to determine whether level of education plays a moderating role has on relationship between e-banking adoption and customer satisfaction.

3. **Occupation**

A personal occupational also influences his or her consumption pattern. Marketers try to identify the occupational groups that have above –average interest in their products and services. A company specialize their product for certain occupational groups[128]. Demographical variables are often used as basis to describe different types of consumers. High-level occupations that are rewarded with high incomes usually require advanced educational training. Individual with little education rarely qualify for high –level occupation[129]. This relates to internet banking where those currently using online services are well- educated and have better occupations than non-users. Hence, it is believed that occupation has an impact on internet banking and current users tend to be employed in better position than non-users. Therefore, this study intends to determine whether occupation of users plays a moderating role on relationship between e-banking adoption and customer satisfaction.

2.2 Theoretical Framework

This study hinged on notable theories underpinning this work. This review is intended to derive the linkage between these theories, dependent variables and the independent variable. These theories are discussed below:

2.2.1 Technology Acceptance Model

The Technology Acceptance Model, proposed by Davis and Bagozzi, is an information systems theory that models how users come to accept and use a technology. This model is widely referenced as an innovation adoption model[130]. This model has been perused in a series of studies to thoughtfully adduce the factors affecting consumers' adoption and use of new technology. The sequential relationship of belief–attitude–intention– behavior in TAM, enables us to predict the use of new technologies by users[130]. In fact, TAM is an adaptation of

Theory of Reasoned Action (TRA) in regard to information systems (IS) which notes that perceived usefulness (the degree to which a person believes that using a particular system would enhance his or her job performance) and perceived ease of use (the degree to which a person believes that using a particular system would be free from effort) influence the attitudinal disposition of a user towards his/her intention to use an innovation with the intention serving as a mediator to the actual use of the system. Perceived usefulness is also considered to be affected directly by perceived ease of use. This theory emphasizes that perceived usefulness and ease of use are fundamental determinants of system adoption and usage[130,131].

TAM provides the provision to add external variables as the determinants of perceived usefulness and perceived ease of use[131]. What's more, TAM assumes that potential consumers are free to act and choose without limitation. In fact, consumers may come up with some constraints in practice that may prevent them to act freely such as the rationalization of traditional banking channels which is why many of them tend to adopt mobile banking over the past decade[132]**.** Past studies have compared three models (TRA, TPB, and TAM) in terms of their ability to predict customer online banking behavior, also indicated that TAM is superior to the other models and highlighted the importance of it in understanding online banking behavior. Investigation on consumers' acceptance of e-banking in Nigeria based on TAM revealed that bank customers who are active users of banking system use it because it is convenient, easy to use, saves time, and meets their transaction needs[133].

2.2.2 Diffusion of Innovation Theory

The Diffusion of Innovation Theory was first discussed historically in 1903 by the French sociologist Gabriel Tarde who plotted the original S-shaped diffusion curve, followed by

Ryan and Gross who introduced the adopter categories that were later used in the current theory popularized by Everett Rogers. Katz was also credited for first introducing the notion of opinion leaders, opinion followers and how the media interacts to influence these two groups[134]. The Diffusion of Innovation theory is often regarded as a valuable change model for guiding technological innovation where the innovation itself is modified and presented in ways that meet the needs across all levels of adopters. In simple terms, the diffusion of innovation refers to the process that occurs as people adopt a new idea, product, practice, philosophy. It cogitates adoption of mobile banking as a social construct that increasingly develops through the population over time[135]. The theory categorises the steps an individual takes from awareness of an innovation, through the formulation of an attitude to the innovation, on to the decision as to whether to implement, into five namely: knowledge, persuasion, decision, implementation and confirmation. The characteristic of an innovation has impact on the likelihood of acceptance and adoption, and also on the rate of at which the process develops[136]. There are however five categories of adopters which can be described in the context of technological innovation adoption and their influence on the innovative and adoption processes. They are:

Innovators: These set of people are also known as technology enthusiasts, they are venturesome, motivated by idea of being change agent, and they understand and as well apply complex technical knowledge to cope with high degree of uncertainty. With reference to this study, people belonging to the upper-upper class are mostly here. This is because they are mostly widely travelled and are exposed to some of these latest technologies and as such may want to bring changes to the way banking operations are done in Nigeria.

Early adopters: These set of people are also known as visionaries. They always want to revolutionise competitive rules in their industry. They have natural desire to be trendsetters

and they are adventurous. With reference to this study, the set of people here are mostly those in the 'upper- middle' class. They are mostly those on white collar jobs.

Early Majority: These set of people are also known Pragmatists. They are prudent, likes to avoid risks and complexities, but they always want reliable service. With reference to this study, these set of people are mostly people who are educated and rational in their spendings.

Late Majority: These people are conservatives. They are often technologically shy, skeptical, and cautious with adoption of technology.

Laggards: These set of adopters always exhibit some sense of skepticism. They are always suspicious of innovations, think technology is a hinderance to operations. They also like to maintain status quo and they see that point of reference is in the past. With reference to this study, bank customers in Nigeria are skeptical about easy adoption of technology-based banking. This is largely because of insecurity, inadequate operational facilities, absence of open standards/trust among banks and providers, and low internet penetration[136,137,138].

2.2.3 Theory of Reasoned Action

The TRA, is a well-established social psychological model that is concerned with the determinants of consciously intended behaviors. From a theoretical point of view, the TRA is intuitive and insightful in its ability to explain behavior[139]. The TRA assumes that individuals are usually conscious of the implications of their actions before embarking on such[140]. According to the TRA, behavioral intention is the immediate antecedent or premise of an individual's behavior. The TRA posits that "most behaviors of social relevance are under volitional control and are thus predictable from intention". The theory also suggests that

because many extraneous factors influence stability of intention, the relationship between intention and behavior depends on two factors: (a) the measure of intention must correspond to the behavioral criterion in action, target, context, and time; and (b) intention does not change before the behavior is observed[141]. The TRA specifies that behavioral intention is a function of two determinants: a personal factor termed attitude toward behavior, and a person's perception of social pressures termed subjective norm[142]. *Attitude* refers to the person's own performance of the behavior, rather than his or her performance in general[142]. *Subjective norm* is a function of a set of beliefs termed normative beliefs. Normative beliefs "are concerned with the likelihood that important referent individuals or groups would approve or disapprove of performing the behavior". According to the TRA, to obtain an estimate of a subjective norm, each normative belief of an individual is first multiplied by motivation to comply with the referent and the cross product is summed for all salient referents.

The TRA is a general model and, as such, it does not specify the beliefs that are operative for a particular behavior[143]. Thus, the researcher using the TRA must first identify the beliefs that are salient for participants regarding the behavior under investigation. Furthermore, the TRA deals with the prediction, rather than outcome of behaviors[144]. In the TRA, behavior is determined by behavioral intentions, thus limiting the predictability of the model to situations in which intention and behavior are highly correlated. The highest correlates between intention and behavior are found where the temporal gap between their expressions is minimal. To take the extreme case of overcoming this, however, measuring intention and behavior at the same time fails to ensure an assertive state of the model's power to predict the future. At best, it affirms the attitudinal basis of current behavior. Davies, Foxall, & Pallister, opined that in order to test TRA, actual behavior should be measured objectively, and unobtrusively, without prejudice to the prior intention measurement phase[154]. A further

requirement of the TRA is that behavior must be under volitional control. Hence, the TRA is ill equipped to predict situations in which individuals have low levels of volitional control[146].

2.2.4 Theory of Planned Behavior

The theory of planned behavior suggests that in addition to attitudinal and normative influence, a third element, perceived behavioral control (PBC), also influences behavioral intentions and actual behavior. The TPB extends the TRA to account for conditions in which individuals do not have full control over the situation. According to the TPB, human action is guided by three kinds of considerations: (a) Behavioral beliefs or attitudes about the likely outcomes of the behavior and the evaluations of these outcomes; (b) Normative beliefs or subjective norms about the normative expectations of others and then (c) Control beliefs about the resources and opportunities possessed (or not possessed) by the individual and also the anticipated obstacles or impediments toward performing the target behavior[146]. In their respective aggregates, behavioral beliefs produce a favorable or unfavorable attitude toward the behavior; normative beliefs result in perceived social pressure or subjective norm; and control beliefs give rise to PBC. The TPB is, nevertheless, problematic on several grounds. First, like the TRA, the TPB assumes proximity between intention and behavior; thus, the precise situational correspondence is still vital for accurate prediction[147]. As Eagly & Chaiken pointed out, the assumption of a causal link between PBC and intention presumes that people decide to engage in behavior because they feel they can achieve it[148]. Second, the operationalization of the theory is troubled by the problem of measuring PBC directly, as opposed to recording control beliefs[148]. Third, the theory introduces only one new variable when there is continuing evidence that other factors add predictive power over and above the measures formally incorporated in the TPB[149]. The theory of planned behavior is, in principle, open to the inclusion of additional predictors if it can be shown that they capture a significant

proportion of the variance in intention or behavior after the theories' current variables have been taken into account''.

2.3 Review of Empirical Studies

Some related studies have been conducted by different researchers in different parts of the world. However, only limited numbers of studies conducted in Nigeria on adoption of e-banking service technology and customers satisfaction. For instance, a study to examine success factors towards adoption of e-banking among 532 University staff was conducted in Jordan. The researchers used Innovation Diffusion Theory (IDT) and analyzed their data with structural equation modeling technique and discovered that perceived ease of use along perceived usefulness, trial-ability, trust, awareness and compatibility significantly and positively determines adoption of e-banking. The implication of their findings suggests that for e-banking service to be fully adopted, service provider should make operation of e-banking channels to be easy[150].

In addition, a similar study also investigated factors that can predict adoption of e-banking in Nigeria using modified TAM as a research framework. The research was cross sectional in nature and through which 249 valid questionnaires were received and analyzed using Linear Multiple Regression technique and SPSS. The result of their study indicates that perceived ease of use with perceived benefit, perceived usefulness, perceived enjoyment and perceived risk among other factors significantly influence e-banking acceptance in Nigeria. The implication of this study indicates that a system that is user-friendly will be highly accepted than a system that is not thereby prompting all relevant stakeholders like e-banking software and hardware developer, banks officials to continuously enhance the interface of e-banking channels so as to ensure increase in the acceptance of e-banking[151].

Furthermore, another study investigated factors that influence the adoption of e-banking service in Malaysia with the aid of 231 self-administered questionnaire. The study critically examined perceived ease of use, perceived usefulness, social influence, trust, perceived financial cost and perceived security as predictor variables of e-banking acceptance. After thorough analysis with multiple regression analysis technique, it was discovered that perceived ease of use among other factors significantly influences adoption intention of e-banking in Malaysia. The implication of their study seems to suggest that for the rate of e-banking to be significantly increased, it is essential that e-banking portals remain friendly. It further suggests that bank officials should redirect their attention towards improving navigation of the channels as well as provide necessary functionality that may be required to meet different needs of each user. Aside, the researchers also suggest that banks should continuously organize training programs that will enhance the skills of operation among users and this will help to increase the perception of ease of use[152].

In Malasia, a study investigated factors that can influence e-payment in Malaysia with benefits, trust, self-efficacy, ease of use and security as predicting variables. The researcher used 183 valid questionnaires that were received from respondents and analyzed their data with the aid of multiple linear regression technique. The result of the study reveals that perceived ease of use with perceived usefulness and self-efficacy significantly influence perception of e-payment in Malaysia. The implication of their findings further reinforces the belief that when e-payment channel is easily operated it will be adopted fully by the users. The findings also indicate that there is a need to educate the consumers of e-payment on how to make use of different e-payment channels as well as pass necessary information such as terms and conditions guiding payment, return policies, warranty and so on. All these could boost rate of adoption especially when the procedures of operation are been reviewed continuously based on the feedback from customers[153].

Furthermore, an empirical study examined factors that could influence acceptance of e-banking in India among 116 respondents using SPSS and multiple regression analysis technique. They used perceived ease of use, perceived usefulness, and perceived risk as predicting variables in order to ascertain what drives e-banking usage and adoption. The results of their study indicate that perceived ease of use among other factors significantly influences adoption of internet banking in India. The implication of their findings also suggests that customers' intention to continuously use e-banking is largely induced by ease of usage of the system. The practical implication also points out that bank official should always make the members of the public and various users to be aware of conveniences and other benefits that are associated with e-banking. This will go a long way to boost the rate of adoption[154].

Moreover, research with the primary objectives of determining factors that can influence the adoption of e-banking in Mauritius examined 384 respondents via questionnaires. The authors used SPSS and inferential statistical analysis technique to analyze their data using perceived ease of use, perceived usefulness, subjective norms, attitudes, security and trust, level of awareness and demographic factors as predicting variables. Their findings reveal that perceived ease of use among other factors has a direct influence on e-banking acceptance in Mauritius. The results of their study indicated that perceived ease of use will bring about increase in the rate of adoption of technology and equally suggests that designers of e-banking channels should provide a month-trial-basis application of e-banking services for consumers to be familiarized with e-banking system. The study also suggests that several demos should be integrated into e-banking interface through which customers will receive self-directed instruction that will facilitate usage[155].

Despite that several researchers have found perceived ease of use to be significant in their studies, others have since found contrary relationship[156,157,158]. For instance, a study with the

objective of determining factors that impact on the adoption of electronic Banking among Romanian banking customers was conducted. The author used mobile, home and internet banking as major electronic banking technologies and gathered their data among 440 Romans. Having used a perceived usefulness, perceived ease of use, self-efficacy, security, compatibility, cost and time as major predictors of e-banking through multiple regression analysis technique, the author discovered that perceived ease and self-efficacy are two factors that are not significant among the seven predicting variables of the study[159].

In addition to the above findings, other studies have initially carried out a study to find out which factors serve as inhibitors and motivators of mobile banking acceptance among 314 Australians. The model of the study was constructed based on perceived usefulness, perceived ease of use, need for interaction and perceived risk as the predicting factor of attitude as mediating factor of mobile banking adoption. The data of the study was analyzed with correlation and multiple regression analysis technique and it was discovered that perceived ease of use did not predict attitude toward mobile banking adoption intention. The result of this study with regards to perceived ease of use opposes existing findings which demonstrate a positive relationship between perceived ease of use, attitude and adoption intention of self-service technology[158].

The implication of this finding suggests that distinct from the fact that frequent usage, personalization, and location specificity features of mobile services that make their adoption different from other self-service technology, the high level of relationship between mobile devices and their users may also be partially accountable for this negative result[159,160]. Namely, the authors further assert that it seems that the dexterity and proficiency of consumers in the usage of mobile phone technology is gradually eliminating perceived ease of use as one of the major determinants of e-banking usage predictors.

Notably, the inconsistencies as noted in using perceived ease of use to predict adoption could be traced to some factors as noted by others that perceived ease of use is a representation of cognitive belief that is formed based on potentially second-hand information from media, referent others, and other sources and therefore influenced intentions as established by previous studies. However, usage experience tends to make users face reality as they will be able to evaluate realistically the features that are inherent in the product or service and thereby make decisions on continuance usage[161]. This therefore requires that a further study be carried out to understand how perceived ease of use can further be used to predict e-banking adoption for the purpose of filling a research gap.

In a bid to understand factors that could influence the adoption of electronic banking in Jordan, a study examined five cultural dimensions with perceived risk integrating technology acceptance model (TAM) and theory of planned behavior (TPB). The researchers collected their data via questionnaires from 387 customers across 26 banks in Jordan and did their analysis with multiple regression analysis technique. The result of their study indicates that perceived risk among other factors has direct influence on attitude of customers to accept e-banking. Importantly, this has practical implication which requires that banks should develop and improve their security strategies that will protect customers' personal information, guaranty unconditional loss, reduce waiting time and delay possibility while transacting on the web. All these might lead to high confidence among users to continuously adopt e-banking[162].

Furthermore, a similar study examined perceived security risk, perceived ease of use, demographic variables and adoption behavior on adoption of internet banking among 350 active users of e-banking which are categorized into innovators, early adopters, early majority, late majority and laggard. The researchers discovered that perceived security is a significant factor that inhibits late majority and laggards from adopting of e-banking. The implication of

their finding reveals that concern for security is the biggest factor causing low adoption in India and thereby asserts that responding quickly to issue of security will help to restore confidence in the alternative channel and will eventually increase rate of adoption[163]. Also, another study having the objective of investigating critical factors that may influence adoption of e-payment facilities, combined TAM and theory of Reasoned Action (TRA) in their study. The authors mainly used deductive approach to consider both primary and secondary data through which hypotheses were developed. Their data were collected from 155 respondents and analyzed with SPSS package. Their findings reveal that perceived security among other six predictors is necessary to predict e-payment adoption in United Kingdom. This aptly points out that for the rate of e-payment adoption to be increased, necessary strategies must be put in place to improve system security that will serve as motivators for customers. The service provider must also convince the customers that their websites are safe havens to build long-term relationship. This can further be achieved through customers' education about the safety attributes such as secured servers, digital certificates, and third-party assurance seals that are available[164].

In line with previous authors, another study also critically examined factors that influence decisions of customers to adopt online banking in Poland using 3519 interactive questionnaires. The authors used perceived security, internet experience, awareness, type of internet connection used, use of other banking products and demographic variables as predicting factor of e-banking and discovered perceived security among other variables is the most significant factor that predicts internet banking adoption through binomial logistic regression technique. The implication of this is that e-banking service provider should strive to ensure that e-channels are well protected by eliminating any form of threats. This can be done through introduction of two-factor authentication systems, security token, daily transaction limits, and guarantee to refund any lost fund that may occur through e-banking

fraud[165]. Furthermore, the authors assert that customers should be educated on how to take precautions by not responding to unsolicited mails and keep their password secretly. The authors also suggest that banks should equally advise their clients to install anti-virus, firewall and anti-spyware software on their system as all these will ensure that the customers are well protected while carrying out their online banking[165].

Furthermore, having keen interest of examining factors that can influence initial trust towards adoption of e-banking in Indonesia, a study examined perceived security, perceived privacy, bank reputation, usability of website, trust propensity, government support and relative benefit to predict adoption intention among 251 undergraduate students of Jakarta University. The authors assessed their complex model with Partial Least Square (PLS) and analyzed their data with SPSS while the outcome their study revealed that perceived security among other factors has positive and strong influence on initial trust and adoption intention of e-banking. The authors assert that even though 'security may be a difficult challenge for firms in developing countries to address as infrastructure deficiencies are common barriers', the implication of their study suggests that banks should improve on their security measures as this will help to increase trust and subsequent adoption of e-banking. Their findings importantly tally with the findings of other authors[165].

Additionally, a study conducted in Nigeria investigated factors influencing adoption of e-banking in Nigeria. The data used were gathered from 125 university staff in Bayero University using perceived security, level of awareness, cost, reluctance to change, accessibility and perceived ease of use as predicting factors of e-banking adoption. The researcher used SPSS to quantitatively analyze their data and discovered that perceived security among other factors is important and greatly determines acceptability of e-banking in Nigeria. Importantly, the implication of their findings suggest that banks in Nigeria should be wary of security of their e-channels since hacking of websites and fraud have continued to

intimidate most of the users. The authors further assert that when security measures such as advanced encryption, and firewalls are built into their websites, customers will be protected and rate of e-banking adoption will be improved[166].

Even though perceived security as discussed above has been found to have a significant relationship with e-banking adoption, some other studies found insignificant relationship which has therefore calls for further research in this context. For instance, the study was conducted with the purpose of determining significant antecedents of e-payment adoption in Malaysia. The authors having discovered that the use and growth of e-payment among Malaysians is reported to be faster than the global growth, with 20 percent of online transactions made through this means compared to the global scale of 15 percent used perceived ease of use, benefits, security, self-efficacy and trust as predicting factors that can assist the Central Bank of Malaysia to meet its projection of increasing the number of e-payment transactions per capita to 200 by 2020. Furthermore, the author sampled 183 users of e-payment and analyzed their data with multiple regression techniques. The results of the study indicate that perceived security and trust are not significant in predicting e-payment. The researchers in this respect recommended that trust and security should be further investigated and this will fill a gap in literature[167].

Extant studies have therefore found positive relationship between awareness and e-service adoption stating that when customers are aware of the benefits of e-banking the rate of adoption will be high[168]. Having discovered that the rate of internet banking adoption in Jordan is very low, an empirical study to determine success factors that can influence and bring about an improvement in the level adoption. The authors used Diffusion of information (DOI) theory with their research model containing six predictive factors which include perceived usefulness, perceived ease of use, trialability, compatibility, trust and awareness. The study validly used 517 University staff of Jordan and having subjected the data received

to thorough screening and analysis, it was discovered that awareness among other factors significantly and positively influenced the rate of adoption. The implication of their study suggests that awareness plays a very significant role and that for customers to efficiently and frequently adopt e-banking; banks should publicize the availability and benefits of e-banking through promotion and awareness campaign. Their findings are in line with the discoveries of other authors who found that the awareness about e-banking plays significant role in e-banking adoption[168].

Furthermore, few authors have examined what makes customers to develop beliefs and trust intention in the adoption of different e-banking channels and subsequently carried out a study by integrating TAM key variables with customers' level of awareness, trusting beliefs and trusting intention to find out factors that can induce adoption of self-support banking channels. Importantly, the results of their study revealed that level of information about e-banking among other factors significantly determines what makes selected 762 bank customers to accept e-banking. The implication of their study suggests that the level of customer information on the intention to use e-banking seriously requires bank managers to increase the tempo of information diffusion among users and non-users of the alternative channels. The authors emphasized that since education and information are easy tasks for banks when compared to other sectors because the banks are in possession of detailed data base of their customers and can use that opportunity to send customized SMS and other direct low-cost information about e-banking to their various customers. In addition, since non-users of e-banking frequently visit branch for transactions, branch managers can also use the opportunity to communicate and motivate them to start using SST channels through demo, pamphlets, face-to-face communication and so on[169].

Moreover, some authors in their attempt to study factors that influence the usage of e-banking among customers of retail banks in Sudan administered questionnaires to 400 various users of

e-banking channels. Data analysis was then based on 269 valid responses. The results of their study eventually indicate that Automated Teller Machine (ATM) is the most used e-banking channel and also discovered that eleven factors which include frequent breakdown of ATM, inability of customers to report technical problems, lack of clear regulations protecting e-banking transactions, inaccessibility of internet facility, weakness of banks to supply detail information about e-banking are among factors that are affecting e-banking adoption. The implications of their study suggest that the Sudanese banks should intensify their efforts towards raising awareness about e-banking as this would eventually help to increase the rate of patronage among actual and potential users of e-banking in Sudan[170].

In addition, a study having the objective of determining factors that impact the adoption of e-banking in India developed a conceptual model based on TAM and DOI. The authors collected their data from 600 respondents through questionnaire and analyzed the data using SPSS and AMOS. Importantly, Perceived communication along perceived usefulness, perceived ease of use, social influence, and perceived benevolence, facilitating condition and perceived security and privacy were used as predictors of e-banking adoption. The findings of the study revealed that perceived communication in form of open, timely and accurate information sharing with customers leads to positive attitude towards m-banking. The findings of their study which corroborate with a similar study suggest that for customers to develop trust towards e-banking adoption, managers must intensify effort towards transparent communication of the benefits, challenges and availability of e-banking[171].

Even though importance of awareness to e-banking adoption has been significantly established as discussed above, other studies however found an insignificant relationship between e-banking adoption and awareness[172,173]. For instance, a study which was conducted among 300 users and non-users of e-banking used accessibility to internet, awareness about e-banking, price, security, trust, ease of use and convenience as the predictors of e-banking.

The result of their study indicates that awareness about e-banking is not significant. This finding contradicts the empirical of previous authors who found that when customers are aware about the availability and benefits of e-banking, the rate of adoption will improve[174].

In view of the above therefore, extant authors have empirically established determinants of satisfaction especially but a view of them concentrated on e-banking adoption while none of them has established the mediating effect of satisfaction by using TAM variable. Importantly, perceived ease of use, perceived usefulness, perceived security, and facilitating condition have been established as major antecedents of e-banking satisfaction and which will lead to adoption[175,176,177]. For instance, a study observed that rate of e-banking satisfaction in Nigeria is dwindling and carried out a study to determine factors that can improve the rate of satisfaction and adoption among 40 customers. The authors used account accessibility, perceived ease of use, security and privacy, account control and account transaction as predicting factors. Having analyzed their data with multiple regression technique, the study found a positive relationship between perceived ease of use and satisfaction among other factors. The implication of their study suggests that by improving on the predictive factors such as ease of use of e-banking facilities will help banks' management to increase level of satisfaction and adoption in Nigeria[178].

In addition, author carried out a study to determine factors that can influence the adoption of mobile website in China. The author used valid questionnaire responses from 229 mobile site users and subjected their data to thorough analysis using structural equation modeling. Using information theory, Technology acceptance constructs and trust, the authors found that perceived ease of use and perceived usefulness among other variables positively determine mobile usage satisfaction in China. The practical implication of their study suggests that for users of mobile sites to be satisfied, mobile sites should easily be used and be capable of helping achieving their daily objectives. This can be achieved by ensuring that a well-

designed mobile site interface is presented to the users as well as deliver accurate, comprehensive and timely information which will help users to perceive mobile site to be useful[179].

In line with above studies, other studies, while examining the influence of culture on the post adoption behavior of mobile internet users in Korea, Hong Kong and Taiwan made a lot of empirical discoveries with regards to perceived usefulness and perceived ease of use. The study was carried out using 3518, 1168 and 435 valid online questionnaire responses from Korea, Hog Kong and Taiwan respectively to determine which factors significantly influence mobile site satisfaction. Importantly, the results of their study indicate that cultural factors such as individualism, avoidance of uncertainty, context inclination, monochromic inclination along perceived usefulness and ease of use significantly influence mobile site satisfaction. The implication of their study indicates that cultural lens of individual user of technology helps to determine the perceived extent of usefulness and ease of use of the system and which eventually affects level of satisfaction[180,181]. However, others found insignificant relationship between perceived ease of use and satisfaction in the context of mobile banking and online shopping respectively[182].

For instance, a similar study as cited above conducted a study with the objective of knowing factors that impact early adopters of mobile banking in India and which will eventually bring about increase in the rate of adoption. The study made use of perceived ease of use and perceived usefulness with other constructs such as perceived credibility, perceived service quality and perceived risk towards improving rating of mobile banking satisfaction and subsequent rate of adoption. The data of the study was collected from 184 valid respondents and was analyzed with Structural Equation Modeling and PLS techniques. The end product of their study indicates that while other constructs are significant, perceived ease use and perceived risk are not significantly related to satisfaction. The implication of their study

suggests that perceived ease of use is a cognitive belief which the users form based on second-hand information from various sources such as friends, popular media and others upon which their intentions are formed. The authors further suggest that however, the reality may come to fruition when users have adopted the channel and discovered that their performance in term of ease of use does not match their expectation especially when they have been able to realistically evaluate the channels[183].

Furthermore, a study empirically determines the factors that can generate loyalty among e-commerce customers in Saudi Arabia. The author distributed 500 questionnaires among e-commerce users and did their analysis with 218 valid and usable responses. The predictive factors in this study include user-interface-quality, information quality, perceived security and perceived privacy. The result of structural equation modeling of the study indicates that the data collected fit their model as perceived security among other factors significantly influenced e-customers satisfaction. The implication of this study since suggested that for loyalty to be enhanced in e-banking services, educational resources, stock trading, online purchase of books, and participation in e-auction, the service provider must improve on the level of security of the channels as this will significantly affect satisfaction of the users[184].

In addition to the findings of other authors, an empirical study examined 12 factors that can predict users' satisfaction of e-government technology. The factors are categorized into external variables and technology adoption core beliefs. The external variables are the predictors and are further categorized into market preparation stage (awareness), Targeting stage (compatibility and self-efficacy), positioning stage (flexibility and avoidance personal interaction), and execution stage (trust, convenience and assistance). The technology adoption beliefs which serve as mediating factors include performance expectancy, effort expectancy, social influence and facilitating conditions. In testing the model of the study, a two-stage survey among 1,179 Hong Kong citizens was executed with the purpose of

determining factors that can influence adoption of e-government services. The result of their study reveals that facilitating conditions among other factors significantly influence citizen satisfaction of e-government services. The implication of their finding points out that for citizens to be satisfied with e-government services, necessary supporting facilities such as public workstations through which smart-card-based services can be equally and easily accessed should be provided. This also has important and similar implication for e-banking services[184].

A study focuses on selected public sector banks and consumer opinion from a single region with a similar social background resulting in prompt response, confidentiality, web design, and ease of use of factors affecting customer satisfaction. Customer satisfaction is influenced by the customer's gender, age, education, and income level. The scope of the analysis is limited to investigating customer satisfaction with internet banking services offered by banks and. Furthermore, the study focuses on mobile banking, bank support services, and private banks for exploration. Components that core banking solutions allowed Indian banks to provide excellent customer service. Internet developments are paving the way for more efficient and innovative banking. ATMs have been widely adopted to avoid customer queues, to bank more easily, and to make use of information authentication. Nowadays, public sector banks are well-equipped with tools and technology to meet the needs of their customers. ANOVA, coefficient, and variance are the methods used in this analysis[185].

A similar empirical study aims to identify the factors that affect customer's adoption of Internet banking services in Chennai, as well as to investigate the relationship between Internet banking service adoption and demographic factors. The primary data collection instrument was a Questionnaire designed on a 5-point Likert scale to collect quantitative data. The findings indicate that demographic factors such as education, place of residence, and income all play a positive role in the adoption of banking technology. According to the study,

with the change in the banking industry, consumers are ready to embrace Internet Banking because it offers certain values and benefits while saving time and effort[186]. A similar empirical investigation conducted on the adoption of internet banking by Australian customers also identified, security concern among banks and customers are keeping both away from internet banking[187]. Also, a similar study on adaption of electronic banking underlying consumer behavior and critical success factors conducted in Estonia, was intended to study the further understanding of how consumers perceive electronic banking in the days of interactive channels in Estonia, as Estonia is internationally renewed for being a pioneer in the acceptance of new technology[188]. The adaption of internet banking better prices, recommendation, better services, marketing effort, better access and higher privacy.

Despite the positive effect of e-banking on service delivery and banking services in general, some major setbacks have been noted by researchers. For instance, an empirical investigation on adoption of e-banking in Nigeria. It was observed that, negative effects following adoption of internet banking, a component of e-banking are in security, inadequate operational facilities including Telecommunications facilities and electricity supply, and made recommendations on how Nigeria banks can narrow the digital divide. Also, the report revealed that Internet banking is being offered at the basic level of interactivity with most of the banks having mainly information sites and providing little Internet transactional services.

2.4 Conceptual Framework

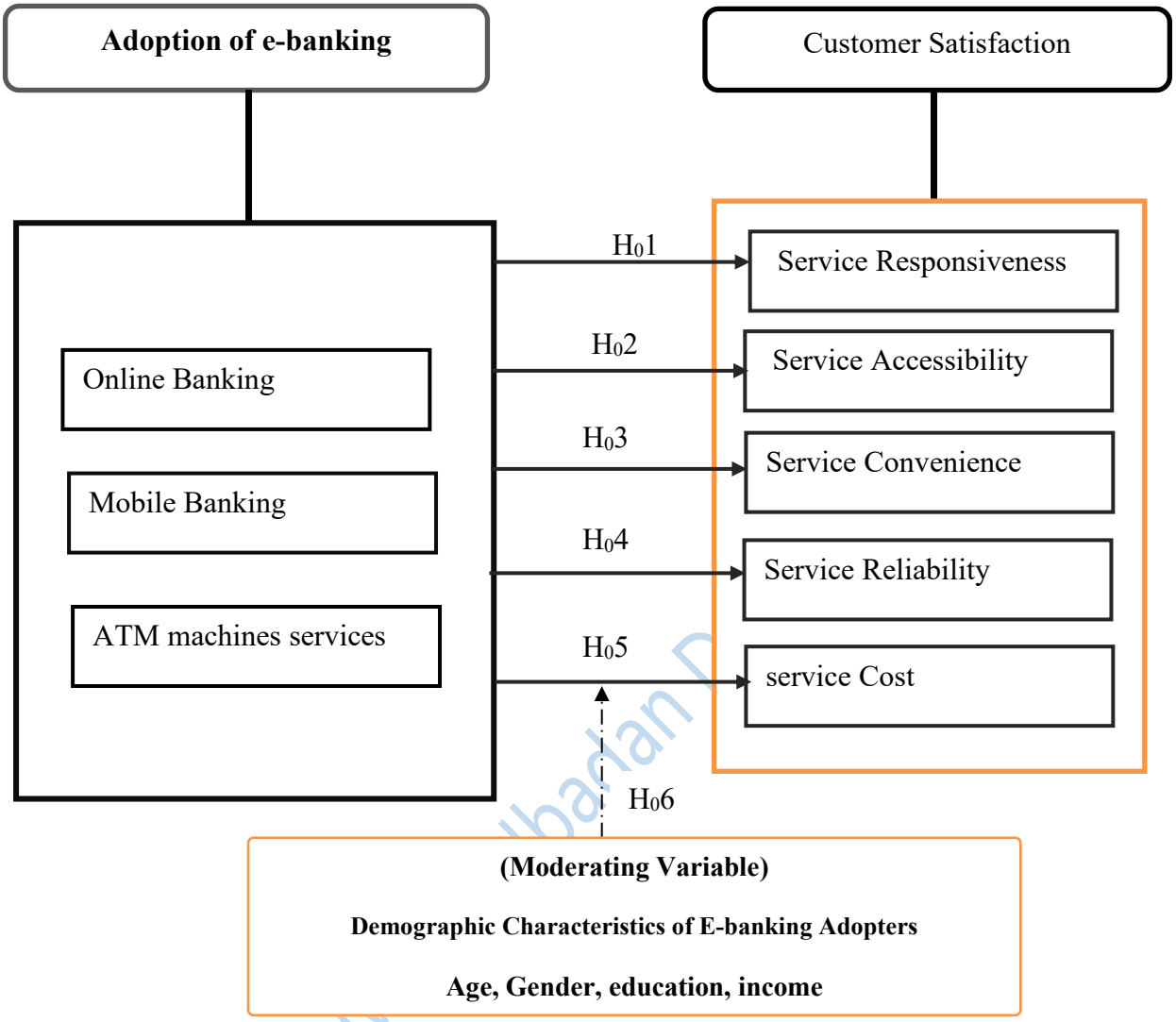


Figure 2.1: Conceptual Framework for the Study

Source: Researcher's Conceptual Framework, 2023

2.5 Summary of Gap in Literature Reviewed

The study is set to investigate the influence of electronic banking adoption on customers satisfaction in Nigeria. The study differs methodologically from other studies reviewed. Conceptually, there are scanty studies on the adoption of electronic banking, demographic characteristics and customers satisfaction in Nigeria. Past studies mostly focused on the effect

of e-banking on customers satisfaction. Most studies barely had a perspective from the basis of customers satisfaction[179,180,184].

Geographically, the few studies linking adoption of e-banking and customers satisfaction were conducted in more advanced climes with more sophisticated technology. No study of this nature was found from Nigeria. Also, the moderating role of demographic characteristics of e-banking adopters on the adoption of e-banking and customers satisfaction has not been established empirically in the Nigerian context. An attempted study on the adoption of e-banking and customers satisfaction were conducted in the developed world.

Empirically, while there were robust studies on e-banking and customers satisfaction n especially on in developed countries, studies relating customers satisfaction are relatively scarce. Also, there is little empirical evidence on the moderating role of demographic characteristics of e-banking adopters on the relationship between adoption of e-banking and customer-satisfaction. Similarly, previous studies have considered adoption of e-banking and customers satisfaction in Nigeria largely from a secondary basis such as CBN actions or inactions, other finance institutions, regulatory frameworks and so on. This study attempts to fill this gap.

Methodologically, studies regarding adoption of e-banking rarely used use primary data method of analysis. Often, time series analysis was used for adoption of e-banking with secondary data. On rare occasions, other studies that used primary data were conducted mostly in developed countries. Firsthand information from customers will be obtained.

Endnotes

1. P.U., Angioha, C.U., Enukoha, R.U., Agba, & G.U., Ikhizamah. *Information technology predictor variables and employee productivity in commercial banks*. **JINAV: Journal of Information and Visualization,** 1(1), 2020, 44-52

2. C.U., Enukoha, & P.U., Angioha. *Management support for the use of information communication technology in commercial banks in Cross River State, Nigeria: Examining its relationship with the productivity of workers.* **Journal of Banking and Finance Management,** 2(3), 2019, 1-7.

3. W.R., Lin, Y.H., Wang, & Y.M., Hung. *Analyzing the factors influencing adoption intention of internet banking: Applying dematel-anp-sem approach*. PLOS ONE, 15(2), 2020.

4. I., Magboul, & M., Abbad. *Antecedents and adoption of e-banking in bank performance: The perspective of private bank employees.* **Interdisciplinary Journal of Information, Knowledge, and Management,** 13, 2018, 361- 381

5. N.M., Trang. *The influence of personal characteristics on customers' perception of E-Banking service quality and cost effectiveness in Vietnam.* **Open Journal of Social Sciences,** 10(1), 2022, pp.377-391.

6. A.U., Ibrahim, & C.O., Daniel. *Impact of e-banking on the development of banking sector in Nigeria.* **International Journal of Managerial Studies and Research (IJMSR),** 7(2), 2019, pp.19-27.

7. S., Chandrasekaran, & S.M., Narayanan. *Recent and future trends in e–banking services for Indian banking sector.* **Journal of the Gujarat Research Society,** 21(16), 2019, pp.245-251.

8. A.M.K., Alkhazaleh, & H., Haddad. *How does the Fintech services delivery affect customer satisfaction: A scenario of Jordanian banking sector.* **Strategic Change,** 30(4), 2021, pp.405-413.

9. A., Nazaritehrani. & B., Mashali. *Development of E-banking channels and market share in developing countries.* **Financial Innovation,** 6(1), 2020, p.12.

10. V., Chauhan, R., Yadav, & V., Choudhary. *Adoption of electronic banking services in India: An extension of UTAUT2 model.* **Journal of Financial Services Marketing,** 2022, pp.1-14.

11. H., Asiyanbi, & A., Ishola. *E-banking services impact and customer satisfaction in selected bank branches in Ibadan metropolis, Oyo state, Nigeria.* **Accounting,** 4(4), 2018, pp.153-160.

12. I., Ridwan-Lanre, P.B., Eregha, & H., Sampson. *Determinants of e-banking adoption in Lagos State.* NDIC Quarter, 34, 2019, pp.1-18.

13. P., Paul, S., Giri, P., Mitra, & M.M., Haque. *Analysing the customer satisfaction index of e-banking using kano (1984) model framework.* **Global Business Review,** 2022, p.09721509221093892.

14. Y., Alansari, & A.M.M., Al-Sartawi. *IT governance and E-banking in GCC listed banks.* Procedia Computer Science, 183, 2021, pp.844-848.

15. J., Hammoud, R.M., Bizri, & I., El Baba. *The impact of e-banking service quality on customer satisfaction: Evidence from the Lebanese banking sector.* Sage Open, 8(3), 2018, p.2158244018790633.

16. Q., Nguyen, A., Ngo, & V., Mai. *Factors impacting online complaint intention and service recovery expectation: The case of e-banking service in Vietnam.* **International Journal of Data and Network Science,** 5(4), 2021, pp.659-666.

17. S.N., Huda, S., Aktar, & M.S., Islam. *Impact of e-banking on service quality and customer satisfaction in selected private commercial banks in Bangladesh.* **Globus-An International Journal of Management and IT,** 11(2), 202o, pp.21-27.

18. A.A., Isibor, A.E., Omankhanlen, L.U., Okoye, B.U., Achugamonu, M.E., Adebayo, G.T., Afolabi, & O.E., Ayodeji. *Impact of electronic banking technology on customers satisfaction and economic growth in Nigeria.* **International Journal of Civil Engineering and Technology,** 9(12), 2018, pp.536-544.

19. A., Banker, & H., Parmar. *A study on determinants for measuring the impact of service quality parameters of e-banking.* Solid State Technology, 63(6), 2020, pp.22608-22616.

20. S., Arora, & S., Kaur. *Perceived risk dimensions and its impact on intention to use e-banking services: a conceptual study.* **Journal of Commerce and Accounting Research,** 7(2), 2018, p.18.

21. S., Yang, Z., Li, Y., Ma, & X., Chen. *Does electronic banking really improve bank performance? Evidence in China.* **International Journal of Economics and Finance,** 10(2), pp.82-94.

22. N., Mahrakani, M.M., Shammot, & A.Y., Areiqat. *Customer satisfaction measurement of e-banking service quality in Riyadh, Saudi Arabia.* **Academy of Strategic Management Journal,** 20(Special Issue 2), 2021, pp.1-19.

23. A., Rauf, S., Rauf, R., Mehmood, & U.R., Kamboh. *E-banking services as a competitive edge in Pakistan banking sector: Recent adopters prospective.* In 2018 International Conference on Information Management and Processing (ICIMP) (pp. 66-72). IEEE.

24. M.S., Omofowa, S., Omofowa, C., Nwachukwu, & V., Le. *E-banking service quality and customer satisfaction: evidence from deposit money bank in south-south Nigeria.* **Management,** 2021.

25. B., Nyagadza, G., Mazuruse, A., Muposhi, T., Chuchu, T., Makoni, & B., Kusotera. *Emotions' influence on customers'e-banking satisfaction evaluation in e-service failure and e-service recovery circumstances.* Social Sciences & Humanities Open, 6(1), 2022, p.100292.

26. A.K., Reddy. *Impact of e-banking on customer satisfaction.* **PalArch's Journal of Archaeology of Egypt/Egyptology,** 18(08), 2021, pp.4220-4231.

27. P.R., Adhikari. *Role of information technology on banking service delivery in Kathmandu valley*. **The Journal of Economic Concerns,** 11(1), 2020, pp.1-6.

28. D., Malc, J., Dlačić, A., Pisnik, & B., Milfelner. *The development of e-banking services quality measurement instrument: MPQe-BS.* Sustainability, 15(16), 2023, p.12659.

29. D.G., Chukwudi, & E., Amah. *Development of e-banking, its benefits and challenges in the Nigerian banking industry.* **ASPL International Journal of Management Sciences Journals**@ arcnjournals. Org, 1(2), 2018, pp.1-7.

30. M., Sleimi, & M., Musleh. *E-Banking services quality and customer loyalty: The moderating effect of customer service satisfaction: Empirical evidence from the UAE banking sector,* 2020.

31. A., Chandel, & R., Vij. *E-banking service quality: A scale development and validation attempt.* **Indian Journal of Marketing,** 49(9), 2019, pp.23-41.

32. G., Mogos, & N.S.M., Jamail. *Study on security risks of e-banking system.* **Indonesian Journal of Electrical Engineering and Computer Science,** 21(2), 2021, pp.1065-1072.

33. R.A., Abdulhadi, & S., Ahmad. *Internet banking in Saudi Arabia.* **PalArch's Journal of Archaeology of Egypt/Egyptology,** 18(13), 2021, pp.673-684.

34. A., Okpara, O., Ikpefan, & M.O., Aigbiremolen. *Impediments to e-banking services marketing in developing economies–A case study of Nigerian banks*, 2018.

35. M., Jaiwani, S., Gopalkrishnan, S.P., Mohanty, & N., Murthy. *Understanding service quality, customer satisfaction and banking behaviour from an e-banking perspective: An empirical approach.* In 2022 International Conference on Sustainable Islamic Business and Finance (SIBF) 2022, pp. 12-20.

36. M., Rao, P., Andani, & S., Singh. *Perception towards problems and prospects of e-banking.* **International Journal of Research in Engineering, Science and Management,** 5(3), 2022, pp.60-62.

37. B., Almansour, & S., Elkrghli. *Factors influencing customer satisfaction on e-banking services: A study of Libyan banks.* **International Journal of Technology, Innovation and Management (IJTIM),** 3(1), 2023, pp.34-42.

38. P., Hanafizadeh, & A., Zare Ravasan. *An empirical analysis on outsourcing decision: The case of e-banking services.* **Journal of Enterprise Information Management,** 31(1), 2018, pp.146-172.

39. M.A., Bashir, M.H., Ali, N., Akther, M.W., Lam, N.A., Mohd Paiz, & A., Islam. *Developing an integrative customer satisfaction model: An application of customer experience in Malaysian E-banking services.* **International Journal of Advanced Science and Technology,** 29(4), 2020, pp.868-881.

40. P.W., Mudalige. *Quality of e-banking service delivery in Sri Lanka and people's level of satisfaction*: *A study conducted in Kiribathgoda town in Gampaha district,* 2021.

41. D., Ajanthan. *Customers' adoption and use of e-banking services: A study in public commercial banks, Sri Lanka.* **SAARJ Journal on Banking & Insurance Research,** 7(2), 2018, pp.29-38.

42. M.P., Gowda. *Impact of e-banking on rural India-A bird's eyeview.* **Asian Journal of Management,** 9(3), 2018, pp.1191-1194.

43. B.M., Teka. *Factors affecting bank customers usage of electronic banking in Ethiopia: Application of structural equation modeling (SEM).* **Cogent Economics & Finance,** 8(1), 2020, p.1762285.

44. N., Nagar, & E., Ghai. *A study of bank customer's reliability towards electronic banking (e-banking) channel's.* **Int. J. Manag. Stud,** 6, 2019, p.34.

45. D.P., Renu, & K., Singh. *The impact of e-banking on the use of banking services and customers satisfaction.* **International Journal of Trend in Scientific Research and Development,** 3(4), 2019, pp.20-23.

46. A.A., Alsmadi, M., Sha'ban, & O.A., Al-Ibbini. *The relationship between E-banking services and bank profit in Jordan for the period of 2010-2015.* In Proceedings of the 2019 5th International Conference on E-Business and Applications, 2019, pp. 70-74.

47. L.U., Okoye, A.E., Omankhanlen, J.I., Okoh, F.N., Ezeji, & B.U., Achugamonu. *Imperatives for deepening customer service delivery in the Nigerian banking sector through engineering and technology-based channels*. **International Journal of Civil Engineerin00g and Technology,** 10(1), 2019, pp.2156-2169.

48. M.G., Salimon, S.S., Mohd Mokhtar, & M.M., Yusr. *E-Banking as a financial supply chain system: Can e-TAM improve trust and the rate of adoption?.* **International Journal of Supply Chain Management,** 2020.

49. B.K., Dhanya, & V.P., Velmurugan. *Perception towards the problems of e-banking among the new users at Thiruvananthapuram District.* **Journal of Critical Reviews,** 7(1), 2020, pp.474-477.

50. I., Khattab, A.M., Ahmed, & O.A.O., Al-Magli. *The implications of e-banking channels on job security and personal development.* Banking & Financial Studies,(35), 2020, pp.9-39.

51. D.M.K., Rajasulochana. *Service quality in SBI: An assessment of customer satisfaction on e-banking services.* **Journal of Positive School Psychology,** 2022, pp.4585-4590.

52. H.K., Yau, M.K., Siu, & H.Y., Tang. *Effects of e-service quality dimensions on overall e-banking service quality, customer satisfaction and customer loyalty in Hong Kong banking sector.* In Lecture Notes in Engineering and Computer Science: Proceedings of the International MultiConference of Engineers and Computer Scientists, 2021, pp. 20-22.

53. M.A., Bashir, M.H., Ali, L.M., Wai, M.I., Hossain, & M.S., Rahaman. *Mediating effect of customer perceived value on the relationship between service quality and customer satisfaction of E-Banking in Bangladesh.* **International Journal of Advanced Science and Technology,** 29(2), 2020, pp.3590-3606.

54. S.A., Khan, F., Epoc, V., Gangwar, T.A.A., Ligori, & Z.A., Ansari. *Will online banking sustain in Bhutan post COVID-19? A quantitative analysis of the customer satisfaction and e-loyalty in the Kingdom of Bhutan.* **Transnational Marketing Journal,** 9(3), 2021, pp.607-624.

55. N., Malhotra, S., Sahadev, P.S.H., Leeflang, & K., Purani. *New insights into e-loyalty of internet banking users in an emerging market context: A multilevel analysis.* Information Systems Frontiers, 23, 2021, pp.1521-1536.

56. O., Usman, T., Monoarfa, & M., Marsofiyati. *E-Banking and mobile banking effects on customer satisfaction.* **Accounting,** 6(6), 2020, pp.1117-1128.

57. A., Banker, D., Jadhav, & V., Bhatt. *A classification of E-Banking users based on impact of service quality parameters in banking industry.* **PalArch's Journal of Archaeology of Egypt/Egyptology,** 17(12), 2020, pp.1746-1758.

58. R., Al-Dmour, M., Alnafouri, & A., Al-Alwan. *The mediating role of satisfaction in the relationship between e-service quality and customer e-loyalty in internet banking.* **Jordan Journal of Business Administration,** 15(2), 2019.

59. P., Thongkhum, B., Wingwon, M., Piriyakul, D., Sukapun, J., Ratchusanti, & K., Uthongsap. *Effect of e-trust, customer focus and innovativeness on satisfaction of e-banking; A moderated-mediating analysis.* วารสาร นวัตกรรม การ บริหาร และ การจัดการ, 11(1), 2023, pp.1-15.

60. S., Balamurugan, & M., Selvalakshmi. *E-banking: An empirical study of the factors affecting young customer's satisfaction in India*. Finance India, 34(4), 2020.

61. L.A.F., Wicaksono. *Impact of BCA e-banking service quality on customer satisfaction and e-loyalty.* **Asian Journal of Social and Humanities,** 1(11), 2023, pp.852-875.

62. A.O.U., Kalu, L.C., Unachukwu, O., Ibiam, & E.E., Nwadighoha. *Electronic customer relationship management and consumer behaviour (A study of Diamond Bank Plc, Nigeria).* **Invention Journal of Research Technology in Engineering & Management (IJRTEM),** 2(7), 2018, pp.26-36.

63. R.M., Kumar, L., Ramakrishnan, & C.S.G., Krishnamacharyulu. *Review of e-customer Loyalty in Internet Banking.* Webology, 18(SI01), 2021, pp.280-287.

64. K.S., Ogboye, F.I., Akande, & J., Kwarbai. *Determinants of digital banking convenience and customer satisfaction of selected deposit money banks in Nigeria.* **European Journal of Accounting, Auditing and Finance Research,** 10(2), 2022, pp.1-30.

65. H.H.M., Rashwan, A.L., Mansi, & H.E., Hassan. *Exploring electronic-loyalty antecedents in Egyptian commercial banks; Electronic customer relationship*

management and banking electronic satisfaction. **Journal of Business and Retail Management Research,** 14(2), 2020.

66. J.A., Goodie-Okio. *Mobile banking service quality and customer satisfaction of deposit money banks in Port Harcourt.* **International Academic Journal of Management & Marketing,** 2022.

67. G.C., Ogonu. *Ethical employee behaviour an deposit money banks in.* **International Journal of Management and Marketing Systems,** 2020.

68. M.S., Shabbir. *Nexus between customer preference and operation of conventional banks Islamic windows in Pakistan.* **Journal of Islamic Marketing,** 11(1), 2020, pp.50-65.

69. P.L., AmmaraPhakdeeburi. *Creative service values in Thailand 4.0 finance industry.* **Turkish Journal of Computer and Mathematics Education (TURCOMAT),** 12(14), 2021, pp.5872-5884.

70. O.K., Omoregie, J.A., Addae, S., Coffie, G.O.A., Ampong, & K.S., Ofori. *Factors influencing consumer loyalty: evidence from the Ghanaian retail banking industry.* **International Journal of Bank Marketing,** 37(3), 2019, pp.798-820.

71. M., Jaiwani, S., Gopalkrishnan, S.P., Mohanty, & N., Murthy. *Understanding service quality, customer satisfaction and banking behaviour from an e-banking perspective: An empirical approach.* In 2022 International Conference on Sustainable Islamic Business and Finance (SIBF) 2022, pp. 12-20.

72. I., Alamu. *Impact of mobile banking adoption on customer satisfaction among selected deposit money banks in Ilorin metropolis* (Doctoral dissertation, Kwara State University (Nigeria)), 2018.

73. D., Octabriyantiningtyas, E., Suryani, & A.R., Jatmiko. *Modeling customer satisfaction with the service quality of E-money in increasing profit of Pt. Telekomunikasi Indonesia.* Procedia Computer Science, 161, 2019, pp.943-950.

74. S., Kavishemi, & D., Thavakumar. *Impact of mobile banking applications usage on customers' satisfaction for selected commercial banks in the Manmunai North Division of Batticaloa District,* 2020.

75. M.S., Abdullahi, M.B., Usman, B.F., Salisu, & S.Y., Muhammad. *Investigating the effect of convenience, accessibility and reliability on customer satisfaction in the Nigeria banking industry.* **Pakistan Journal of Humanities and Social Sciences,** 6(3), 2018, pp.296-314.

76. M., Adil, M., Nasir, M., Sadiq, & K., Bharti. *SSTQUAL model: Assessment of ATM service quality in an emerging economy.* **International Journal of Business Excellence,** 22(1), 2020, pp.114-138.

77. Y.A., Putra, & T.Y., Syah. *The influence of the self-service technology, service quality, and e-relationship quality on e-loyalty.* **Journal of Interactive Marketing,** 4(08), pp.37-43.

78. M.A., Ahmed, & M., Sağlam. *The impact of CRM on customer satisfaction of commercial banks in Mogadishu Somalia*, 2020.

79. H., Spoorthi, & C.S., Basavaraj. *A comparative analysis of e-banking service quality in select public and private sector banks-the case of Kalaburagi City.* **Journal of Positive School Psychology,** 6(3), 2022, pp.8124-8134.

80. S.A., Das, & N., Ravi. *A study on the impact of e-banking service quality on customer satisfaction.* **Asian Journal of Economics, Finance and Management,** 2021, pp.450-458.

81. D.I., Saibil. *Does the banking information system affect customer satisfaction and loyalty?.* **EkBis: Jurnal Ekonomi dan Bisnis,** 4(1), 2020, pp.353-364.

82. A.A., Babatunde. *Effect of mobile banking quality on bank customers satisfaction in selected deposit money banks in Ilorin metropolis* (Doctoral dissertation, Kwara State University (Nigeria)), 2018.

83. A., Adepoju, & A., Adeniji. *Technology acceptance of e-banking services in an unnatural environment.* **SEISENSE Journal of Management,** 3(3), 2020, pp.34-50.

84. M.I., Ali, J.R., Tony, & V., Anputhasan. *E-service quality and customer satisfaction: With reference to Atm services of state banks in Sri Lanka.* **International Journal on Economics, Finance and Sustainable Development,** 4(6), 2022, pp.25-34.

85. D., Nwachukwu, B.E., Azuonwu, C.A., Nwador, L.B., Dike, & H., Origbo. *Self-service technology adoption and post-purchase intentions of deposit money banks customers in Port Harcourt.* **International Journal of Management Sciences,** 10(1), 2023, pp.175-211.

86. D.P., Dhakal. *Customer's satisfaction towards service delivery system of Nepal bank limited (A case study of Birendranagar branch, Surkhet, Nepal)* (Doctoral dissertation, Central Department of Management), 2020.

87. A.A., Alarifi, & K.S., Husain. *The influence of Internet banking services quality on e-customers' satisfaction of Saudi banks: Comparison study before and during COVID-19.* **International Journal of Quality & Reliability Management,** 40(2), 2023, pp.496-516.

88. A.K., Othman, M.I., Hamzah, & L.F., Abu Hassan. *Modeling the contingent role of technological optimism on customer satisfaction with self-service technologies: A case of cash-recycling ATMs.* **Journal of Enterprise Information Management,** 33(3), 2020, pp.559-578.

89. O.K., Mohammed. *Electronic banking and customer satisfaction in selected banking institutions in Mogadishu Somalia,* 2019.

90. K.I., Hadid, N.K., Soon, & A.A.E., Amreeghah. *The effect of digital banking service quality on customer satisfaction: A case study on the Malaysian banks.* **Asian Journal of Applied Science and Technology,** 4(01), 2020, pp.06-29.

91. D.B., Gadal. *Alternative banking channels and customer satisfaction in commercial banks in Nepal* (Doctoral dissertation, Department of Management), 2022.

92. A., Jose, S., Mathew, D.P., Chacko, & A.K., Thomas. *The role of switching cost in the e-service recovery framework among banking customers.* **International Journal of Quality and Service Sciences,** 14(1), 2022, pp.86-109.

93. S., Halder, M.G., Albino, & G.A., Peralta. *The effect of automation of banking services on customer satisfaction.* **The Asian Journal of Technology Management,** 15(2), 2022, pp.177-186.

94. T.T.K., Le. *E-banking and Customer Satisfaction: A Case Study in Vietnam.* In Proceedings of the 2022 3rd International Conference on Internet and E-Business, 2022, pp. 50-55.

95. A.T., Harijanto, & W., Watson. *The influence of e-service quality towards customer satisfaction and customer loyalty on gopay electronic wallet users.* **Jurnal Inovasi Penelitian,** 2(6), 2021, pp.1833-1844.

96. L., Rajaobelina, S., Prom Tep, M., Arcand, & L., Ricard. *The relationship of brand attachment and mobile banking service quality with positive word-of-mouth.* **Journal of Product & Brand Management,** 30(8), 2021, pp.1162-1175.

97. B., Mwiya, M., Katai, J., Bwalya, M., Kayekesi, S., Kaonga, E., Kasanda, C., Munyonzwe, B., Kaulungombe, E., Sakala, A., Muyenga, & D., Mwenya. *Examining the effects of electronic service quality on online banking customer satisfaction: Evidence from Zambia.* **Cogent Business & Management,** 9(1), 2022, p.2143017.

98. S.P.S., Ho, & A., Wong. *The role of customer personality in premium banking services.* **Journal of Financial Services Marketing,** 28(2), 2023, pp.285-305.

99. A.A., Albinalsheikh. *The influence of online service quality on customer satisfaction, loyalty and preferences: A study of the banking sector in Saudi Arabia* (Doctoral dissertation, Victoria University), 2022.

100. N.K., Abed, & M.K., Islam. *Factors impacting e-banking adoption in Iraq*. **International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies,** 13(9), 2022, pp.1-11.

101. J., Näsholm Johansen, & N., Al Amin. *E-loyalty in digital platforms: How do the employees in banks experience their work with customer e-loyalty, individually and in relation to each other?*. 2018.

102. S., Zeleke, & S., Chauhan. *The effect of electronic banking service on customer satisfaction: evidence from commercial banks of Ethiopia operating in Hawassa city administration.* **Journal of Positive School Psychology,** 6(8), 2022, pp.3228-3246.

103. R., Kumar, A., Sachan, & R., Kumar. *The impact of service delivery system process and moderating effect of perceived value in internet banking adoption.* **Australasian Journal of Information Systems,** 24, 2020.

104. W., Aslam, A., Tariq, & I., Arif. *The effect of ATM service quality on customer satisfaction and customer loyalty: An empirical analysis.* **Global Business Review,** 20(5), 2019, pp.1155-1178.

105. A.H., Mousa, S.H., Mousa, M., Aljshamee, & I.S., Nasir. *Determinants of customer acceptance of e-banking in Iraq using technology acceptance model.* **Telkomnika (Telecommunication Computing Electronics and Control),** 19(2), 2021, pp.421-431.

106. B., Haralayya. *How Digital Banking has brought innovative products and services to India.* **Journal of Advanced Research in Quality Control and Management,** 6(1), 2021, pp.16-18.

107. S., Yang, Z., Li, Y., Ma, & X., Chen. *Does electronic banking really improve bank performance? Evidence in China.* **International Journal of Economics and Finance,** 10(2), 2018, pp.82-94.

108. L., Wewege, J., Lee, & M.C., Thomsett. *Disruptions and digital banking trends.* **Journal of Applied Finance and Banking,** 10(6), 2020, pp.15-56.

109. V., Sardana, & S., Singhania. *Digital technology in the realm of banking: A review of literature.* **International Journal of Research in Finance and Management,** 1(2), 2018, pp.28-32.

110. A., Nazaritehrani, & B., Mashali. *Development of E-banking channels and market share in developing countries.* **Financial Innovation,** 6(1), 2020, p.12.

111. H., Asiyanbi, & A., Ishola. *E-banking services impact and customer satisfaction in selected bank branches in Ibadan metropolis, Oyo state, Nigeria.* **Accounting,** 4(4), 2018, pp.153-160.

112. S., Ananda, S., Devesh, & A.M., Al Lawati. *What factors drive the adoption of digital banking? An empirical study from the perspective of Omani retail banking.* **Journal of Financial Services Marketing,** 25(1-2), 2020, pp.14-24.

113. M., Naeem, & W., Ozuem. *The role of social media in internet banking transition during COVID-19 pandemic: Using multiple methods and sources in qualitative research.* **Journal of Retailing and Consumer Services,** 60, 2021, p.102483.

114. P.G., Amidjaya, & A.K., Widagdo. *Sustainability reporting in Indonesian listed banks: Do corporate governance, ownership structure and digital banking matter?.* **Journal of Applied Accounting Research,** 21(2), 2020, pp.231-247.

115. P.N., Nwinyokpugi. *Workload management strategies and employees efficiency in the Nigeria banking sector.* **International Journal of Innovative Research and Development,** 7(1), 2018, pp.286-293.

116. S., Ajayi. *Effect of stress on employee performance and job satisfaction: A case study of Nigerian banking industry.* 2018, SSRN 3160620.

117. C.O., Zephaniah, I.E., Ogba, & E.E., Izogo. *Examining the effect of customers' perception of bank marketing communication on customer loyalty.* Scientific African, 8, 2020, p.e00383.

118. O., Godswill, I., Ailemen, R., Osabohien, N., Chisom, & N., Pascal. *Working capital management and bank performance: Empirical research of ten deposit money banks in Nigeria.* Banks & bank systems, (13, Iss. 2), 2018, pp.49-61.

119. D.F., Eluyela, O.O., Akintimehin, W., Okere, W., Ozordi, E., Osuma, G.O., Ilogho, S.O. & Oladipo, O.A. *Board meeting frequency and firm performance: Examining the nexus in Nigerian deposit money banks.* Heliyon, 4(10), 2018.

120. U.L., Onyekwelu, V.N., Chukwuani, & V.N., Onyeka. *Effect of liquidity on financial performance of deposit money banks in Nigeria.* **Journal of Economics and Sustainable Development,** 9(4), 2018, pp.19-28.

121. A.M., Adeniyi, A.K., Kayode, A.K., Sakirat, S.O. & Olamide, F.T. *Monetary policy and bank credit in Nigeria: A Toda-Yamamoto approach.* Acta Universitatis Danubius. Œconomica, 14(5), 2018.

122. A., Ayodeji, & A., Oluwole. *Impact of monetary policy on economic growth in Nigeria.* **Open Access Library Journal,** 5(2), 2018, pp.1-12.

123. G.A., Anidiobu, P.I., Okolie, & D.C., Oleka. *Analysis of inflation and its effect on economic growth in Nigeria.* **Journal of Economics and Finance,** 9(1), 2018, pp.28-36.

124. R., Matousek, & H., Solomon. *Bank lending channel and monetary policy in Nigeria.* **Research in International Business and Finance,** 45, 2018, pp.467-474.

125. H.F., Khan. *E-Banking system benefits and issues. Dr. Bhatt, KN (Ed.), Insights into economics and management,* Book Publisher International (a part of Sciencedomain International), 11, 2021, pp.40-48.

126. S., Sandhu, & S., Arora. *Customers' usage behaviour of e-banking services: Interplay of electronic banking and traditional banking.* **International Journal of Finance & Economics,** 27(2), 2022, pp.2169-2181.

127. A., Firman, & L.A., Kamaluddin. *Benefits and confidence in the interest of e-banking.* **Jurnal Economic Resource,** 4(1), 2021.

128. Z., Ghasemi, M.A., Kermani, & T., Allahviranloo. *Exploring the main effect of e-banking on the banking industry concentration degree on predicting the future of the banking industry:* A case study. Advances in Fuzzy Systems, 2021, pp.1-14.

129. S., Lusaya, & B., Kalumba. *The challenges of adopting the use of e-banking to the customers: The case of Kasama district banking customers.* **Scholar Journal of Applied Sciences and Research,** 1(2), 2018, pp.26-31.

130. A., Granić, & N., Marangunić. *Technology acceptance model in educational context: A systematic literature review.* **British Journal of Educational Technology,** 50(5), 2019, pp.2572-2593.

131. B., Rahimi, H., Nadri, H.L., Afshar, & T., Timpka. *A systematic review of the technology acceptance model in health informatics.* **Applied Clinical Informatics,** 9(03), 2018, pp.604-634.

132. M., Al-Emran, V., Mezhuyev, & A., Kamaludin. *Technology acceptance model in M-learning context: A systematic review.* Computers & Education, 125, 2018, pp.389-412.

133. A.M., Aburbeian, A.Y., Owda, & M., Owda. *A technology acceptance model survey of the metaverse prospects.* Ai, 3(2), 2022, pp.285-302.

134. S.A., Salloum, A.Q.M., Alhamad, M., Al-Emran, A.A., Monem, & K., Shaalan. *Exploring students' acceptance of e-learning through the development of a comprehensive technology acceptance model.* IEEE access, 7, 2019, pp.128445-128462.

135. C., Sagnier, E., Loup-Escande, D., Lourdeaux, I., Thouvenin, & G., Valléry. *User acceptance of virtual reality: An extended technology acceptance model.* **International Journal of Human–Computer Interaction,** 36(11), 2020, pp.993-1007.

136. J.W., Dearing, & J.G., Cox. *Diffusion of innovations theory, principles, and practice.* **Health Affairs,** 37(2), 2018, pp.183-190.

137. S., Min, K.K.F., So, & M., Jeong. *Consumer adoption of the Uber mobile application: Insights from diffusion of innovation theory and technology acceptance model.* **In Future of Tourism Marketing**, 2021, pp. 2-15.

138. J., Benhabib, J., Perla, & C., Tonetti. *Reconciling models of diffusion and innovation: A theory of the productivity distribution and technology frontier.* **Econometrica,** 89(5), 2021, pp.2261-2301.

139. N., Mori, & R., Mlambiti. *Determinants of customers' adoption further of mobile evidence banking from in a Tanzania: Diffusion of innovation theory.* **Behavioral Determinants of Enterprise Development and Innovation,** 16(2), 2020, p.203.

140. E., Goh, & M., Sigala. *Integrating information & communication technologies (ICT) into classroom instruction: Teaching tips for hospitality educators from a diffusion of innovation approach.* **Journal of Teaching in Travel & Tourism,** 20(2), 2020, pp.156-165.

141. M.M., Mohammadi, R., Poursaberi, & M.R., Salahshoor. *Evaluating the adoption of evidence-based practice using Rogers's diffusion of innovation theory: A model testing study.* **Health Promotion Perspectives,** 8(1), 2018, p.25.

142. S.L., Vargo, M.A., Akaka, & H., Wieland. *Rethinking the process of diffusion in innovation: A service-ecosystems and institutional perspective.* **Journal of Business Research,** 116, 2020, pp.526-534.

143. C., Buabeng-Andoh. *Predicting students' intention to adopt mobile learning: A combination of theory of reasoned action and technology acceptance model.* **Journal of Research in Innovative Teaching & Learning,** 11(2), 2018, pp.178-191.

144. I., Ajzen, & A.W., Kruglanski. *Reasoned action in the service of goal pursuit*. **Psychological Review,** 126(5), 2019, p.774.

145. M.L., Khan, & I.K., Idris. *Recognise misinformation and verify before sharing: A reasoned action and information literacy perspective.* **Behaviour & Information Technology,** 38(12), pp.1194-1212.

146. M., Conner. *Theory of planned behavior.* Handbook of Sport Psychology, 2020, pp.1-18.

147. I., Ajzen. *The theory of planned behavior: Frequently asked questions.* Human Behavior and Emerging Technologies, 2(4), 2020, pp.314-324.

148. H., Taherdoost. *A review of technology acceptance and adoption models and theories.* Procedia manufacturing, 22, 2018, pp.960-967.

149. M., Bosnjak, I., Ajzen, & P., Schmidt. *The theory of planned behavior: Selected recent advances and applications.* **Europe's Journal of Psychology,** 16(3), 2020, p.352.

150. I., Ajzen. *The theory of planned behavior: Frequently asked questions.* Human Behavior and Emerging Technologies, 2(4), 2020, pp.314-324.

151. A., Yuriev, M., Dahmen, P., Paillé, O., Boiral, & L., Guillaumie. *Pro-environmental behaviors through the lens of the theory of planned behavior: A scoping review.* **Resources, Conservation and Recycling,** 155, 2020, p.104660.

152. R., Sussman, & R., Gifford. *Causality in the theory of planned behavior.* Personality and Social Psychology Bulletin, 45(6), 2019, pp.920-933.

153. E., Ulker-Demirel, & G., Ciftci. *A systematic literature review of the theory of planned behavior in tourism, leisure and hospitality management research.* **Journal of Hospitality and Tourism Management,** 43, 2020, pp.209-219.

154. F., La Barbera, & I., Ajzen. *Control interactions in the theory of planned behavior: Rethinking the role of subjective norm.* **Europe's Journal of Psychology,** 16(3), 2020, p.401.

155. M.J., Gorgievski, U., Stephan, M., Laguna, & J.A., Moriano. *Predicting entrepreneurial career intentions: Values and the theory of planned behavior.* **Journal of Career Assessment,** 26(3), 2018, pp.457-475.

156. K.S., Al-Omoush, M., Al Attar, I.H., Saleh, & A.A., Alsmadi. *The drivers of E-banking entrepreneurship: An empirical study.* **International Journal of Bank Marketing,** 38(2), 2019, pp.485-500.

157. A.J., Khan, N., Hanif, J., Iqbal, T., Ahmed, W.U., Hameed, & A.A., Malik. *Greening for greater good: investigating the critical factors for customer satisfaction with sustainable e-banking.* **Environmental Science and Pollution Research,** 2023, pp.1-11.

158. R.A., Mosa. *The influence of e-customer relationship management on customer experience in e-banking service.* **Soc. Sci,** 12(2), 2022, pp.193-215.

159. T., Anh, V., Anh, N., Quynh, N., Le, T., Huyen, & H., Trung. *Factors affecting the acceptance of gamification application in e-banking.* **International Journal of Data and Network Science,** 7(2), 2023, pp.601-608.

160. D.M.K., Rajasulochana. *Service quality in SBI: An assessment of customer satisfaction on e-banking services.* **Journal of Positive School Psychology,** 2022, pp.4585-4590.

161. V., Chauhan, R., Yadav, & V., Choudhary. *Adoption of electronic banking services in India: An extension of UTAUT2 model.* **Journal of Financial Services Marketing,** 2022, pp.1-14.

162. T., Obaid. *Predicting mobile banking adoption: An integration of TAM and TPB with trust and perceived risk.* 2021, SSRN 3761669.

163. A.M.C., Ahanthem. *Examining factors affecting customers adoption towards e-banking services: An empirical investigation in Manipur.* **Isbr Management Journal** 6(02), 2021. ISSN (Online)-2456-9062.

164. N., Mohammed, & J., Faleel. *Empirical study on security in online banking in Saudi Arabia.* **PalArch's Journal of Archaeology of Egypt/Egyptology,** 18(13), 2021, pp.58-67.

165. D.A., Mchomba. *The impacts of electronic banking on customer satisfaction in Tanzania banking industry: The case of NMB bank* (Doctoral dissertation, The Open University of Tanzania), 2018.

166. B., Kitigin, M., Korir, & K., Chepkwony. *E-Banking technology characteristics and performance of micro and small enterprise in kenya: A moderated mediation model of adoption and innovative behavior.* **SEISENSE Journal of Management,** 4(1), 2021, pp.13-30.

167. I., Bojang, & L.B., Ceesay. *Consumer susceptibility to e-banking services: Evidence from retail banking sector of the Gambia.* **European Journal of Business and Management Research,** 5(2), 2020.

168. R.R., Ahmed, D., Streimikiene, Z.A., Channar, R.H., Soomro, & J., Streimikis. *E-banking customer satisfaction and loyalty: Evidence from serial mediation through modified ES-QUAL model and second-order PLS-SEM.* Engineering Economics, 32(5), 2021, pp.407-421.

169. C.W., Mathenge. *Electronic banking and the financial performance of commercial banks*, 2020.

170. D., Mulia, H., Usman, & N.B., Parwanto. *The role of customer intimacy in increasing Islamic bank customer loyalty in using e-banking and m-banking.* **Journal of Islamic Marketing,** 12(6), 2021, pp.1097-1123.

171. S.N., Huda, S., Aktar, & M.S., Islam. *Impact of e-banking on service quality and customer satisfaction in selected private commercial banks in Bangladesh.* **Globus-An International Journal of Management and IT,** 11(2), 2020, pp.21-27.

172. A., Raji, A., Zameni, & M., Abdulwakil. *Effect of electronic banking on customer satisfaction in Kwara State, Nigeria.* **International Journal of Academic Research in Business and Social Sciences,** 11(7), 2021, pp.1571-1585.

173. A., Nazaritehrani, & B., Mashali. *Development of E-banking channels and market share in developing countries.* **Financial Innovation,** 6(1), 2020, p.12.

174. W., Chmielarz, & M., Zborowski. *Towards sustainability in E-banking website assessment methods.* **Sustainability**, 12(17), 2020, p.7000.

175. Y.T., Hamakhan. *The effect of individual factors on user behaviour and the moderating role of trust: an empirical investigation of consumers' acceptance of electronic banking in the Kurdistan Region of Iraq.* **Financial Innovation,** 6(1), 2020, p.43.

176. H.K.T., Buddhika, & T.S.L.W., Gunawardana. *The impact of E-Banking on customer satisfaction in Private Commercial Banks, Sri Lanka.* In Proceedings of the 9th International Conference on Management and Economics, 2020, pp. 353-368.

177. R., Shrestha. *Customer satisfaction with e-banking services of private commercial banks in Nepal* (Doctoral dissertation, Department of Management, People's Campus Paknajol, Kathmandu), 2019.

178. H., Asiyanbi, & A., Ishola. *E-banking services impact and customer satisfaction in selected bank branches in Ibadan metropolis, Oyo state, Nigeria.* **Accounting**, 4(4), 2018, pp.153-160.

179. M.M., Shamil, H.M.T., Herath, & W.M., Sumatiratne. *The influence of e-banking service quality on e-customer satisfaction and loyalty: A Sri Lankan study.* WM O, the influence of e-banking service quality on e-customer satisfaction and loyalty: A Sri Lankan Study, 2023.

180. A., Banker, & H.Parmar, H. *A study on determinants for measuring the impact of service quality parameters of e-banking.* **Solid State Technology,** 63(6), 2020, pp.22608-22616.

181. R.E., Essel. *Assessing the moderating role of trialability and perceived risk of e-banking adoption in an emerging economy.* Vision, 2022, p.09722629221106260.

182. F.A.A., Ullah. *Electronic banking and its impact on the financial performance of commercial banks in Bangladesh: A Descriptive Analysis,* 2023.

183. A.L., Albuquerque. *E-banking: Its impact on customers–an empirical study of selected banks in Goa* (Doctoral dissertation, Goa University), 2018.

184. Z., Sakhnini, W., Elali, & A., Al-Sartawi. *Behavioral and non-behavioral factors and the level of adapting and implementing fintech and E-banking in Bahrain: Suggested*

model. In Artificial Intelligence for Sustainable Finance and Sustainable Technology: Proceedings of ICGER 2021. Springer International Publishing, 1, 2022, pp. 188-193.

185. M., Alkhaibari, A., Albarq, M., Elrayah, M., Moustafa, M., Ghaleb, & A., Abbas. *The impact of e-banking service quality on the sustainable customer satisfaction: Evidence from the Saudi Arabia commercial banking sector.* **International Journal of Data and Network Science,** 7(3), 2023, pp.1153-1164.

186. M., Tait, A., Nkoyi, & F., Van der Walt. *Predicting the attitude towards electronic banking continued usage intentions among rural banking customers in South Africa.* **South African Journal of Information Management,** 21(1), 2019, pp.1-8.

187. P., Ladipo, B., Dixon-Ogbechi, N., Enyinnaya, & O., Akeke. *Influence of technology acceptance model (TAM) on customer adoption of e-banking practice in Lagos state.* **Journal of Social Sciences,** 3(4), 2021, pp.124-138.

188. I.D., Rabiu, S., Ladan, H.A., Usman, & M., Garba. *Impact of e-banking on the operational efficiency of banks in Nigeria.* **International Journal of Academic Research in Business and Social Sciences**, 9(2), 2019.

Chapter Three

Methodology

The focus of this chapter is to describe the techniques and strategies employed in carrying out this study. The research design and methodology, population of the study, sampling procedure, instrumentation, procedure for data collection, measures of all variables of the study and statistical analysis were presented.

3.1 Research Design

A research design is the yardstick or framework or the overall plan of the methods adopted by the researcher from the collection of data through to the analysis of the data[1]. For this study, positivism or post positivistic worldview as a research philosophy is assessed. This is because it is deterministic and the problems studied by the post positivists reflect the need to identify and assess the causes that influence outcome[2]. The study is for a survey whose population is not known or has no limit. For the purpose of this study, descriptive research design will be most relevant and suitable for the study. A cross sectional survey research design will be employed in this study. Surveys involve a cross-sectional design in which a single group of respondents or a "cross section" of the population is studied at a particular time[3]. Survey could be done through mail, telephone, the internet, personal interviews etc[3]. For the purpose of this study, a web - based questionnaire will be used to elicit information from bank customers as to how favourable or unfavourable they perceived ebanking service quality delivery of the bank(s) they patronize[4]. A web –based questionnaire is the best form of survey instrument to use for hidden population whose sampling frame or complete list is unknown[5].

3.2 Population of Study

The population of this study will be active user of e-banking customer's commercial banks in Nigeria who have been using the e-service of the commercial banks. The philosophies of research are basic sets of beliefs that guide research undertakings[6]. The knowledge that develops through a post positivists lens is based on careful observation and measurement of the objective reality that exists in the world. With reference to this study, how well customers view the delivery of e-banking channels will determine their extent of satisfaction or otherwise. The study area is Ibadan Oyo state, Nigeria. The study will be conducted in Ibadan Oyo state because of its urban status with an annual estimated growth rate of 13% - 16%[7].

Another justification for selecting Ibadan in Oyo State, as study area is due to the fact that Ibadan in Oyo State still remains the largest city and among commercial hub of Nigeria. Also, the choice of Ibadan as the geographical setting for this study was because it possesses attribute of a cosmopolitan city where a reasonable number of customers of commercial banks can be found. For instance about 70% of the commercial banks in Nigeria have their presence in Ibadan. Oyo State is also said to be the most urbanised state in Nigeria[8]. The essence of the above is to clearly get a good representation of their teeming number of customers.

3.3 Sample & Sampling Techniques

Sampling is a process concerned with the selection of a subset from a portion of a larger population, for the purpose of making predictions based on statistical inferences[9]. Decisions with regard to whether to work with the entire population or a sample of the population are made based on a clear definition or description of the population and the time available for the research, nature of the research questions, desired accuracy level, and the data collection techniques[10]. A sample is a small sub-set of the population [11]. Decision with regards to

whether to work with entire population or a sample of the population are made based on the size of the population, the time available for the research, and the requirements of the research. The researcher must however ensure that sample size must be considerably large so the findings can be generalized from the sample drawn since the study used non-probability sampling technique. The use of non-probability sampling was because the population of the study is hidden or difficult to identify[12].

Hence, infinite population will be adopted.

The sample size drawn from the infinite population is computed using the formula recommended by Cochran[13].For sample size determination for infinite/unknown population. The formula is stated as:

$$n_0 = \frac{z^2 \times p(1-p)}{e^2}$$

Where,

n_0 - Sample size, which was estimated

z^2 - Selected critical value of desired level of confidence or risk

p - Estimated proportion of an attribute that is present in the population or maximum variability of the population

e - Desired level of precision or margin of error

The following values was used for estimating the sample size-

n_0 - ?

z^2 - 95% confidence level (The value of (1-α) in Standard Normal Distribution z-table, which is 1.96 for 95%)

p - 50% variability of the population (which is maximum)

e - 5% margin of error

Put the value in given formula- $n_0 = \frac{(1.96)^2 \times 0.5(1-0.5)}{(0.05)^2} = 385.16$

As a result, the sample size for commercial banks customers will be 385. To increase the response rate, 30% of the sample size, or 115 customers, will be added to the estimated sample. This method has been used by researchers to improve their response rate[13]. As a result, 500 of commercial banks customers will be sampled. Therefore, 500 copies of questionnaire will be distributed to the participants.

The purposive sampling will be employed to select the banks' customers. The technique allows researchers to use relevant criteria when selecting respondents to participate in the study. As a non-probability technique, purposive is appropriate only when few numbers of respondents are considered relevant for the study and its adoption for this study is consistent with extant literature[13,14,15]. The justification for selecting this population by the researcher is based on the fact that the respondents possess sincere knowledge of the subject under discussion. Despite the less systematic way of data gathering, the purposive sampling saves time, cost, and it does not in any way compromise the intended quality of work under investigation.

3.4 Description of Research Instrument

The survey instrument used for the purpose of this study is a well-structured web based questionnaire. A questionnaire is a survey instrument which the researcher uses to elicit information from respondents on an identified research study[16]. The questionnaire is one of the most widely used data collection techniques within the survey strategy and its expediency in this has been widely accepted. The questionnaire items essentially captured questions concerning e-banking services and its effect on customer satisfaction. The questionnaire

consists of three sections (Section A to Section C). Section A consists of information as regards the socio demographic variables of the respondents, Section B, and C covered question items that really addressed the germane issues in the study. Section B elicited information regarding customer analysis of e-banking service dimensions; Section C was used to collect information regarding customer satisfaction.

This study's instrument will be a structured questionnaire. The instruments are useful because they allow for the collection of data on current concerns from large groups of individuals in a short amount of time. Additionally, they allow for the quantitative analysis of this data. Based on past research, the items in the questionnaire were adapted and self-developed. The adapted questionnaire is a standardised scale that has been used by authors on the subject matter of this research in other countries, sectors, and in different industries. In line with extant literature, the response options provided in this study's questionnaire follow the 5-point Likert-type scale, consistent with past studies[16,17]. This scale have been an ordinal interval scale numbered from 5 to 1. The response options in the questionnaire covered, Strongly Agree--1, Agree--2, Undicided-3, Disagree-4, Strongly Disagree-5.

3.5 Validity and Reliability of Research Instrument

The implication of the above results showed that all these dimensions and their items passed the validity test. Three key variables were examined in this study. These variables are Adoption of Electronic banking service, customer satisfaction and the control variable (demographics).

The E-S-QUAL and E-RecS-QUAL model were used to evaluate e- banking service quality in commercial banks in Nigeria. These dimensions have been fully discussed in chapter two of this study. These dimensions (privacy, security, system availability, efficiency, employee courtesy, reliability and perceived value) were measured using a total of thirty-four (34) items.

Rensis Likert Five – point scale ranging from 'strongly agree to strongly disagree' was applied to measure these dimensions.

The dependent variable examined in this study is customer satisfaction. Customer satisfaction measurement scale was adapted and this measured customer satisfaction as a construct. These items are believed to have carefully exhausted relevant aspects of customer satisfaction[18]. A total of ten (10) items were used to measure customer satisfaction in this study using five – point Rensis Likert scale which ranges from strongly agree to strongly disagree.

Therefore, a pilot study was carried out to test the reliability and validity of all the measuring instruments. The need to conduct a pilot study became imperative in view of the fact that the section B of the questionnaire, which set out to measure e-banking service quality and customer satisfactions, was modified by the researcher. This scale needed to be tested for reliability and validity before administering the web- based questionnaire to a larger group. For the purpose of pilot study, 30 copies of the questionnaire were administered to some selected bank customers.

However, to assess the reliability of the research instruments, the alpha coefficients were computed for the following measures of the variables in this study using the Statistical Packages for Social Science (SPSS). The result of the pilot study showed that content and face validity of the instruments were reliable enough upon scrutiny. The summary of the Cronbach alpha scores for these service quality dimension are as follows: efficiency (α = 0.657); security (α =0.636); system availability (α = 0.809); privacy (α =0.671); reliability (α = 0.897); employee empathy (α =0.860). The Cronbach alpha for customer satisfaction (dependent variable) is however 0.724.

3.6 Method of Data Collection

The data used for this study were generated by means of primary source. The primary data involved the use of a web- based questionnaire is the most commonly used approach in survey research. It is considered as a measuring instrument which have items or questions that are considered as indicators of the list of chosen distinctiveness. It should be clear that primary data are first hand in nature since they are gotten primarily for the purpose of the study at hand.

3.7 Method of Data Analysis

The analysis and interpretation of data in this study were presented, using the following statistical techniques:

(i) Descriptive statistical tools, such as frequencies, percentages, means, standard deviations and Product Moment Correlation (r) were employed to ascertain the association between each pair of the variables and also the inter-correlation among them.

(ii) Multiple regression analysis was used to investigate the prediction of dependent variable (customer satisfaction) by means of independent variables (E-banking service quality dimensions). This study succinctly develops a regression model to further showcase the extent of relationship between e-banking service quality and customer satisfaction. This study assumes that the dependent variable, that is, customer satisfaction (y) is functionally related to the predictors x1, x2, x3….x6

i.e = (, *i* , , = 1,2,3 … .6, ∈) For this study, the following were put forward: Let: x1 be Efficiency, x2 be Privacy, x3 be Security, x4 be system availability, x5 be employee empathy, and x6 be reliability; ∈ is the error term

The model here is:

y = 0 + β1X1 + β2X2 + β3X3 + β4X4 + β5X5 + β6X6+ ∈

(iii) F test was used to ascertain the overall significance of the observed multiple regression coefficient.

Endnotes

1. G.C., Daka, & J., Phiri. *Factors driving the adoption of e-banking services based on the UTAUT model.* **International Journal of Business and Management,** 14(6), 2019, pp.43-52.

2. M.A., Nso. *Impact of technology on e-banking; Cameroon perspectives.* **International Journal of Advanced Networking and Applications,** 9(6), 2018, pp.3645-3653.

3. D.G., Nayanajith, R.A.S., Weerasiri, & K.A., Damunupola. *A review on e-banking adoption in the context of e-service quality.* **Sri Lanka Journal of Marketing,** 5(2), 2019.

4. N., Sathiyavany, & S., Shivany. *E-banking service qualities, e-customer satisfaction, and e-loyalty: A conceptual model.* **The International Journal of Social Sciences and Humanities Invention,** 5(6), 2018, pp.4808-4819.

5. C., Belbergui, E., Najib, & H., Rachid. *"E-banking overview: Concepts, challenges and solutions." Wireless Personal Communications,* 117: 2021, 1059-1078.

6. S., Sandhu, & S., Arora. *Customers' usage behaviour of e-banking services: Interplay of electronic banking and traditional banking.* **International Journal of Finance & Economics,** 27(2), 2022, pp.2169-2181.

7. A., Firman, & L.A., Kamaluddin. *Benefits and confidence in the interest of e-banking.* **Jurnal Economic Resource,** 4(1), 2021.

8. Z., Ghasemi, M.A., Kermani, & T., Allahviranloo. *Exploring the main effect of e-banking on the banking industry concentration degree on predicting the future of the banking industry:* A case study. Advances in Fuzzy Systems, 2021, pp.1-14.

9. S., Lusaya, & B., Kalumba. *The challenges of adopting the use of e-banking to the customers: The case of Kasama district banking customers.* **Scholar Journal of Applied Sciences and Research,** 1(2), 2018, pp.26-31.

10. S., Lusaya, & B., Kalumba. *The challenges of adopting the use of e-banking to the customers: The case of Kasama district banking customers.* **Scholar Journal of Applied Sciences and Research,** 1(2), 2018, pp.26-31.

11. S., Sardana, & V.N., Bajpai. *E-banking service quality and customer satisfaction: An exploratory study on India.* **International Journal of Services and Operations Management,** 35(2), 2020, pp.223-247.

12. S.A., Das, & N., Ravi. *A study on the impact of e-banking service quality on customer satisfaction.* **Asian Journal of Economics, Finance and Management,** 2021, pp.450-458.

13. R.F., Woolson, J.A., Bean, & P.B., Rojas, P.B. *Sample size for case-control studies using Cochran's statistic.* Biometrics, 1986, pp.927-932.

14. T., Altobishi, G., Erboz, & S.J.I.J.O.M.S, Podruzsik. *E-Banking effects on customer satisfaction: The survey on clients in Jordan banking sector.* **International Journal of Marketing Studies,** 10(2), 2018, pp.151-161.

15. H.F., Khan. *E-Banking system benefits and issues. Dr. Bhatt, KN (Ed.), Insights into Economics and Management,* Book Publisher International (a part of Sciencedomain International), 11, 2021, pp.40-48.

16. O.B., Al-Gharaibah. *Predictors of E-banking service adoption in Malaysia using an extended technology acceptance model.* **Int. J. Contemp. Manag. Inf. Technol,** 1(1), 2020, pp.23-29.

17. A., Shankar, & C., Jebarajakirthy. *The influence of e-banking service quality on customer loyalty: A moderated mediation approach.* **International Journal of Bank Marketing,** 37(5), 2019, pp.1119-1142.

18. D.S.M., Rajasulochana. *E-banking and customers' satisfaction in public and private sector banks in Karnataka: An empirical analysis.* **Journal of Positive School Psychology,** 6(8), 2022, pp.8270-8279.

Chapter Four

Results and Discussion of Findings

The research methodology employed in this study was clearly described in the preceding chapter, covering several aspects specified in the Saunders Research Onion framework. These encompassed elements like research strategy, methodology and procedures, approach, methodological decisions, and research philosophy. Nonetheless, this chapter's primary goal is to adequately describe and assess the specific research objectives outlined in the dissertation's introduction chapter.

4.1 Demographic Data Analysis

4.1.1 Response Rate

Five hundred (500) copies of the questionnaire were expected from the customers of the commercial banks in Ibadan, Oyo State. The 369 copies of the questionnaire were recovered, representing a 73.8% response rate. This is adequate for making inferences. Table 4.1 presents the response rate.

Table 4.1: Respondents' Response Rate

	Number	**Percentage**
Copies of the questionnaire filled out and returned	369	(73.8)
Copies of the questionnaire not returned	131	(26.2)
Total	**500**	**(100)**

Source: Field Result, 2024

The percentage of copies of questionnaire that were distributed, completed, and returned by respondents is shown in Table 4.1. Before analysis, during the data cleaning phase, specific missing data were found and fixed.

4.1.2 Demographic Profiles of Respondents

The respondents' demographic profile is presented in Table 4.2. This cut across gender, age, marital status, educational qualifications, and work experience.

Table 4.2 Demographic Profiles

	Frequency	**Percentage**
	Gender	
Male	253	68.6
Female	116	31.4
Total	**369**	**100%**
	Age	
18-25 years	28	7.6
26-35 years	92	24.9
36-45 years	102	27.6
46-55 years	124	33.6
Above 55 years	23	6.2
Total	**369**	**100%**
	Marital Status	
Single	101	27.4
Married	259	70.2
Others	**9**	12.4
Total	**369**	**100%**
	Educational Qualification	
Primary	3	.8
Secondary	15	4.1
Diploma	39	10.6
B.Sc/HND	167	45.3
Masters	118	32.0

Doctorate	27	7.3
Total	**369**	**100%**
Years of Being a Customer in the Bank		
Between 1 and 5 years	21	5.7
Between 6 and 10 years	74	20.1
Between 11 and 20 years	140	37.9
More than 20 years	134	36.3
Total	**369**	**100%**
Type of Account Operating		
Savings Account	176	47.7
Current account	145	39.3
Both Savings, Current Account and Fixed Deposit	38	10.3
Current and Domiciliary	10	2.7
Total	**369**	**100%**
Occupation		
Students	28	7.6
Self Employed	128	34.7
Private Sector Employee	111	30.1
Civil/ Public servant	102	27.6
Total	**369**	**100%**

Source: Field Result, 2024

Table 4.2 presents an in-depth depiction of the respondents' demographics profile and banking practices, which were painstakingly collected via an extensive survey. Regarding the gender distribution, it is worth noting that 68.6% of the respondents identified as male and 31.4% of the population surveyed as female. The age breakdown of the respondents provides a clear sense of the diversity in the sample. Most respondents, or 33.6%, are in the 46–55 age

group. Individuals between 36 and 45 comprise 27.6% of the sample, a sizable portion of the middle-aged population.

The respondents' marital status reveals a diverse range of interpersonal relationships. Seventy-two per cent of respondents said they were married, indicating that a sizeable section of the population is stable and focused on their families. On the other hand, 27.4% of respondents said they were single, and a lower number of respondents said they were "Others," suggesting a wide range of marital statuses among the sample. The respondents' educational attainment demonstrates a wide range of academic accomplishments. According to the data, 45.3% of respondents had a B.Sc. or HND, a sizable percentage of those with formal education. Furthermore, 32.0% of participants hold a master's degree within the sampled population.

Respondents' banking relationships with banks provide information about their client loyalty and longevity. Notably, 37.9% of respondents have been customers of the Bank for 11–20 years, demonstrating high satisfaction and trust with the Bank's offerings. In addition, a sizable percentage of customers have been customers for over 20 years, underscoring the long-lasting bonds between the respondents and the Bank. Respondents' account types reflect their requirements and preferences in terms of money. A sizeable percentage, 47.7%, have savings accounts, suggesting a careful attitude to money management. Furthermore, 39.3% have current accounts, indicating they actively participate in regular banking operations. In addition, a smaller but still noteworthy portion holds current and savings accounts and other financial instruments like domiciliary accounts or fixed deposits, demonstrating a varied approach to investing and financial planning.

Respondents' occupational backgrounds span various industries and professions, reflecting the workforce's diversity. A noteworthy portion of the studied population, 34.7%, works for

themselves, demonstrating the independence and spirit of entrepreneurship that is common among this group. Furthermore, 30.1% work in the private sector, suggesting a significant presence in the business environment. Moreover, 27.6% of the selected demography comprises civil or public personnel, highlighting the substantial importance of government employment in the community. In summary, the extensive insights extracted from the survey results offer the participants a deep comprehension of the varied demographic makeup and subtle banking practices standard, presenting a complete image of their financial preferences and profiles.

4.2 Presentation of Data

4.2.1 Descriptive Statistics

The descriptive statistics that reveal the frequency distribution and the interpretations drawn from the responses given by our selected respondents were carefully documented in this section. Moreover, a thorough examination of the collected and coded data followed, adopting techniques including frequency distributions, mean values, and standard deviation. The research tool was painstakingly designed and included a comprehensive Likert scale with five points. This scale, which ranged from "Strongly Agreed" (5) to "Strongly Disagreed" (1), provided respondents with a wide range of options to express their opinions.

Table 4.3: Online Internet Banking

S/N	Online Internet Banking	Strongly Agree	Agree	(Neutral	Disagree	Strongly Disagree
1	My Bank's website is operational 24hrs a day	157 (42.5)	161 (43.6)	40 (10.8)	9 (2.4)	2 (0.5)
2	I often use online banking for e-banking transactions	211 (57.2)	118 (32.0)	27 (7.3)	9 (2.4)	4 (1.1)

3	Making third-party payments and other bills online in my Bank is easy.	181 (49.1)	152 (41.2)	26 (7.0)	7 (1.9)	3 (0.8)
4	Online Internet banking is free from security risks	58 (15.7)	108 (29.3)	134 (36.3)	56 (15.2)	13 (3.5)
5	There are no problems in networks regarding online banking	27 (7.3)	74 (20.1)	162 (43.9)	89 (24.1)	17 (4.6)

Source: Field Result, 2024

Table 4.3 presents the responses of 369 survey participants regarding various aspects of online Internet banking. Respondents were asked to rate their opinions of their Bank's website availability. Of those who agreed that the website is available around the clock, 42.5% strongly agreed, and 43.6% agreed. There is still an opportunity for improvement in guaranteeing round-the-clock accessibility, as evidenced by the relatively small percentage of respondents who indicated strong disagreement or disagreement and the 10.8% who stayed neutral. Regarding the use of Internet banking for e-banking transactions, most respondents (57.2%) agreed strongly, and 32.0% stated that they use it frequently. This suggests that the surveyed individuals were highly engaged with e-banking services. Meanwhile, A tiny percentage indicated neutrality or disagreement, indicating that some respondents may have preferences or restrictions preventing them from adopting Internet banking.

Almost fifty per cent of the respondents (49.1%) strongly agreed that paying bills and third parties online is manageable, and 41.2% believed using their Bank's online platform to make such payments is simple. This indicates that people's opinions on the usability and convenience of online banking services for paying bills are typically favourable. Yet, a tiny proportion indicated disapproval or indifference, suggesting possible interface and user experience development directions. Though opinions on online banking security were more divided, 15.7% strongly agreed, and 29.3% agreed that there are no security issues when banking online. Notwithstanding, a noteworthy fraction (36.3%) maintained a neutral stance, while a notable percentage (15.2% and 3.5%, respectively) conveyed dissatisfaction or

profound disagreement. The data indicates that a certain level of ambiguity or apprehension among the participants concerning the security protocols established by their financial institutions underscores the significance of solid cybersecurity protocols and clear communication in fostering consumer confidence.

Responses from respondents about their experiences with network-related problems when using online banking services varied: 7.3% strongly agreed, 20.1% agreed, 43.9% remained neutral, 24.1% disagreed, and 4.6% strongly disagreed that there are no network issues for online banking. This shows that while some respondents have not had any network-related problems or have remained neutral, a sizable minority have.

Table 4.4: Mobile Banking

S/N	Mobile Banking	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	My Bank allows me to pay all bills using a cell phone at home	236 (64.0)	114 (30.9)	14 (3.8)	2 (0.5)	3 (0.8)
2	I use mobile banking often for my bank transactions	252 (68.3)	102 (27.6)	6 (1.6)	5 (1.4)	4 (1.1)
3	I can easily check my bank account using my phone	142 (38.5)	134 (36.3)	58 (15.8)	30 (8.1)	5 (1.4)
4	My Bank can allow me to withdraw from the Bank using my phone.	46 (12.5)	112 (30.4)	151 (40.9)	47 (12.7)	13 (3.5)
5	Interactive Voice Response is part of my Bank's banking services.	263 (71.3)	101 (27.4)	5 (1.4)	0 (0.0)	0 (0.0)

Source: Field Result, 2024

Table 4.4 analyses how participants saw and encountered different components of mobile banking services. The first statement examines the ease of bill payment with a mobile at home. A significant proportion of participants (64.0%) expressed strong agreement, signifying elevated contentment with their Bank's capability to enable bill payments via

mobile banking. Similarly, 30.9% concurred, underscoring the feature's broad acceptability and practicality. The comparatively low rates of strong disagreement, disagreement, and neutrality indicate little to no discontent or concerns with this service.

The data shows a clear trend regarding how frequently people use mobile banking for transactions. Most respondents (68.3%) strongly agreed, and another 27.6% agreed that they frequently use mobile banking for their transactions. This highlights how widely users have adopted and relied upon mobile banking services, emphasising how essential they are to their everyday banking habits. The convenience of using a mobile device to access bank account details produced a more comprehensive range of answers. Although 36.3% and 38.5% of respondents agreed and strongly agreed, a sizable fraction (15.8%) indicated neutrality. A small but significant portion disagreed (8.1%) or strongly disagreed (1.4%), suggesting that some individuals might have difficulties or complications when using their mobile devices to access their bank accounts.

Views on withdrawals made through mobile banking were more varied. Merely 12.5% strongly concurred, whereas 30.4% agreed that their Bank permits mobile phone withdrawals. While 12.7% disagreed and 3.5% strongly disagreed, a sizeable percentage (40.9%) remained neutral. This suggests that respondents had differing opinions about the accessibility and practicality of mobile banking for withdrawals, with some voicing skepticism or doubt. The overwhelming majority of respondents had positive views on Interactive Voice Response (IVR) as a component of banking services. The majority (71.3%) agreed, and 27.4% agreed that their Bank's services incorporate IVR. IVR is a widely accepted and used banking technology; none of the respondents strongly disagreed.

Table 4.5: ATM Machines Services

S/N	ATMs services	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	My Bank provides ATM services for customers	141 (38.3)	221 (59.8)	7 (1.9)	0 (0.0)	0 (0.0)
2	I always feel comfortable using my Bank's ATM services	73 (19.8)	185 (50.1)	82 (22.2)	24 (6.5)	5 (1.4)
3	My Bank's ATMs are always working 24hrs	123 (33.3)	155 (42.0)	64 (17.3)	23 (6.2)	4 (1.1)
4	My Bank's ATM Inter-banking technology Inter-switch is very efficient, effective, and convenient.	82 (22.2)	222 (60.2)	53 (14.4)	10 (2.7)	2 (0.5)
5	My Bank has both credit and debit cards for its customers	66 (17.9)	194 (52.6)	85 (23.0)	22 (6.0)	2 (0.5)

Source: Field Result, 2024

When evaluating a bank's ATM services, several important factors were considered, as depicted in Table 4. 5. For instance, most customers agreed that ATM services are available; 38.3% strongly agreed, and 59.8% agreed that the Bank offers sufficient services. This implies that people are generally happy with how easily accessible ATMs are. Also, there were differences in the comfort levels of utilising the Bank's ATMs. A noteworthy 28.7% of respondents showed discomfort or disagreement, even though a sizable fraction (70%) indicated either high agreement or agreement with their comfort level. Even though many of the Bank's clients are comfortable using its ATMs, this suggests there may be room for improvement in the overall user experience.

Another critical component of customer satisfaction with ATM services is dependability. Most respondents (75.3%) agreed that the Bank's ATMs should always be open; 33.3% strongly agreed. Nonetheless, 23.5% disagreed or strongly disagreed with this statement,

indicating that there is still an opportunity for improvement in guaranteeing 24/7 functionality. The way that customers saw inter-banking technology, particularly Inter-switch, was also influenced by its efficiency and effectiveness. Although a sizable majority (82.4%) agreed or strongly agreed that this technology is efficient, a noteworthy 17.1% disagreed in some way. This suggests that while the technology is generally well-received, some customers might not be completely satisfied.

Another crucial feature of ATM services is the availability of credit and debit cards. Although most respondents (70.5%) agreed or strongly agreed that the Bank provides both kinds of cards, a sizable 29.5% disagreed in some way. This implies that some consumers would feel they need to be more informed by the card offers, which could point to a need for service improvement or extension. Although most customers are content with different parts of the Bank's ATM services, certain areas might still be improved to increase client happiness and experience. These include taking care of concerns about convenience, dependability, and card alternative availability. The Bank can work to better satisfy its clients' various requirements and expectations by concentrating on these areas.

Table 4.6: Satisfaction

S/N	Service Responsiveness	Strongly Agree	Agree	(Neutral	Disagree	Strongly Disagree
1	My Bank has always been responsive to my e-banking needs.	79 (21.4)	226 (61.2)	50 (13.6)	13 (3.5)	1 (0.3)
2	E-banking services have always met my expectations.	178 (48.2)	158 (42.8)	27 (7.3)	6 (1.6)	0 (0.0)
3	My experiences with e-banking have been good.	130 (35.2)	188 (50.9)	40 (10.8)	10 (2.7)	1 (0.3)
4	I am happier transacting e-banking than using branch banking.	23 (6.2)	122 (33.1)	59 (16.0)	77 (20.9)	88 (23.8)

5	I feel satisfied with using this e-banking site.	122 (33.1)	110 (29.8)	67 (18.2)	57 (15.4	13 (3.5)

Source: Field Result, 2024

Customers' opinions about the Bank's e-banking system's responsiveness can be understood from the data in Table 4.6. Customers' opinions about how responsive e-banking services are are revealed to be divided. Most respondents, or 82.6%, strongly agreed or agreed that the Bank accommodated their e-banking demands. The Bank's efforts to immediately attend to consumer needs are positively acknowledged. Nonetheless, a significant proportion, roughly 17.4%, still express different levels of neutrality, disagreement, or extreme disagreement, indicating that there are still areas that might be improved to improve responsiveness to better fulfil customers' varied demands.

Regarding the degree to which customers' expectations match the e-banking services offered, the data shows that 42.8% of respondents, or nearly half of the respondents, strongly agreed that the e-banking services matched their expectations. This indicates that people's opinions about how well the Bank's online banking services meet their needs are typically positive. However, a sizeable minority—8.9% of respondents—expressed a degree of neutrality, disagreement, or strong disagreement, suggesting that there may be discrepancies between what customers expect from their e-banking experience and what is provided. These discrepancies might be addressed to raise consumer satisfaction even further.

Also, 85.2% of respondents agreed or strongly agreed that their experiences with e-banking have been pleasant, indicating that most customers' experiences have been positive. Customers' experiences are typically reasonable, which suggests that the Bank's online banking services have succeeded in offering a satisfying user experience. However, a smaller portion of respondents still express different levels of neutrality, disagreement, or extreme

disagreement, pointing out potential areas for improvement to further improve all customers' overall e-banking experiences.

When contrasted with conventional branch banking, opinions on e-banking differed. A majority of respondents, or 60.7%, reported varied degrees of neutrality, disagreement, or extreme disagreement, while a minority, or 39.3%, expressed satisfaction in utilising branch banking instead of e-banking. This suggests that even if a significant percentage of consumers may be hesitant or prefer traditional banking, plenty still prefer e-banking. This emphasises the value of providing a variety of banking channels to accommodate a wide range of client preferences.

In general, the information emphasises how crucial it is to keep an eye on and enhance e-banking services all the time to guarantee user satisfaction, timeliness, and alignment with customer expectations. By resolving detected deficiencies or issues, the Bank can improve client contentment and allegiance with its online banking services, fortifying its standing in the fiercely competitive banking market.

Table 4.7: Service Accessibility

S/N	Service Accessibility	Strongly Agree	Agree	(Neutral	Disagree	Strongly Disagree
1	The processes of e-banking are very easy to access.	24 (6.5)	119 (32.2)	65 (17.6)	76 (20.6)	85 (23.0)
2	It is easy for me to recover from errors and mistakes while using e-banking.	18 (4.9)	105 (28.5)	94 (25.5)	84 (22.8)	68 (18.4)
3	I can easily remember my password and other codes while operating on an e-banking platform.	21 (5.7)	126 (34.1)	83 (22.5)	71 (19.2)	68 (18.4)
4	I have a lot of fun while using e-	19	137	66	73	74

	banking channels.	(5.1)	(37.1)	(17.9)	(19.8)	(20.1)
5	I find it convenient to access our e-services from mobile devices	96 (26.0)	117 (31.7)	72 (19.5)	61 (16.5)	23 (6.2)

Source: Field Result, 2024

Using a Likert scale questionnaire, the provided data provides insightful information on how customers perceive the accessibility of e-banking services, as depicted in Table 4.7. A considerable proportion of the respondents indicated differing degrees of agreement with the accessibility of online banking services. Although 38.7% of respondents agreed or strongly agreed that these processes were easily accessible, a sizeable portion of respondents also voiced disagreement (43.6%) or neutrality (17.6%). This implies that consumers have differing opinions about how easy it is to access e-banking processes, suggesting areas for development to improve the user experience and simplify platform navigation.

A detailed discussion of recovering from mistakes and in the context of online banking was covered in the questionnaire. According to the responses, while a sizable majority of customers (33.4%) thought it was simple to learn from mistakes, a noteworthy percentage (48.0%) held opposing opinions. This shows where the e-banking platform's error-handling systems may need to be improved to help users more effectively fix errors and improve their overall experience. The study further inquired how simple it was to remember security codes and passwords when using the e-banking platform. The findings revealed that respondents had a moderate degree of agreement (39.8%) with this statement, while many expressed indifference or disagreement (41.6%). This implies that while some users may need help remembering their login information, others might need help highlighting the need for methods to streamline and safeguard the platform's authentication procedures.

The study investigated how satisfied clients were with e-banking platforms. Although a sizable segment of participants (42.2%) acknowledged that they enjoyed engaging in e-

banking activities, a noteworthy proportion (36.7%) also indicated indifference or disagreement. This implies that while some customers may find e-banking to be delightful, others might not, which could point to areas where improvements should be made to improve the user experience and encourage greater involvement. The survey evaluated how easy it was to use mobile devices to access e-Services. Most respondents (57.7%) agreed or strongly agreed that mobile access was convenient, indicating a favourable opinion.

Nonetheless, a sizable proportion (25.7%) also indicated neutrality or disagreement, suggesting that there is still space for improvement in maximising mobile accessibility and guaranteeing a consistent user experience across all devices. The information gathered from the descriptive statistics offers essential insights into how customers view the accessibility of online banking. By investigating these answers, banks can pinpoint areas that need development and put focused plans into action to improve the usability, accessibility, and general user experience of their online banking services.

Table 4.8: Customer's e-Service Convenience

S/N	Customer's e-Service Convenience	Strongly Agree	Agree	(Neutral	Disagree	Strongly Disagree
1	The e-banking interface is user-friendly.	23 (6.2)	97 (26.3)	92 (24.9)	96 (26.0)	61 (16.5)
2	The use of e-banking is not very difficult.	30 (8.1)	116 (31.4)	78 (21.1)	81 (22.0)	64 (17.3)
3	I am not facing any difficulty using e-banking.	27 (7.3)	118 (32.0)	76 (20.6)	89 (24.1)	59 (16.0)
4	Overall, I feel satisfied using the e-banking site.	101 (27.4)	191 (51.8)	68 (18.4)	7 (1.9)	2 (0.5)
5	I am always pleased with the usage of e-banking.	115 (31.2)	210 (56.9)	34 (9.2)	9 (2.4)	1 (0.3)

Source: Field Result, 2024

Table 4.8 displays how customers feel about the convenience of e-services, grouping their answers into five statements and rating them on a Likert scale. Concerning the conviction that an interface should be user-friendly, a small portion of participants (32.5%) either strongly agreed (6.2%) or agreed (26.3%) that the e-banking interface is user-friendly. Nonetheless, a sizable fraction (42.4%) voiced disagreement or neutrality, suggesting there may be space for improving the interface's usability and intuitiveness.

Similarly, respondents' perceptions of the challenges of using e-banking could have been more consistent. Even while a minority (39.5%) agreed (8.1%) or agreed (31.4%) that using e-banking is not particularly difficult, a significant portion (37.3%) expressed neutrality or disagreement, indicating that there may be perceived challenges that need to be addressed to improve the user experience.

Responses to whether using e-banking was difficult revealed a similar divided opinion. A sizeable fraction (40.1%) stated neutrality or disagreement, although a minority (39.3%) either strongly agreed (7.3%) or agreed (32.0%) that they were not having any trouble utilising e-banking. This emphasises how adjustments are required to provide every client with a more seamless user experience.

Also, even though most respondents (79.2%) said they were satisfied with the e-banking site and enjoyed using it (88.1%), there were still percentages that indicated neutrality, disagreement, or significant dissatisfaction. This shows potential areas for improvement to raise overall satisfaction levels even higher and take care of any unresolved issues or perceived challenges. Concisely, many customers indicate contentment and enjoyment with using e-banking. Still, noteworthy percentages point out perceived challenges or opportunities for enhancement in the usability of e-services. By addressing these issues, all clients may have a more seamless and fulfilling online banking experience.

Table 4.9: Customer's E-Service Reliability

S/N	Customer's E-Service Reliability	Strongly Agree	Agree	(Neutral	Disagree	Strongly Disagree
1	My banking institution provides reliable websites for banking services.	157 (42.5)	180 (48.8)	23 (6.2)	8 (2.2)	1 (0.3)
2	E-banking generally helps me to improve the quality of my banking transactions.	190 (51.5)	152 (41.2)	19 (5.1)	7 (1.9)	1 (0.3)
3	E-banking helps me to monitor my financial transactions and other online transactions.	194 (52.6)	147 (39.8)	18 (4.9)	9 (2.4)	1 (0.3)
4	Using e-banking saves me time when compared with branch banking.	107 (29.0)	107 (29.0)	71 (19.2)	67 (18.2)	17 (4.6)
5	E-banking is helpful for me in utilizing banking services.	114 (30.9)	89 (24.1)	75 (20.3)	72 (19.5)	19 (5.1)

Source: Field Result, 2024

Most participants (91.3%) expressed agreement (48.8%) or strong agreement (42.5%) that their banking establishment offers dependable websites for financial services, as depicted in Table 4.9. This implies that they have a great deal of faith in the dependability of their organisation's Internet banking services. Regarding e-banking's effect on transaction quality, however, the majority of respondents (92.7%) either strongly agreed (51.5%) or agreed (41.2%) that e-banking enhances the quality of their banking transactions. This suggests that there is a belief that e-banking enhances the efficacy and efficiency of banking operations. In

a similar vein, the majority of respondents (92.4%) agreed (39.8%) or strongly agreed (52.6%) that e-banking facilitates their ability to keep an eye on their online and financial transactions.

This implies that users like how easy and accessible e-banking is for managing their money. On the other hand, opinions regarding how much time e-banking saves were more divided. Even though a sizable portion of respondents (58.0%) agreed (29.0%) or strongly agreed (29.0%) that e-banking saves time in comparison to branch banking, there were also sizable percentages that expressed disagreement (22.8%) or neutrality (19.2%). This suggests that while many view e-banking as a time-saver, others might not feel the same way.

In addition, the majority of respondents (55.0%) either strongly agreed (30.9%) or agreed (24.1%) that e-banking is helpful for them to utilize banking services. However, there were also significant percentages expressing neutrality (20.3%) or disagreement (24.6%), suggesting varying levels of perceived usefulness among customers.

Table 4.10: Customer's E-Service Cost

S/N	Customer's E-Service Cost	Strongly Agree	Agree	(Neutral	Disagree	Strongly Disagree
1	My experiences with e-banking in terms of charges have been good.	38 (10.3)	83 (22.5)	81 (22.0)	108 (29.3)	59 (10.0)
2	I feel satisfied with my Bank regarding e-banking charges.	123 (33.3)	138 (37.4)	42 (11.4)	41 (11.1)	25 (6.8)
3	The transactions in Internet banking are at a lower price, or at no cost	73 (19.8)	97 (26.3)	126 (34.1)	55 (14.9)	18 (4.0)
4	Service charges prevent me from using e-banking regularly.	19 (5.1)	75 (20.3)	89 (24.1)	114 (30.9)	72 (19.5)

Source: Field Result, 2024

Table 4.10 presents data on customer perceptions of E-Service cost, with responses categorized into four statements and measured using a Likert scale. A notable portion of

respondents (32.8%) either strongly agreed (10.3%) or agreed (22.5%) that their experiences with e-banking in terms of charges have been good. However, there were also significant percentages expressing neutrality (22.0%) or disagreement (39.3%), suggesting varying levels of satisfaction or dissatisfaction with the charges associated with e-banking services.

Most respondents (70.7%) said they were satisfied with their Bank's e-banking fees, with 33.3% strongly agreeing and 37.3% agreeing. Even said, there were also sizable percentages expressing disagreement (17.9%) or indifference (11.4%), suggesting that even though most respondents are satisfied, some may still have reservations or be unsatisfied with e-banking fees. Respondents' opinions on transaction costs in online banking differed. There were percentages indicating neutrality (34.1%) or disagreement (18.9%), even though a sizable number (46.1%) either strongly agreed (19.8%) or agreed (26.3%) that transactions in online banking are at a lower price or no cost. This shows that different people have different opinions about affordable online banking transactions.

According to the research, some consumers' use of e-banking may be impacted by service fees. Service fees prevent people from using e-banking frequently, according to a minority (25.4%) who either strongly agreed (5.1%) or agreed (20.3%). However, considerable percentages were also expressing neutrality (24.1%) or disagreement (50.5%). This underscores the need to consider the financial consequences for clients when encouraging consistent use of online banking services. In brief, the information indicates that customers' views of the cost of e-services vary. While some people are happy with their experiences and think that online banking transactions are reasonable, others can be worried about or unsatisfied with the fees related to e-banking services. Banks must comprehend these perspectives to successfully fulfil the demands and preferences of their customers about the cost-related features of e-banking services.

4.2.2 Test of Hypotheses

This section is devoted to empirically testing the research hypotheses. All hypotheses were extensively examined using the Smart PLS statistical tool, which helps determine the significant effect of independent variables on dependent variables. Hypothesis testing tries to determine whether there is adequate statistical evidence to support or disprove the hypotheses proposed in this study.

Hypothesis One

Data analysis within this study entailed predicting both structural and measurement models. To gauge E-banking adoption, the researchers incorporated online banking, mobile banking, and ATM services as components, employing path coefficients and the bootstrapping approach with 5000 bootstrap samples, as recommended by some scholars[1]. All constructs and items utilized in the measurement model were reflective, with loading factors exceeding 0.70, in line with the guidance provided by scholars[2]. Remarkably, all constructs exhibited values surpassing 0.70.

The findings in Figure 4.1 showed that very few items had loading factors lower than 0.7 that were eliminated. The investigation included path coefficients, R-squared (R2), and significant value evaluation. Furthermore, it was determined that the bootstrapping method was the best non-parametric technique for assessing the model's influence in PLS-SEM. The researchers used bootstrapping estimates to provide more accurate results when defining the association between consumers' e-service responsiveness and adopting E-banking (online, mobile, and ATM services). The following is an outline of the formulated hypothesis:

$H_0$1: E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) does not Significantly Affect Customers' E-Service Responsiveness.

The hypothesis includes one dependent variable, consumers' e-service responsiveness, and one independent variable, e-banking (online, mobile, and ATM services). All study variables were assessed using a five-point Likert scale and a structured questionnaire. Five items were used to test customers' e-service responsiveness, whereas fifteen items were used to determine the latent variable, e-banking adoption. Online, mobile and ATM services were used to measure job crafting. PLS-SEM is often used to determine the association between variables[3]. The standardised estimates demonstrating the effect of E-banking adoption (online, mobile, and ATM services) on consumers' e-service responsiveness are presented in Figure 4.1, which shows the structural equation modelling of Hypothesis 1. Remarkably, every item about adopting E-banking (online, mobile, and ATM services), as shown in Table 4.11, had factor loadings higher than the minimum cutoff of 0.70, recommended by scholars[4].

Table 4.11 Factor Loading for E-banking Adoption and Customers' E-Service Responsiveness

Indicators	Factor Loading > 0.7	Composite Reliability ≥ 0.8	AVE ≥ 0.5	Cronbach's Alpha ≥ 0.7	No. of Indicators
E-Banking Adoption and Customers' E-Service Responsiveness					
Online Banking	0.809	0.905	0.656	0.868	5
Mobile Banking	0.825	0.915	0.685	0.884	5
ATM Services	0.808	0.883	0.655	0.825	4
Customers' E-Service Responsiveness	0.754	0.841	0.569	0.747	4

Source: Field Result, 2024

Specific requirements for scales and measuring items were proposed by some scholars[5]. Specifically, factor loadings should be greater than or equal to 0.70, composite reliability should be at least 0.80 (preferably higher), and average variance extracted (AVE) should be greater than or equal to the minimum value of 0.50. In addition, the Cronbach's alpha coefficient must be at least 0.70 for the instruments to be deemed dependable. Table 4.6 shows that customers' e-service responsiveness and all other adoption-related dimensions of

e-banking (online, mobile, and ATM services) have values greater than 0.80 and 0.70, respectively. The range of the constructions, from 0.754 to 0.825, suggests a reasonable level of reliability. The instrument is deemed valid and reliable if the degree of fit satisfies the required standards.

Evaluation of the Inner Structural Model

The path coefficients were used to assess the significance using the inner structural model. Bootstrapping becomes essential when determining the degree of importance in PLS-SEM[6]. This study's default bootstrapping method made use of 5000 subsamples. The internal structural model, displayed in Table 4.11 and illustrated in Figure 4.1, shows how consumers' e-service responsiveness is affected by adopting e-banking (online, mobile, and ATM services).

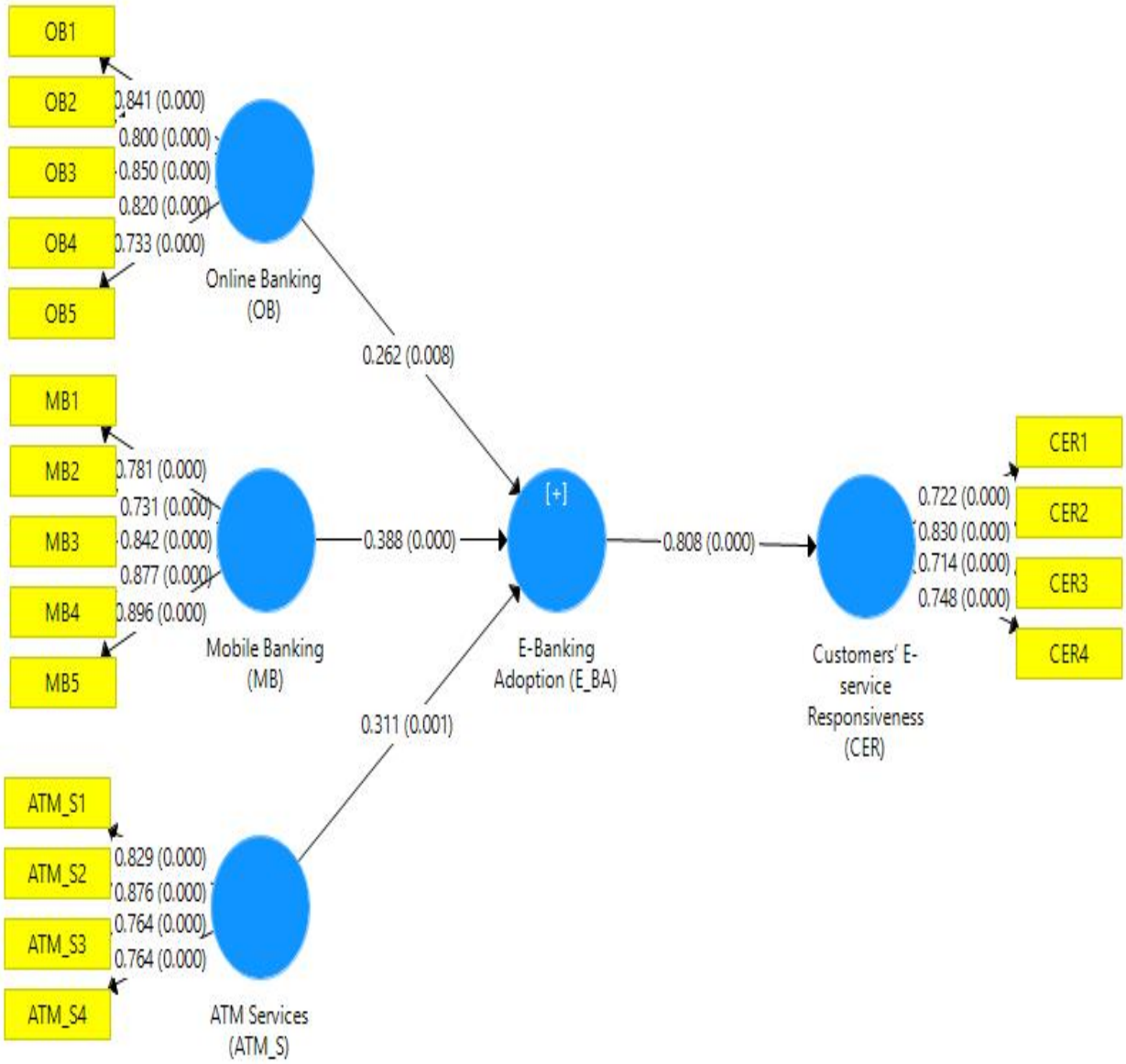


Figure 4.1: Path Co-efficient and P-values for E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) on Customers' E-Service Responsiveness

As depicted in Table 4.12, this hypothesis anticipated that customers' e-service responsiveness is highly influenced by the adoption of e-banking, which includes online, mobile, and ATM services.

Table 4.12 Path Co-efficient for E-banking Adoption and Customers' E-Service Responsiveness

Variables and Cross Loading	Path Co-efficient	Std. Dev	T-Statistics	P-value
E-Banking - Customers' E-Service Responsiveness	0.808	0.044	18.347	0.000
ATM Services - E-banking Adoption	0.311	0.091	3.434	0.001
Mobile Banking - E-banking Adoption	0.388	0.092	4.206	0.000
Online Banking - E-banking Adoption	0.262	0.098	2.664	0.000
	R Square (R^2)		Adjusted R Square R^2)	
E-banking Adoption	0.815		0.809	
Customers' E-Service Responsiveness	0.653		0.650	

Source: Field Result, 2024

Based on the path coefficients and bootstrapping at a significance level of 0.05, the analysis showed that all constructs had meaningful associations. The structural model revealed statistically significant path coefficients between the use of e-banking (online, mobile, and ATM services) and the responsiveness of customers to e-services (β=.808, Tstat = 18.347, p=.000); between ATM services and the responsiveness of customers to e-services (β=o.311, Tstat = 3.434, p=.001); between mobile banking and the responsiveness of customers to e-services (β=0.388, Tstat = 4.206, p=.000); and between online banking and the responsiveness of customers to e-services (β=0.262, Tstat = 2.664,,000). According to the findings, internet banking had the lowest value and mobile banking had the most impact on consumers' e-service responsiveness, followed by ATM services. Given that their significance level was less than 0.05, all of the path coefficients were of practical importance.

Furthermore, an evaluation of the impact of e-banking adoption (online, mobile, and ATM services) on customers' responsiveness to e-services was the goal of the path analysis and bootstrapping that was carried out at the organisational level. Table 4.12 displays the findings of the studies, which demonstrate the structural models' and path analysis's significant explanatory and predictive powers regarding the uptake of e-banking and customers' responsiveness to e-service. As shown in Table 4.12, the results showed a positive correlation between customers' e-service responsiveness and the adoption of e-banking. The variance in the prediction power of the study model was evaluated using the R-squared value (R^2). A five-point Likert scale was used in a standard questionnaire to measure each research variable. We used fourteen questions to evaluate the latent variable, e-banking adoption dimensions. The findings showed that consumers' e-service responsiveness was favourably and significantly influenced by the adoption of e-banking (β=0.808, R^2=0.815, p=0.000). A correlation value of 81.5% demonstrated the predictor factors' total significance. The investigation results showed a significant and favourable correlation between the customers' response to e-services and the adoption characteristics of e-banking.

Further information about the regression results included the coefficient of determination or R-squared value. R^2 values of 0.71 to 0.90 were categorised as excellent by scholars, 0.51 to 0.70 as good, 0.31 to 0.50 as fair, and 0.10 to 0.30 as weak[3]. The endogenous latent component in this study demonstrated a path model of 0.491, meaning that 63.3% of the fluctuations in customers' e-service responsiveness in the model could be explained by the adoption of e-banking, indicating a moderate explanatory power.

The Common Method Bias (CMB)

Using collinearity statistics in the SEM-PLS programme, Common Method Bias (CMB) was assessed while considering the structural and measurement models. According to Liu et al. (2019), a VIF value of more than 3.3 suggests that the model contains common method bias. On the other hand, the model might not be impacted by common method bias if all VIF values at the factor level, as determined by a maximum collinearity test, are equal to or less than 3. As shown in Table 4.13, the variance for all variables combined in this study was 52.88%, whereas the variance for CMB was 1.811 and 2.670.

Table 4.13: Common Method Bias for E-banking adoption and Customers' e-service responsiveness

S/N	Variables	VIF [<3]	Decision	Variance Factor in % [> 50%]
1	E-banking adoption dimensions	1.811	Free of CMB	52.88
2	Customers' e-service responsiveness	2.670	Free of CMB	

Source: Field Result, 2024

Table 4.13 depicts that all VIF values for each measuring item and construct are subsequently less than 3 for e-banking adoption (online banking, mobile banking, and ATM services) and consumers' e-service responsiveness. This shows that the hypothesis does not contain any common method bias.

Evaluation of the Model Fitness

This study used three main categories of fit indices, as some scholars suggested: absolute fit measures, incremental fit measures, and parsimony fit measures[3]. Absolute fit indices assess how well the sample data and the model's apriori predictions align[7]. This study's e-banking adoption (online, mobile, and ATM services) and customers' e-service responsiveness had an SRMR value of 0.071, below the 0.08 threshold and suggests a satisfactory fit. A result of 0.924 fulfilled the GFI criterion previously set at 0.9, indicating an acceptable match. Similarly, the hypothetical model's CMIN/DF value was below 3, signifying an excellent fit.

Incremental fit metrics evaluate how well the tested model has improved by contrasting it with a baseline model in which all variables are taken to be uncorrelated. A conventional cutoff point of 0.9 for the NFI and CFI indicates a good fit[8]. This study's NFI rating of 0.913 suggests that the research model is suitable. Models can be compared, and their fit to samples from the same population can be evaluated using parsimony fit indices. This study uses the Parsimony Comparative Fit Index (PCFI) with a threshold of 0.50, per some scholars recommendation[9]. The CMIN/DF value of less than three, the RMSR value of 0.08 or less, and the NFI, GFI, and CFI values exceeding 0.90 constitute the decision rule for accepting the model. The relative Chi-square is 390.554, the GFI is 0.924, the CFI is 0.975, the NFI is 0.964, and the RMSR is 0.071, according to the model fit indices shown in Table 4.12. These data show that the model fits well and satisfies the necessary conditions (see Table 4.14)[10].

Table 4.14: Model Fit Index for E-banking Adoption and Customers' E-service Responsiveness

Model Fit Index	Measures	Thresholds	Model values
Absolute Fit Index	The goodness of Fit Index (GFI)	≥ 0.90	0.924
	Chi-Square/DF	< 3.0	390.554
	Root Mean Square Residual (RMSR)	< 0.08	0.071
Incremental Fit Index	Comparative Fit Index (CFI)	≥ 0.90	0.975
	Normed Fit Index (NFI)	≥ 0.90	0.964
Parsimony Fit Index	Parsimony Comparative Fit Index (PCFI)	≥ 0.50	0.675

Source: Field Result, 2024

A scholar reports that all model fit indices for the measurement model were within an acceptable range and above the suggested cutoff point. For this model, Table 4.14 shows an RMSR value of 0.071, below the cutoff of 0.08 and suggests a reasonable match[11]. This led to rejecting the null hypothesis ($H^0 1$), which claimed that adopting e-banking has no discernible effect on consumers' responsiveness to e-services. As the findings indicate, the adoption of e-banking is a strong predictor of customers' receptivity to e-services.

Hypothesis Two

$H_0$2: E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) does not Significantly Affect Customers' E-Service Accessibility

The hypothesis comprises an independent variable, the use of e-banking services (online, mobile, and ATM services), and a single dependent variable, the accessibility of consumers' e-services. All the study's variables were assessed using a five-point Likert scale and a standardised questionnaire. Five items were used to assess customers' e-service accessibility, and fourteen were used to measure the latent variable of e-banking adoption. We measured job crafting using the elements of mobile, web, and ATM services. Partial Least Squares Structural Equation Modelling (PLS-SEM) is frequently used to examine the relationship between variables. Figure 4.2, which shows the structural equation modelling of Hypothesis 2, shows the standardised estimates indicating the impact of e-banking adoption (online, mobile, and ATM services) on customers' e-service accessibility. As Table 4.15 shows, factor loadings for all items related to the adoption of e-banking services (online, mobile, and ATM) were higher than the minimum cutoff of 0.70.

Table 4.15 Factor Loading for E-banking Adoption and Customers' E-Service Accessibility

Indicators	Factor Loading > 0.7	Composite Reliability ≥ 0.8	AVE ≥ 0.5	Cronbach's Alpha ≥ 0.7	No. of Indicators
E-Banking Adoption and Customers' E-Service Accessibility					
Online Banking	0.809	0.905	0.656	0.868	5
Mobile Banking	0.825	0.915	0.685	0.884	5
ATM Services	0.808	0.883	0.655	0.825	4
Customers' E-Service Accessibility	0.855	0.933	0.738	0.909	5

Source: Field Result, 2024

Measurement items and scales were subject to specific criteria established by some scholars[9]. Factor loadings must be greater than or equal to 0.70, composite reliability must be greater than or equal to 0.80, and average variance extracted (AVE) must be greater than or equal to the minimal requirement of 0.50. Furthermore, the Cronbach's alpha coefficient must be at least 0.70 for the instruments to be regarded as dependable. Customers' e-service accessibility and all other e-banking adoption aspects (online, mobile, and ATM services) show values exceeding 0.80 and 0.70, respectively, as Table 4.5 illustrates. This implies that the constructions have a high degree of reliability, ranging from 0.809 to 0.855. The degree of fit that satisfies the requirements validates the instrument's validity and reliability.

Evaluation of the Inner Structural Model

The path coefficients were used in the inner structural model to assess significance. Bootstrapping is essential in Partial Least Squares Structural Equation Modelling (PLS-SEM) to ascertain significance[9]. This study used 5000 subsamples with the default bootstrapping approach. The influence of e-banking adoption (online, mobile, and ATM services) on customers' e-service accessibility is illustrated by the internal structural model shown in Figure 4.2.

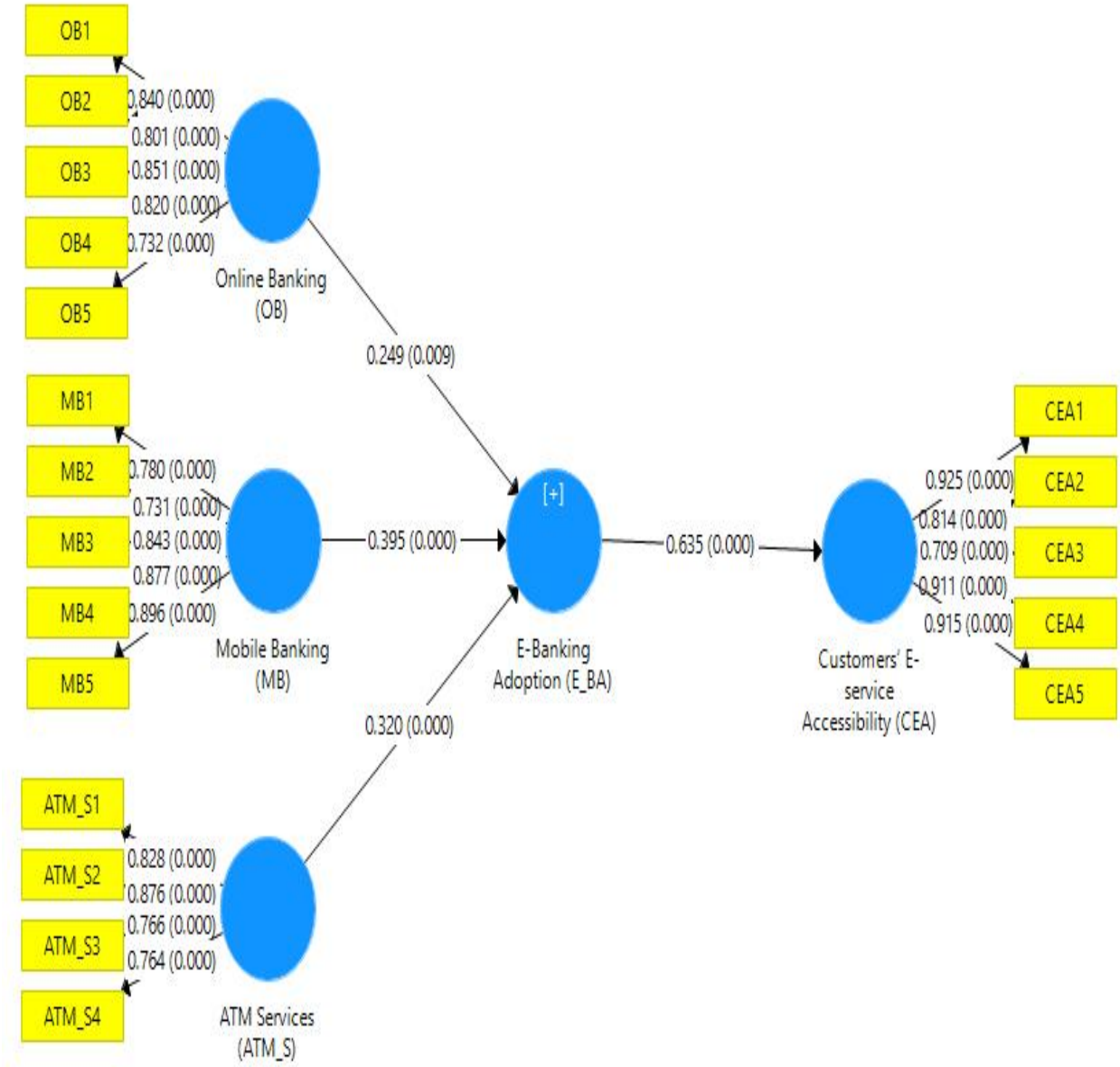


Figure 4.2: Path Co-efficient and P-values for E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) on Customers' E-Service Accessibility

As depicted in Table 4.16, this hypothesis anticipated that customers' e-service accessibility is influenced by the adoption of e-banking, which includes online, mobile, and ATM services.

Table 4.16 Path Co-efficient for E-banking Adoption and Customers' E-Service Accessibility

Variables and Cross Loading	Path Co-efficient	Std. Dev	T-Statistics	P-value
E-Banking - Customers' E-Service Accessibility	0.635	0.100	6.345	0.000
ATM Services - E-banking Adoption	0.320	0.091	3.531	0.000
Mobile Banking - E-banking Adoption	0.395	0.086	4.568	0.000
Online Banking - E-banking Adoption	0.249	0.096	2.597	0.009
	R Square (R^2		Adjusted R Square (R2	
E-banking Adoption	0.821		0.815	
Customers' E-Service Accessibility	0.403		0.397	

Source: Field Result, 2024

The study demonstrated noteworthy correlations between every construct by examining the path coefficients and utilising bootstrapping with a significance threshold of 0.05. The structural model revealed statistically significant path coefficients between customers' accessibility to e-services and their use of e-banking services (online, mobile, and ATM) (β=.635, Tstat = 6.345, p=.000); between customers' accessibility to e-services and their use of ATM services (β=0.320, Tstat = 3.531, p=.000); between customers' accessibility to e-services and their use of mobile banking (β=0.395, Tstat = 4.568, p=.000); and between customers' accessibility to e-services and their use of online banking (β=0.249, Tstat = 2.597, p=0.000). The results showed that, when it came to customers' e-service accessibility, mobile banking outperformed online banking in terms of value, while ATM services came in second. All path coefficients had acceptable significance levels because their significance threshold was less than 0.05[10].

Furthermore, the path analysis and bootstrapping done at the organisational level aimed to assess the effect of e-banking adoption (online, mobile, and ATM services) on customers' accessibility to e-services. Table 4.12 presents the results of the studies, which show the solid explanatory and predictive powers of the structural models and route analysis concerning the adoption of e-banking and the customer's accessibility to e-service. The results demonstrated

a positive association between customers' e-service accessibility and e-banking adoption, as indicated in Table 4.16. We used the R-squared value (R-SQUARED) to assess the variance in the study model's prediction power. A five-point Likert scale was used in a standard questionnaire to measure each research variable. We used fourteen questions to evaluate the latent variable, e-banking adoption dimensions. The findings showed that adopting e-banking significantly influenced consumers' e-service accessibility.

The coefficient of determination, or R-squared value, was another information on the regression results. Some scholars classified the R^2 values as follows: 0.71 to 0.90 as excellent, 0.51 to 0.70 as good, 0.31 to 0.50 as fair, and 0.10 to 0.30 as weak. This study's endogenous latent component showed a route model of 0.403, indicating that adopting e-banking could account for 40.3% of the model's fluctuations in customers' e-service accessibility[11].

The Common Method Bias (CMB)

Common Method Bias (CMB) was assessed by considering both the structural and measurement models using collinearity statistics in the SEM-PLS program. A VIF score of more than 3.3 signifies the presence of common method bias in the model. On the other hand, the model might not be impacted by common method bias if all VIF values at the factor level, as established by a maximum collinearity test, are equal to or less than 3. The overall variance for all variables studied in this study was 58.2%, as shown in Table 4.17, and the variance attributable to CMB was measured at 1.811 and 2.001[12].

Table 4.17: Common Method Bias for E-banking adoption and Customers' e-service accessibility

S/N	Variables	VIF [<3]	Decision	Variance Factor in % [> 50%]
1	E-banking adoption dimensions	1.811	Free of CMB	58.2

2	Customers' e-service accessibility	2.001	Free of CMB	

Source: Field Result, 2024

Table 4.17 depicts that all VIF values for each measuring item and construct are subsequently less than 3 for e-banking adoption (online banking, mobile banking, and ATM services) and consumers' e-service accessibility. This shows that the hypothesis does not contain any common method bias.

Evaluation of the Model Fitness

Following the recommendations of some scholars, this study employed three primary categories of fit indices: absolute fit measures, incremental fit measures, and parsimony fit measures. The degree of alignment between the model's apriori predictions and the sample data is measured by absolute fit indices[3]. The adoption of e-banking (online, mobile, and ATM services) in this study and the accessibility of e-services for clients had an SRMR value of 0.074, which is below the 0.08 threshold and indicates a satisfactory fit. The GFI criterion, previously set at 0.9, was satisfied with a result of 0.918, signifying an acceptable match. Similarly, the hypothetical model's CMIN/DF value was less than 3, indicating a perfect fit.

Incremental fit measures compare the tested model to a baseline model where all variables are assumed to be uncorrelated to assess how well the tested model has improved. A standard cutoff point of 0.9 for the NFI and CFI denotes a good fit[8]. This study's NFI value of 0.912 suggests that the research model is appropriate. Using parsimony fit indices, models can be compared, and their fit can be assessed with samples from the same population. This study follows the proposal of some scholars and employs the Parsimony Comparative Fit Index (PCFI) with a threshold of 0.50[11]. In a study, the scholars state that the parameters that determine whether to accept a model are the CMIN/DF value of less than three, the RMSR value of 0.08 or less, and the NFI, GFI, and CFI values above 0.90. The model fit indices are

displayed in Table 4.18, and the relative Chi-square is 472.366, the GFI is 0.918, the CFI is 0.974, the NFI is 0.955, and the RMSR is 0.074. The model meets the requirements and fits the data quite adequately[12].

Table 4.18: Model Fit Index for E-Banking Adoption and Customers' E-Service Accessibility

Model Fit Index	Measures	Thresholds	Model values
Absolute Fit Index	The goodness of Fit Index (GFI)	≥ 0.90	0.918
	Chi-Square/DF	< 3.0	472.366
	Root Mean Square Residual (RMSR)	< 0.08	0.074
Incremental Fit Index	Comparative Fit Index (CFI)	≥ 0.90	0.974
	Normed Fit Index (NFI)	≥ 0.90	0.955
Parsimony Fit Index	Parsimony Comparative Fit Index (PCFI)	≥ 0.50	0.611

Source: Field Result, 2024

For the measurement model, every model fit index exceeded the recommended cutoff point and fell within an acceptable range. This led to rejecting the null hypothesis (H0), which proposed that e-banking has no appreciable effect on consumers' accessibility to e-services.

Hypothesis Three

$H_0$3: E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) does not Significantly Affect Customers' E-Service Convenience

Hypothesis three tested the influence of e-banking adoption (online banking, mobile banking, and ATM services), which has no significant effect on customers' e-service convenience.

Path coefficients, t-statistics, R-square values, and p-values were used to interpret the results. The path coefficient, as shown in Figure 4.3, determines the degree and strength of the correlation between the observed variables. However, the factor loadings for the variables are depicted in Table 4.19.

Table 4.19 Factor Loading for E-banking Adoption and Customers' E-Service Convenience

Indicators	Factor Loading > 0.7	Composite Reliability ≥ 0.8	AVE ≥ 0.5	Cronbach's Alpha ≥ 0.7	No. of Indicators
E-Banking Adoption and Customers' E-Service Convenience					
Online Banking	0.809	0.905	0.656	0.868	5
Mobile Banking	0.825	0.915	0.685	0.884	5
ATM Services	0.808	0.883	0.655	0.825	4
Customers' E-Service Convenience	0.782	0.888	0.613	0.842	5

Source: Field Result, 2024

Measurement items and scales were subject to specific criteria established by some scholars[12]. Factor loadings must be greater than or equal to 0.70, composite reliability must be greater than or equal to 0.80, and average variance extracted (AVE) must be greater than or equal to the minimal requirement of 0.50. Furthermore, the Cronbach's alpha coefficient must be at least 0.70 for the instruments to be regarded as dependable. Customers' e-service convenience and all other e-banking adoption aspects (online, mobile, and ATM services) exceed 0.80 and 0.70, respectively, as depicted in Table 5.19. This implies that the constructs have high reliability, ranging from 0.782 to 0.825. The degree of fit that satisfies the requirements validates the instrument's validity and reliability.

Evaluation of the Inner Structural Model

The path coefficients were used in the inner structural model to assess significance. Bootstrapping is essential in Partial Least Squares Structural Equation Modelling (PLS-SEM)

to ascertain significance[6]. This study used 5000 subsamples with the default bootstrapping approach. The influence of e-banking adoption (online, mobile, and ATM services) on customers' e-service convenience is illustrated by the internal structural model shown in Figure 4.3.

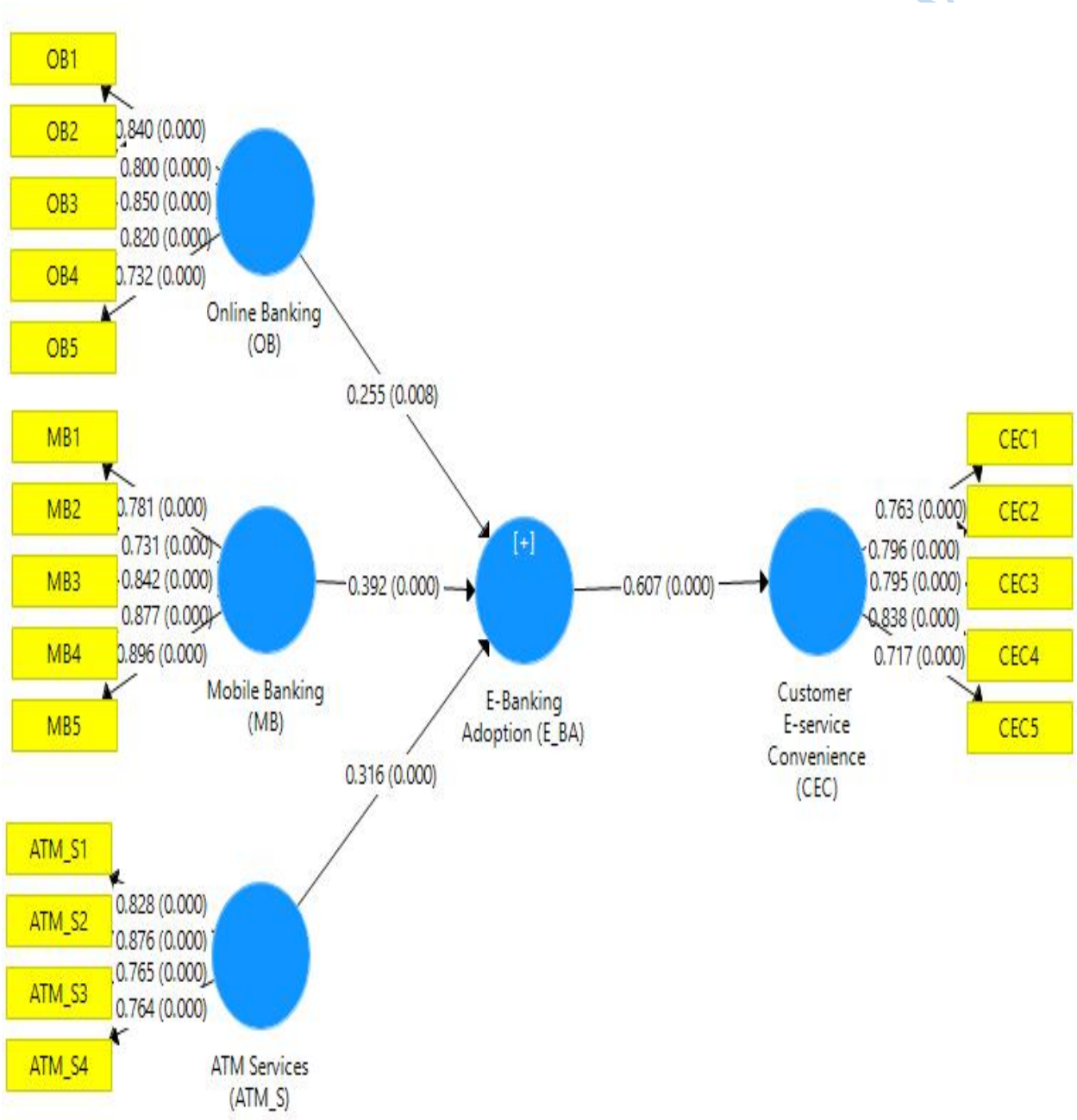


Figure 4.3: Path Co-efficient and P-values for E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) on Customers' E-Service Convenience

As depicted in Table 4.20, this hypothesis anticipated that customers' e-service convenience is influenced by the adoption of e-banking, which includes online, mobile, and ATM services.

Table 4.20 Path Co-efficient for E-banking Adoption and Customers' E-Service Convenience

Variables and Cross Loading	Path Co-efficient	Std. Dev	T-Statistics	P-value
E-Banking - Customers' E-Service Convenience	0.607	0.095	6.383	0.000
ATM Services - E-banking Adoption	0.316	0.095	3.495	0.000
Mobile Banking - E-banking Adoption	0.392	0.088	4.475	0.000
Online Banking - E-banking Adoption	0.255	0.096	2.670	0.008
	R Square (R2		Adjusted R Square (R2	
E-banking Adoption	0.819		0.813	
Customers' E-Service Convenience	0.368		0.362	

Source: Field Result, 2024

By examining the path coefficients and utilising bootstrapping with a significance threshold of 0.05, the study demonstrated noteworthy correlations between every construct, as shown in Table 4.20. The structural model revealed statistically significant path coefficients between e-banking adoption (online, mobile, and ATM) and customers' e-service convenience (β=.607, Tstat = 6.383, p=.000); between their use of ATM services and customers' e-service convenience (β=0.316, Tstat = 3.495, p=.000); between the use of mobile banking and customers' e-service convenience (β=0.392, Tstat = 4.475, p=.000); and between the use of online banking and customers' e-service convenience (β=0.255, Tstat = 2.670, p=0.008). The results showed that, when it came to customers' e-service convenience, mobile banking

outperformed online banking in terms of value, while ATM services came in second. All the path coefficients had acceptable significance levels because their significance threshold was less than 0.05.

Furthermore, the path analysis and bootstrapping done at the organisational level aimed to assess the effect of e-banking adoption (online, mobile, and ATM services) on customers' e-service convenience. Table 4.21 presents the results of the studies, which show the solid explanatory and predictive powers of the structural models and route analysis concerning the adoption of e-banking and the customers' e-service convenience. The results established a positive association between e-banking adoption and customers' e-service convenience, as indicated in Table 4.21. The study used the R-squared value (R2) to assess the variance in the study model's prediction power. A five-point Likert scale was used in a standard questionnaire to measure each research variable. The study used fourteen questions to evaluate the latent variable, e-banking adoption dimensions. The findings showed that adopting e-banking influenced consumers' e-service convenience significantly.

The coefficient of determination, or R-squared value, was another information on the regression results. Some scholars classified the R2 values as follows: 0.71 to 0.90 as excellent, 0.51 to 0.70 as good, 0.31 to 0.50 as fair, and 0.10 to 0.30 as weak. This study's endogenous latent component showed a path model of 0.607 with an R2 value of 0.368, indicating that adopting e-banking could account for 36.8% of the model's variations in customers' e-service accessibility[3].

The Common Method Bias (CMB)

Common Method Bias (CMB) was assessed by considering both the structural and measurement models using collinearity statistics in the SEM-PLS program. As per a study, a VIF score of more than 3.3 signifies the presence of common method bias in the model. On the other hand, the model might not be impacted by common method bias if all VIF values at the factor level, as established by a maximum collinearity test, are equal to or less than 3. The overall variance for all variables studied in this study was 60.1%, as shown in Table 4.21, and the variance attributable to CMB was measured at 1.811 and 1.973[8].

Table 4.21: Common Method Bias for E-banking Adoption and Customers' E-Service Convenience

S/N	Variables	VIF [<3]	Decision	Variance Factor in % [> 50%]
1	E-banking adoption dimensions	1.811	Free of CMB	60.1
2	customers' e-service convenience	1.973	Free of CMB	

Source: Field Result, 2024

Table 4.21 depicts that all VIF values for each measuring item and construct are subsequently less than 3 for e-banking adoption (online banking, mobile banking, and ATM services) and customers' e-service convenience. This shows that the hypothesis does not contain any common method bias.

Evaluation of the Model Fitness

This study employed three primary categories of fit indices: absolute fit measures, incremental fit measures, and parsimony fit measures[3]. The degree of alignment between the model's apriori predictions and the sample data is measured by absolute fit indices[12]. The adoption of e-banking (online, mobile, and ATM services) in this study and customers' e-service convenience had an SRMR value of 0.068, below the 0.08 threshold, indicating a

satisfactory fit. The GFI criterion, previously set at 0.9, was satisfied with a result of 0.921, signifying an acceptable match. Similarly, the hypothetical model's CMIN/DF value was less than 3, indicating a perfect fit.

Incremental fit measures compare the tested model to a baseline model where all variables are assumed to be uncorrelated to assess how well the tested model has improved. A standard cutoff point of 0.9 for the NFI and CFI denotes a good fit[9]. The NFI value of 0.919 for this study suggests that the research model is appropriate. Using parsimony fit indices, models can be compared, and their fit can be assessed with samples from the same population. This study follows the proposal of some scholars and employs the Parsimony Comparative Fit Index (PCFI) with a threshold of 0.50[12]. Some scholars state that the parameters that determine whether to accept a model are the CMIN/DF value of less than three, the RMSR value of 0.08 or less, and the NFI, GFI, and CFI values above 0.90. The model fit indices are displayed in Table 4.22, and the relative Chi-square is 443.862, the GFI is 0.921, the CFI is 0.970, the NFI is 0.944, and the RMSR is 0.068. The model meets the requirements and fits the data quite adequately[15].

Table 4.22: Model Fit Index for E-Banking Adoption and **customers' e-service convenience**

Model Fit Index	Measures	Thresholds	Model values
Absolute Fit Index	The goodness of Fit Index (GFI)	≥ 0.90	0.921
	Chi-Square/DF	< 3.0	443.862
	Root Mean Square Residual (RMSR)	< 0.08	0.068
Incremental Fit Index	Comparative Fit Index (CFI)	≥ 0.90	0.970
	Normed Fit Index (NFI)	≥ 0.90	0.944
Parsimony Fit Index	Parsimony Comparative Fit Index (PCFI)	≥ 0.50	0.592

Source: Field Result, 2024

For the measurement model, every model fit index exceeded the recommended cutoff point and fell within an acceptable range. This led to rejecting the null hypothesis ($H_0$3), which proposed that e-banking adoption does not significantly affect customers' e-service convenience.

Hypothesis Four

$H_0$4: E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) does not Significantly Affect Customers' E-Service Reliability

Hypothesis four tested the influence of e-banking adoption (online banking, mobile banking, and ATM services), which has no significant effect on customers' e-service reliability**.** Path coefficients, t-statistics, R-square values, and p-values were used to interpret the results. The path coefficient, as shown in Figure 4.4, determines the degree and strength of the correlation

between the observed variables. However, the factor loadings for the variables are depicted in Table 4.23.

Table 4.23 Factor Loading for E-banking Adoption and Customers' E-Service Reliability

Indicators	Factor Loading > 0.7	Composite Reliability ≥ 0.8	AVE ≥ 0.5	Cronbach's Alpha ≥ 0.7	No. of Indicators
E-Banking Adoption and Customers' E-Service Reliability					
Online Banking	0.809	0.905	0.656	0.868	5
Mobile Banking	0.825	0.915	0.685	0.884	5
ATM Services	0.808	0.884	0.655	0.825	4
Customers' E-Service Reliability	0.842	0.928	0.723	0.903	5

Source: Field Result, 2024

Measurement items and scales were subject to specific criteria established by some scholars[7]. Factor loadings must be greater than or equal to 0.70, composite reliability must be greater than or equal to 0.80, and average variance extracted (AVE) must be greater than or equal to the minimal requirement of 0.50. Furthermore, the Cronbach's alpha coefficient needs to be at least 0.70 for the instruments to be regarded as dependable. Customers' e-service reliability and all other e-banking adoption aspects (online, mobile, and ATM services) show values exceeding 0.80 and 0.70, respectively, as depicted in Table 5.19. This implies that the constructs have high reliability, ranging from 0.782 to 0.825. The degree of fit that satisfies the requirements validates the instrument's validity and reliability.

Evaluation of the Inner Structural Model

The path coefficients were used in the inner structural model to assess significance. Bootstrapping is essential in Partial Least Squares Structural Equation Modelling (PLS-SEM) (Méndez-Suárez, 2021) to ascertain significance. This study used 5000 subsamples with the default bootstrapping approach. The influence of e-banking adoption (online, mobile, and ATM services) on customers' e-service **reliability** is illustrated by the internal structural model shown in Figure 4.4.

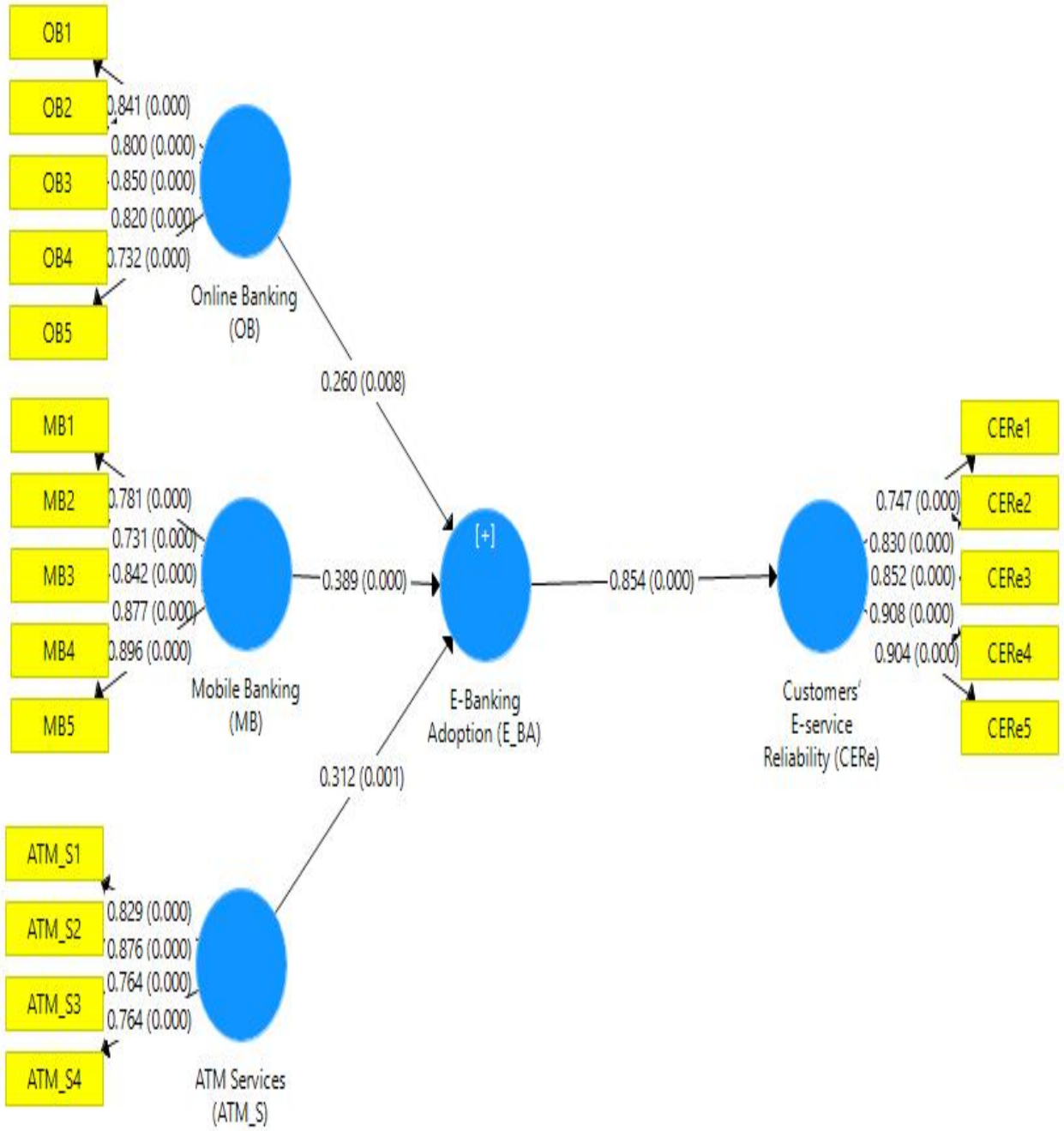


Figure 4.4: Path Co-efficient and P-values for E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) on Customers' E-Service Reliability

Source: Field Result, 2024

As depicted in Table 4.24, this hypothesis anticipated that customers' e-service reliability is influenced by the adoption of e-banking, which includes online, mobile, and ATM services.

Table 4.24 Path Co-efficient for E-banking Adoption and Customers' E-Service Reliability

Variables and Cross Loading	Path Co-efficient	Std. Dev	T-Statistics	P-value
E-Banking - Customers' E-Service reliability	0.854	0.038	22.653	0.000
ATM Services - E-banking Adoption	0.312	0.091	3.434	0.001
Mobile Banking - E-banking Adoption	0.389	0.091	4.260	0.000
Online Banking - E-banking Adoption	0.260	0.097	2.663	0.008
	R Square (R2		Adjusted R Square (R2	
E-banking Adoption	0.816		0.810	
Customers' E-Service Reliability	0.739		0.727	

Source: Field Result, 2024

By examining the path coefficients and utilising bootstrapping with a significance threshold of 0.05, the study demonstrated noteworthy correlations between every construct, as shown in Table 4.24. The structural model revealed statistically significant path coefficients between e-banking adoption (online, mobile, and ATM) and customers' e-service reliability (β=.854, Tstat = 22.653, p=.000); between their use of ATM services and customers' e-service reliability (β=0.312, Tstat = 3.260, p=.000); between the use of mobile banking and customers' e-service reliability (β=0.389, Tstat = 4.475, p=.000); and between the use of online banking and customers' e-service reliability (β=0.260, Tstat = 2.663, p=0.008). The results showed that, when it came to customers' e-service reliability, mobile banking outperformed online banking in terms of value, while ATM services came in second. All the path coefficients had acceptable significance levels because their significance threshold was less than 0.05.

Furthermore, the path analysis and bootstrapping done at the organisational level aimed to assess the effect of e-banking adoption (online, mobile, and ATM services) on customers' e-

service reliability. Table 4.24 presents the results of the studies, which show the solid explanatory and predictive powers of the structural models and path analysis concerning the adoption of e-banking and the customers' e-service reliability. The results established a positive association between e-banking adoption and customers' e-service reliability, as indicated in Table 4.24. The study used the R-squared value (R2) to assess the variance in the study model's prediction power. A five-point Likert scale was used in a standard questionnaire to measure each research variable. The study used fourteen questions to evaluate the latent variable, e-banking adoption dimensions. The findings showed that adopting e-banking significantly influenced consumers' e-service reliability.

The coefficient of determination, or R-squared value, was another information on the regression results. Scholars classified the R2 values as follows: 0.71 to 0.90 as excellent, 0.51 to 0.70 as good, 0.31 to 0.50 as fair, and 0.10 to 0.30 as weak. This study's endogenous latent component showed a path model of 0.854 with an R2 value of 0.729, indicating that adopting e-banking could account for 72.9% of the model's variations in customers' e-service reliability.

The Common Method Bias (CMB)

Common Method Bias (CMB) was assessed by considering both the structural and measurement models using collinearity statistics in the SEM-PLS program. A VIF score of more than 3.3 signifies the presence of common method bias in the model. On the other hand, the model might not be impacted by common method bias if all VIF values at the factor level, as established by a maximum collinearity test, are equal to or less than 3. The overall variance for all variables studied in this study was 59.7%, as shown in Table 4.25, and the variance attributable to CMB was measured at 1.811 and 2.222[9].

Table 4.25: Common Method Bias for E-banking Adoption and Customers' E-Service Reliability

S/N	Variables	VIF [<3]	Decision	Variance Factor in % [> 50%]
1	E-banking adoption dimensions	1.811	Free of CMB	59.7
2	Customers' e-service reliability	1.222	Free of CMB	

Source: Field Result, 2024

Table 4.25 depicts that all VIF values for each measuring item and construct are subsequently less than 3 for e-banking adoption (online banking, mobile banking, and ATM services) and customers' e-service reliability. This shows that the hypothesis does not contain any common method bias.

Evaluation of the Model Fitness

Following the recommendations of scholars, this study employed three primary categories of fit indices: absolute fit measures, incremental fit measures, and parsimony fit measures. The degree of alignment between the model's apriori predictions and the sample data is measured by absolute fit indices[9]. The adoption of e-banking (online, mobile, and ATM services) in this study and customers' e-service reliability had an RMSR value of 0.074, below the 0.08 threshold, indicating a satisfactory fit. The GFI criterion, previously set at 0.9, was satisfied with a result of 0.926, signifying an acceptable match. Also, the CMIN/DF value of the hypothetical model was less than 3, indicating a perfect fit.

Incremental fit measures compare the tested model to a baseline model where all variables are assumed to be uncorrelated to assess how well the tested model has improved. A standard cutoff point of 0.9 for the NFI and CFI denotes a good fit[11]. The NFI value of 0.919 for this study suggests that the research model is appropriate. Using parsimony fit indices, models

can be compared, and their fit can be assessed with samples from the same population. This study follows the proposal of some scholars and employs the Parsimony Comparative Fit Index (PCFI) with a threshold of 0.50[12]. Some scholars state that the parameters that determine whether to accept a model are the CMIN/DF value of less than three, the RMSR value of 0.08 or less, and the NFI, GFI, and CFI values above 0.90. The model fit indices are displayed in Table 4.22, and the relative Chi-square is 529.549, the GFI is 0.926, the CFI is 0.956, the NFI is 0.938, and the RMSR is 0.074. The model meets the requirements and fits the data quite adequately[13].

Table 4.26: Model Fit Index for E-Banking Adoption and Customers' E-Service Reliability

Model Fit Index	Measures	Thresholds	Model values
Absolute Fit Index	The goodness of Fit Index (GFI)	≥ 0.90	0.926
	Chi-Square/DF	< 3.0	529.549
	Root Mean Square Residual (RMSR)	< 0.08	0.074
Incremental Fit Index	Comparative Fit Index (CFI)	≥ 0.90	0.956
	Normed Fit Index (NFI)	≥ 0.90	0.938
Parsimony Fit Index	Parsimony Comparative Fit Index (PCFI)	≥ 0.50	0.574

Source: Field Result, 2024

For the measurement model, every model fit index exceeded the recommended cutoff point and fell within an acceptable range. This led to rejecting the null hypothesis (H0), which proposed that e-banking adoption has no significant effect on customers' e-service reliability.

Hypothesis Five

$H_0$5: E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) does not Significantly Affect Customers' E-Service Costs

The fifth hypothesis sought to determine whether the adoption of e-banking, which includes online banking, mobile banking, and ATM services, substantially impacts the cost incurred by customers for e-services. The analysis used path coefficients, t-statistics, R-square values, and p-values to interpret the results. As shown in Figure 4.4, the route coefficient determines the degree and direction of the correlation between the variables under investigation. However, Table 4.27 provides information on the factor loadings for these variables.

Table 4.27 Factor Loading for E-banking Adoption and Customers' E-Service Cost

Indicators	Factor Loading > 0.7	Composite Reliability ≥ 0.8	AVE ≥ 0.5	Cronbach's Alpha ≥ 0.7	No. of Indicators
E-Banking Adoption and Customers' E-Service Cost					
Online Banking	0.809	0.905	0.656	0.868	5
Mobile Banking	0.825	0.915	0.685	0.884	5
ATM Services	0.808	0.884	0.655	0.825	4
Customers' E-Service Reliability	0.817	0.891	0.673	0.835	4

Source: Field Result, 2024

Measurement items and scales were subject to specific criteria established by Killic et al. (2020). Factor loadings must be greater than or equal to 0.70, composite reliability must be greater than or equal to 0.80, and average variance extracted (AVE) must be greater than or

equal to the minimal requirement of 0.50. Furthermore, the Cronbach's alpha coefficient needs to be at least 0.70 for the instruments to be regarded as dependable. E-banking adoption aspects (online, mobile, and ATM services) and customers' e-service costs show values exceeding 0.80 and 0.70, respectively, as depicted in Table 4.27. This implies that the constructs have high reliability, ranging from 0.809 to 0.825. The degree of fit that satisfies the requirements validates the instrument's validity and reliability.

Evaluation of the Inner Structural Model

In the inner structural model, path coefficients were utilized to evaluate significance. Bootstrapping is a crucial step in Partial Least Squares Structural Equation Modeling (PLS-SEM) to determine significance, as emphasized by a scholar[13]. This research employed 5000 subsamples using the default bootstrapping method. The impact of e-banking adoption (including online, mobile, and ATM services) on customers' e-service costs is depicted in the internal structural model presented in Figure 4.5.

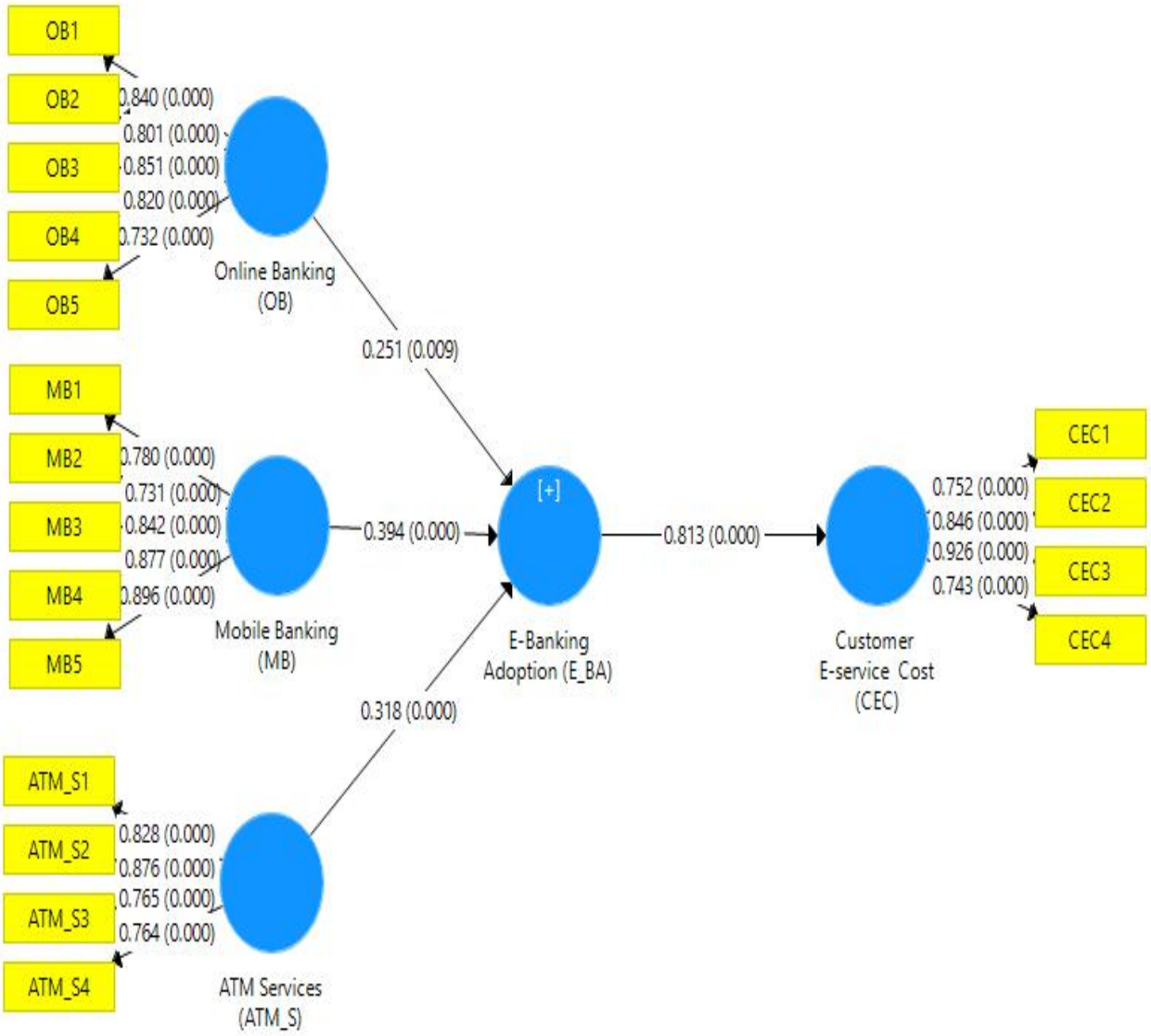


Figure 4.5: Path Co-efficient and P-values for E-banking Adoption (Online Banking, Mobile Banking, and ATM Services) on Customers' E-Service Cost

As depicted in Table 4.28, this hypothesis anticipated that customers' e-service cost is influenced by the adoption of e-banking, which includes online, mobile, and ATM services.

Table 4.28 Path Co-efficient for E-banking Adoption and Customers' E-Service Cost

Variables and Cross Loading	Path Co-efficient	Std. Dev	T-Statistics	P-value
E-Banking - Customers' E-Service Cost	0.813	0.051	15.844	0.000
ATM Services - E-banking Adoption	0.318	0.090	3.521	0.000
Mobile Banking - E-banking Adoption	0.394	0.088	4.469	0.000
Online Banking - E-banking Adoption	0.251	0.097	2.596	0.009
	R Square (R2		Adjusted R Square (R2	
E-banking Adoption	0.820		0.814	
Customers' E-Service Cost	0.661		0.657	

Source: Field Result, 2024

Upon scrutinizing the path coefficients and employing bootstrapping with a significance threshold of 0.05, the investigation revealed notable correlations among all constructs, as illustrated in Table 4.28. The structural model unveiled statistically significant path coefficients between e-banking adoption (online, mobile, and ATM) and customers' e-service cost (β=.813, Tstat = 15.845, p=.000); between the utilization of ATM services and customers' e-service cost (β=0.318, Tstat = 3.521, p=.000); between mobile banking usage and customers' e-service cost (β=0.394, Tstat = 4.469, p=.000); and between online banking usage and customers' e-service cost (β=0.251, Tstat = 2.596, p=0.008). The findings indicated that concerning customers' e-service cost, mobile banking surpassed online banking in terms of value, while ATM services ranked second. All path coefficients demonstrated acceptable significance levels as their threshold was below 0.05.

Furthermore, the primary objective of conducting path analysis and bootstrapping at the organizational level was to assess the impact of e-banking adoption, including online, mobile, and ATM services, on customers' e-service costs. The comprehensive findings in Table 4.28

highlight the robust explanatory and predictive capabilities of the structural models and path analysis concerning the adoption of e-banking and customers' e-service reliability. The results unequivocally establish a positive correlation between e-banking adoption and customers' e-service reliability, as underscored in Table 4.28. The study employed the R-squared value (R2) to quantify the variance in the predictive power of the study model. Each research variable was meticulously measured using a standard questionnaire utilizing a five-point Likert scale. Notably, fourteen questions were meticulously crafted to assess the dimensions of the latent variable, e-banking adoption. The findings conclusively demonstrate that adopting e-banking influenced consumers' e-service costs.

The R-squared value is a crucial indication of regression outcomes. Some scholars classify R2 values as outstanding (0.71-0.90), good (0.51-0.70%), fair (0.31-0.50%), and weak (0.10-0.30%). In this investigation, the endogenous latent component had a path model coefficient of 0.813 and an R2 value of 0.661. This shows that e-banking adoption accounts for about 66.6% of consumers' e-service cost variation within the model[7].

The Common Method Bias (CMB)

Common Method Bias (CMB) was assessed by considering both the structural and measurement models using collinearity statistics in the SEM-PLS program. A VIF score of more than 3.3 signifies the presence of common method bias in the model[9]. On the other hand, the model might not be impacted by common method bias if all VIF values at the factor level, as established by a maximum collinearity test, are equal to or less than 3. The overall variance for all variables studied in this study was 60.3%, as shown in Table 4.29, and the variance attributable to CMB was measured at 1.811 and 2.024.

Table 4.29: Common Method Bias for E-banking Adoption and Customers' E-Service Cost

S/N	Variables	VIF [<3]	Decision	Variance Factor in % [> 50%]
1	E-banking adoption dimensions	1.811	Free of CMB	60.3
2	Customers' e-service cost	2.024	Free of CMB	

Source: Field Result, 2024

Table 4.29 shows that all Variance Inflation Factor (VIF) values for measuring items and constructs, such as e-banking adoption (online banking, mobile banking, and ATM services) and consumers' e-service costs, are consistently less than 3. This finding implies that the hypothesis is free from common method bias.

Evaluation of the Model Fitness

This study utilized three principal categories of fit indices: absolute fit measures, incremental fit measures, and parsimony fit measures[5]. Absolute fit indices gauge the alignment between the model's predicted outcomes and the actual sample data. Regarding e-banking adoption (online, mobile, and ATM services) and customers' e-service cost, the Root Mean Square Residual (RMSR) value was found to be 0.073, comfortably below the 0.08 threshold, indicating a satisfactory fit. The Goodness of Fit Index (GFI), previously set at 0.9, met expectations with a result of 0.919, indicating a commendable match. Similarly, the Comparative Fit Index (CMIN/DF) value of the hypothetical model, being less than 3, suggests a very good fit[14].

Incremental fit measures compare the tested model to a baseline model where variables are assumed to be uncorrelated, assessing the extent of improvement. An NFI and CFI value exceeding 0.9 signifies a good fit. The NFI value of 0.916 in this study indicates that the research model is suitable. Models can be compared, and their fit can be evaluated with

samples from the same population using parsimony fit indices. Following the approach proposed by a scholar, the study employed the Parsimony Comparative Fit Index (PCFI) with a threshold of 0.50[7]. The criteria for accepting a model include a CMIN/DF value of less than three, an RMSR value of 0.08 or less, and NFI, GFI, and CFI values above 0.90. The model fit indices, detailed in Table 4.30, reveal a relative Chi-square of 484.404, a GFI of 0.919, a CFI of 0.917, an NFI of 0.919, and an RMSR of 0.073[11]. These findings demonstrate that the model satisfactorily meets the requirements and fits the data adequately.

Table 4.30: Model Fit Index for E-Banking Adoption and **Customers' E-Service Cost**

Model Fit Index	**Measures**	**Thresholds**	**Model values**
Absolute Fit Index	The goodness of Fit Index (GFI)	≥ 0.90	0.919
	Chi-Square/DF	< 3.0	484.404
	Root Mean Square Residual (RMSR)	< 0.08	0.073
Incremental Fit Index	Comparative Fit Index (CFI)	≥ 0.90	0.917
	Normed Fit Index (NFI)	≥ 0.90	0.919
Parsimony Fit Index	Parsimony Comparative Fit Index (PCFI)	≥ 0.50	0.588

Source: Field Result, 2024

In the measurement model, each model fit index exceeded the prescribed cutoff threshold while being within an acceptable range. As a result, the null hypothesis ($H_0$5), which suggested that e-banking adoption has no significant influence on consumers' e-service costs, was rejected.

Hypothesis Six

$H_0$6: The Demographic Variables of E-Banking Adopters do not Moderate the Relationship Between E-Banking Adoption and Customer Service Satisfaction

Hypothesis six tested the moderating role of demographic variables of e-banking adopters in the relationship between e-banking adoption and customer service satisfaction. Path coefficients, R-square values, and p-values were used to interpret the results. As shown in Figure 4.6, the path coefficient determines the degree and strength of the correlation between e-banking adoption and customer service satisfaction. The r-square, on the other hand, as indicated by the adoption of e-banking, determines the variance in customer service satisfaction. The p-value denotes the degree of probability that must be less than 0.05 to be declared significant.

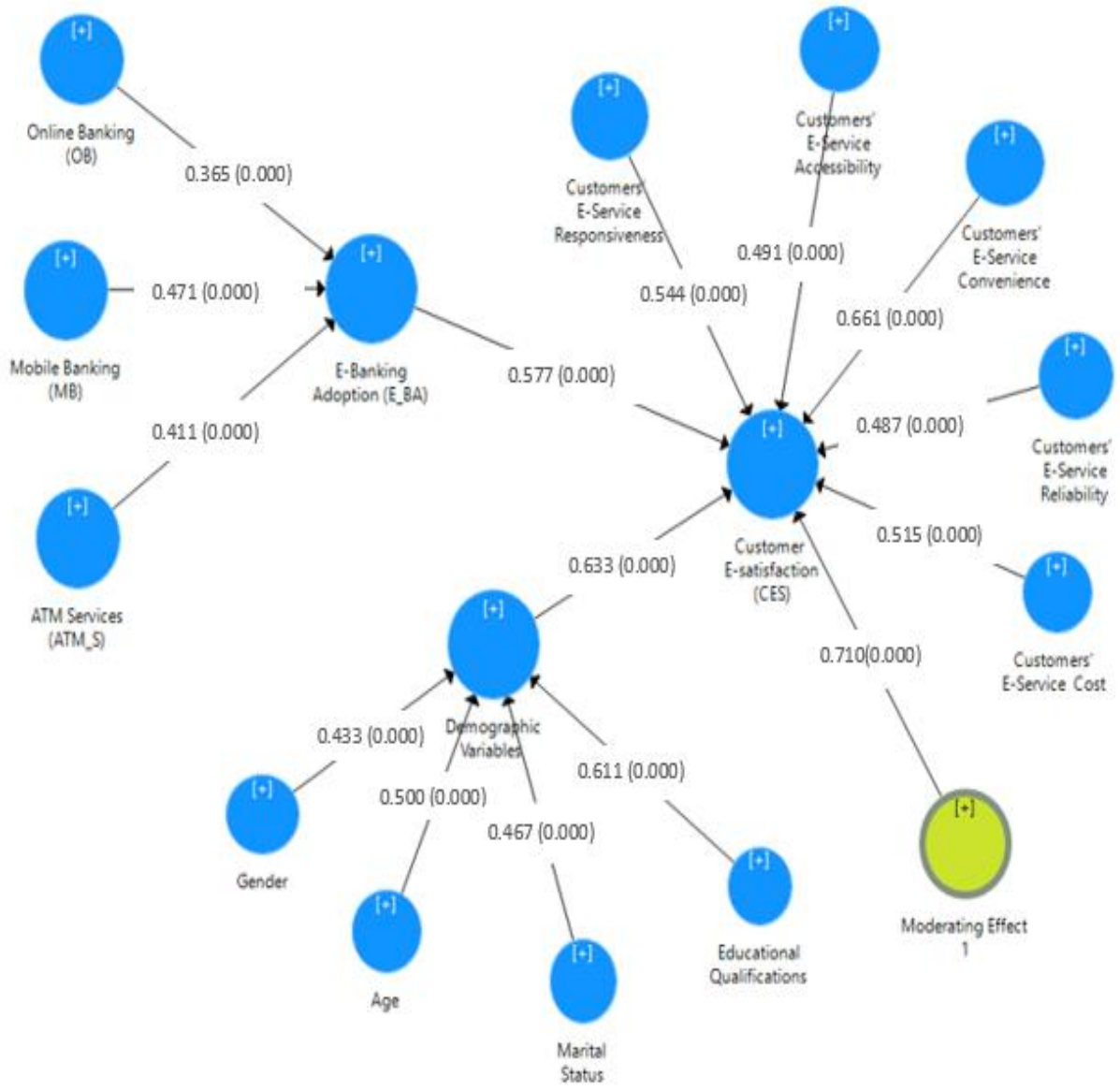


Figure 4.6: E-banking Adoption, Demographic Variables, and Customer Service Satisfaction Model

Source: Field Result, 2024

Figure 4.6 shows the PLS algorithm model of the moderating role of demographic variables of e-banking adopters in the relationship between e-banking adoption and customer service satisfaction. Figure 4.6 also describes the PLS Bootstrapping Model with β and p-coefficient of the value. The p-value determines the amount of likelihood. All the values of E-banking

adoption, demographic variables and customer service satisfaction measurements obtained in the research instrument are significant at a p-value of 0.05.

This study utilized three principal categories of fit indices: absolute fit measures, incremental fit measures, and parsimony fit measures. As highlighted by scholars, absolute fit indices gauge the alignment between the model's predicted outcomes and the actual sample data. In the case of e-banking adoption (online, mobile, and ATM services), demographic variables, and customers' e-service cost, the Root Mean Square Residual (RMSR) value was found to be 0.077, comfortably below the 0.08 threshold, indicating a satisfactory fit. The Goodness of Fit Index (GFI), previously set at 0.9, met expectations with a result of 0.915, indicating a commendable match. Similarly, the Comparative Fit Index (CMIN/DF) value of the hypothetical model, being less than 3, suggests a very good fit[14].

Incremental fit measures compare the tested model to a baseline model where variables are assumed to be uncorrelated, assessing the extent of improvement. An NFI and CFI value exceeding 0.9 signifies a good fit. The NFI value of 0.918 in this study indicates that the research model is suitable. Models can be compared, and their fit to samples from the same population can be evaluated utilizing parsimony fit indices. Following the approach proposed by scholars, the study employed the Parsimony Comparative Fit Index (PCFI) with a threshold of 0.50[15]. The criteria for accepting a model include a CMIN/DF value of less than three, an RMSR value of 0.08 or less, and NFI, GFI, and CFI values above 0.90. The model fit indices, detailed in Table 4.31, reveal a relative Chi-square of 322.312, a GFI of 0.915, a CFI of 0.916, an NFI of 0.918, and an RMSR of 0.077. These findings demonstrate that the model satisfactorily meets the requirements and fits the data adequately[9].

Table 4.31: Model Fit Index for E-Banking Adoption, Demographic Variables and Customers' E-Service Satisfaction

Model Fit Index	Measures	Thresholds	Model values
Absolute Fit Index	The goodness of Fit Index (GFI)	≥ 0.90	0.915
	Chi-Square/DF	< 3.0	**322.312**
	Root Mean Square Residual (RMSR)	< 0.08	0.077
Incremental Fit Index	Comparative Fit Index (CFI)	≥ 0.90	0.916
	Normed Fit Index (NFI)	≥ 0.90	0.918
Parsimony Fit Index	Parsimony Comparative Fit Index (PCFI)	≥ 0.50	0.551

Source: Field Result, 2024

In the measurement model, each model fit index exceeded the prescribed cutoff threshold while being within an acceptable range. As a result, the null hypothesis ($H_0$6), which suggested that demographic variables of e-banking adopters play no moderating role in the relationship between e-banking adoption and customer service satisfaction, was rejected.

Table 4.32 Coefficient Value of Hypothesis Six

Variables	Path Co-efficient	P Values	R^2	Decision
E-BA → CES	0.577	0.000	0.333	Significant
DV → CES	0.633	0.000	0.401	Significant
Moderating effect → CES	0.710	0.000	0.504	Significant

E_BA- E-banking Adoption, CES- Customers Satisfaction, DV- Demographic Variables

Source: Field Result, 2024

Table 4.32 shows the path coefficient of all constructs of e-banking adoption, demographic variables and customer service satisfaction, which are significant at 0.05.

Generally, a significant relationship was found between e-banking adoption and customer service satisfaction at (β= 0.577, R^2= 0.333; P-value =0.000 <0.05). The R-square value of 0.333 suggests that a 33.3% variance in customer service satisfaction can be explained by e-banking adoption. Also, it was discovered that demographic variables of adopters have a significant relationship with customer service satisfaction at (β= 0.633, R^2= 0.401; P-value =0.000 <0.05). The R-square value of 0.401 suggests that the demographic variables of adopters can explain a 40.1% variance in customer service satisfaction. Meanwhile, the finding revealed that the demographic variables of adopters moderate the relationship between e-banking adoption and customer service satisfaction at (β= 0.710, R^2= 0.504; P-value =0.000 <0.05). This suggests that demographic variables (gender, age, marital status, and educational qualification) significantly moderate the relationship between e-banking adoption and customer service satisfaction. However, looking at the moderating role of demographic variables (gender, age, marital status, and educational qualification) in the relationship between e-banking adoption and customer service satisfaction, it was discovered

that educational background contributed more to demographic variables. This could mean that the level of enlightenment contributes to the adoption of e-banking. This was also followed by age. This suggests also that maturity contributed significantly to the adoption of e-banking.

4.3 Discussion of Findings

4.3.1 E-banking Adoption and Customers' E-Service Responsiveness

The first hypothesis examined the influence of e-banking adoption (online banking, mobile banking and ATM Services) and customers' service responsiveness. The findings show that e-banking adoption dimensions substantially relate to customers' e-service responsiveness. The positive relationship between e-banking usage and customer service responsiveness shows that as customers use online banking, mobile banking, and ATM services more frequently, they tend to receive better service from e-service platforms. This suggests that banks and financial institutions investing in and promoting e-banking services are likely to witness increased customer satisfaction and general experience. This corroborates with the similar findings of some scholars. They found that customers are satisfied with e-service platforms for any financial transactions[15].

In a related development, another implication of the finding is that e-banking usage frequently results in increased efficiency and convenience for customers. Thanks to the growing availability of Internet and mobile banking, customers can now conduct transactions and access financial services from anywhere and anytime. The positive correlation with e-service responsiveness implies that customers regard these digital channels as prompt and efficient, contributing to their overall happiness with the banking experience. Effective e-banking adoption can result in cost savings for both consumers and institutions. Customers can conduct transactions without needing physical branches using digital channels such as the

Internet and mobile banking, saving money for both parties involved. The positive link with e-service responsiveness suggests that cost-cutting methods do not come at the expense of service quality, as customers continue to regard e-services as timely and dependable. This also aligns with some scholars submission[16]. They discovered that e-banking has significantly improved customer satisfaction in carrying out financial transactions in customers' comfort zones.

This implies that banks and financial institutions that succeed at e-banking adoption and rapid e-services have a competitive advantage in the market. Customers in today's digital age enjoy the convenience and accessibility of online and mobile banking services. Banks may attract and maintain consumers by investing in e-banking technologies and providing high levels of e-service responsiveness, eventually leading to long-term growth and profitability. Banks can more effectively customise their service offerings to match the needs of their customers by comprehending the relationship between e-banking adoption and e-service responsiveness. This suggests that financial institutions may guarantee a smooth and prompt customer experience across digital touchpoints by prioritising investments and enhancements in the e-banking channels that impact e-service responsiveness. In a nutshell, it is clear from the findings that investing in digital banking channels is crucial to improving customer experience, increasing efficiency, cutting costs, and gaining a competitive edge in the financial services sector. E-banking adoption dimensions have a substantial impact on customers' responsiveness to e-services.

4.3.2 E-banking Adoption and Customers' E-Service Accessibility

Hypothesis two examined the influence of e-banking adoption (online banking, mobile banking and ATM Services) and customers' e-service accessibility. The findings show that e-

banking adoption dimensions, i.e. online banking, mobile banking and ATM Services, have a substantial relationship with customers' e-service accessibility.

The observed significant relationship implies that customers perceive improved accessibility to e-services as they use e-banking services more frequently. This is consistent with other research findings. For instance, some scholars found that higher adoption levels of e-banking correlated to higher accessibility to banking services because customers might conveniently access their accounts and conduct transactions online or through mobile devices. This suggests that e-banking platforms efficiently enable customers to access financial services, irrespective of the digital channel they choose (online, mobile, or ATM). Furthermore, initiatives to promote financial inclusion may benefit from the favourable correlation between the uptake of e-banking and the accessibility of e-services. Some scholars have observed comparable results, indicating that implementing e-banking significantly improved financial access for marginalised groups in rural areas. Financial institutions can reach previously underserved communities, such as those living in rural or isolated places, people with impairments, and low-income demographics, by offering accessible digital banking solutions. Better access to e-services could empower these populations by giving them more financial autonomy and increasing their involvement in the formal banking industry[17].

Considering the technological infrastructure necessary to support these digital channels is imperative. To ensure universal accessibility to e-services, it is essential to maintain dependable internet connectivity, mobile network coverage, and secure ATM facilities. In literature, similar funding has been noted by a researcher. Therefore, to increase e-banking usage and accessibility in underdeveloped nations, for example, infrastructural improvement is crucial, according to a study[18]. Thus, to close the digital gap and keep underprivileged

populations from losing out on the advantages of e-banking, financial firms and legislators alike must make investments in infrastructure development.

Furthermore, even though the overall favourable relationship that has been seen is encouraging, it's essential to consider the level of interface design and user experience that e-banking platforms provide. In addition to physical accessibility, accessibility also refers to usability and inclusivity for people of different abilities and technology literacy levels. Studies have expressed similar findings. To improve the accessibility of e-banking services, for instance, a study stressed the significance of user-centred design concepts and accessibility standards[19]. Prioritising user experience design can help financial institutions ensure their online banking services are inclusive, easy to use, and intuitive for all their customers.

Another implication of the finding is that, as e-banking grows, it is imperative to preserve security and trust in digital transactions. When using e-banking services, customers need to have peace of mind knowing that their financial and personal information is secure. Studies have emphasised similar security and trust-related concerns. For example, some scholars stressed the value of robust authentication procedures and cybersecurity security measures in fostering user trust in e-banking. Improving security can also boost e-banking adoption and favourable opinions about the accessibility of e-services[20].

Critical factors like technological infrastructure, user experience design, security, and trust are crucial for optimising the advantages of online banking and fostering financial inclusion, even though the results reveal a significant relationship between e-banking adoption dimensions and customers' e-service accessibility. By considering these elements, financial institutions may provide more user-friendly, inclusive, and accessible online banking experiences that meet the varied needs of their customers.

4.3.3 E-banking Adoption and Customers' E-Service Convenience

The third hypothesis investigated the influence of e-banking adoption (online banking, mobile banking, and ATM Services) and customers' e-service convenience. The findings show that e-banking adoption dimensions, i.e. online banking, mobile banking and ATM Services, have a substantial relationship with customers' e-service convenience. The significant correlation between e-banking adoption characteristics and consumers' convenience of using e-services aligns with other research findings. A scholar conducted a study that showed a positive correlation between higher adoption rates of e-banking and easier access to banking services. This implies that customers believe managing their accounts and financial activities is more convenient when they use electronic banking methods like online and mobile banking, which reduces the need for in-person trips to bank branches[21].

Also, the correlation between the use of e-banking and the convenience of e-services is in line with the results of some studies, who discovered that adopting digital banking enhanced customer convenience, especially regarding remote banking service access. This suggests that e-banking platforms allow users to conduct transactions and access account information anytime, anywhere, resulting in a more seamless banking experience[22].

It is imperative to consider the significance of technological infrastructure in facilitating the adoption of e-banking and guaranteeing client convenience. Previous research has also brought up similar issues; for example, a scholar stressed the significance of infrastructure development, particularly internet access and cell network coverage, in encouraging the adoption of digital banking. This implies that infrastructure expenditures are necessary to allow users to conveniently use e-banking services, particularly in areas with poor connectivity[23]. Furthermore, the focus on interface design and user experience in e-banking

platforms is consistent with research, which emphasised the significance of user-centred design principles in improving the usability of digital banking services[24]. This emphasises how important it is for financial institutions to provide accessibility and usability as a top priority in their e-banking platforms so that users may quickly and conveniently navigate and use banking services.

Also, research findings show the significance of preserving confidence and security in digital transactions, particularly as e-banking adoption expands. According to this, robust authentication procedures and cybersecurity safeguards are necessary to foster user trust in e-banking and guarantee that consumers have faith in the ease and security of utilising digital banking services[25].

The results, which demonstrate the revolutionary potential of digital banking in boosting customer ease and accessibility, are consistent with previous studies regarding the relationship between e-banking adoption characteristics and customers' e-service convenience. However, optimising the advantages of e-banking adoption and guaranteeing a smooth and pleasant banking experience for all consumers requires addressing issues with technological infrastructure, user experience design, and security.

4.3.4 E-banking Adoption and Customers' E-Service Reliability

There is a substantial correlation between the variables in the fourth hypothesis, which examines the relationship between consumers' e-service reliability and the use of e-banking (online, mobile, and ATM services). This suggests that users of e-banking services are more likely to accept and use them across several digital channels if they are reliable.

This substantial relationship supports the results of previous studies in the area. Prior research has also discovered positive correlations between the use of e-banking and opinions of

service dependability. These results point to an essential feature of consumer behaviour in e-banking: customers are more likely to use digital banking channels when they have confidence in the service's dependability[26].

Also, the association that was found emphasises how crucial e-service dependability is in promoting e-banking. According to studies, system uptime, transaction accuracy, and data security are important aspects that influence how reliable a client believes their service will be[27,28]. Customers are more likely to rely on e-banking services when they think they are dependable for their financial demands, which increases the uptake and utilisation of digital banking systems. A careful assessment of the underlying mechanisms guiding this relationship is necessary, even though the findings indicate a positive correlation between customers' e-service reliability and e-banking uptake. The possibility of reverse causality is an important consideration. High levels of e-banking adoption may pressure service providers to prioritise and uphold reliability standards to satisfy growing customer demands, even though dependable e-banking services may do so.

The study's implications also include the continuous difficulties of financial institutions in preserving and raising the quality of their services in the face of changing customer needs and technology breakthroughs. Although investing in technology infrastructure and high-quality services is essential, assessing how well these initiatives are working to fulfil consumer expectations and promote uptake is imperative. Studies has brought attention to the challenges of maintaining consistent service quality and scaling e-banking infrastructure in dynamic, quickly changing digital environments. To this end, when analysing the dynamics of digital banking uptake, it is crucial to critically assess the underlying mechanisms that drive this relationship and the difficulties in upholding service quality, even though the significant correlation between customers' e-service reliability and e-banking adoption

provides insightful information. Policymakers, practitioners, and academics may create more robust strategies to improve e-service reliability and promote sustainable e-banking adoption in the digital era[29].

4.3.5 E-banking Adoption and Customers' E-Service Cost

The results of the fifth hypothesis study how customers' e-service costs are affected by adopting e-banking (online, mobile, and ATM services). The findings indicate that e-banking adoption factors majorly affect these costs. This suggests that consumers' use of digital banking channels impacts the costs associated with using those channels to obtain financial services. The adoption of e-banking has a notable impact on e-service costs, consistent with the banking industry's overall trend towards digitisation. Customers are shifting increasingly to digital banking channels, like online and mobile banking, and they frequently save money by using these channels instead of the more conventional in-person ones. This is mainly because digital transactions have cheaper operating costs, which include lower overhead for staff and physical locations.

The finding is similar to the submission of some scholars who emphasised the revolutionary capacity of digital banking to reconfigure the cost dynamics within the banking sector. Customers who use e-banking channels gain access to cost-effective features like automated transactions, faster processes, and less paperwork. Consequently, financial institutions may offer decreased transaction costs, waived service charges, and other cost-saving incentives to promote the adoption of e-banking. Considering the broader implications of cost dynamics in digital banking is crucial, even though the findings indicate a significant impact of e-banking adoption on e-service costs. Consumers need to be informed about the possibility of unanticipated expenses related to online purchases, such as fees for extra features on their accounts, overseas transactions, and overdrafts. Also, consumers may have to pay more for

cybersecurity protection services or identity theft prevention measures due to worries about data privacy and security in digital transactions[30].

The finding also corroborates the submission of some scholars, who noted that the impact of e-banking adoption on e-service costs has been noticed, which emphasises the significance of consumer education and financial literacy in navigating the world of digital banking. Consumers must know the economic ramifications of online business, including any applicable fees and security hazards. To enable consumers to make knowledgeable decisions about their banking preferences and usage patterns, financial institutions must prioritise transparency and disclosure in their pricing structures and policies. The banking industry has potential opportunities to reduce costs and increase efficiency due to the strong influence of e-banking adoption on e-service costs. Using digital banking channels, customers can take advantage of lower transaction costs and improved operations[20]. However, to reduce potential risks and give customers the ability to make educated decisions within the digital banking ecosystem, it is imperative to guarantee openness, financial literacy, and data security.

4.3.6 E-banking Adoption, Demographic Variable and Customers' E-Service Satisfaction

The sixth hypothesis examined the moderating role of demographic variables (gender, age, marital status, education, and qualification) on the relationship between E-banking Adoption (online, mobile, and ATM services) and customers' e-service satisfaction (customer's e-service responsiveness, customer's e-service accessibility, customer's e-service convenience, customer's e-service reliability, customer's e-service cost). The findings revealed that demographic variables significantly moderate the relationship between E-banking Adoption and customers' e-service satisfaction.

The considerable moderating effect of demographic variables on the link between e-banking adoption and consumer e-service satisfaction emphasises the need to consider individual characteristics and preferences when designing the digital banking experience. This research implies that demographic parameters such as gender, age, marital status, and educational level can influence how customers perceive and engage with e-banking services, consequently affecting their overall happiness. While the findings emphasise the moderating function of demographic characteristics, it is necessary to examine these moderating effects' specific nature and implications closely. For example, research has shown that gender disparities might influence people's choices and behaviours regarding digital banking. Women prioritise security and ease of use when evaluating digital banking services. In contrast, males may focus on convenience and transaction speed. As a result, gender may have a moderating role in the relationship between e-banking adoption and e-service satisfaction, reflecting differences in how men and women perceive and derive enjoyment from digital banking encounters[31].

Similarly, age-related disparities in technology adoption and usage patterns can influence the relationship between e-banking adoption and e-service satisfaction. When interacting with digital banking services, older persons may encounter distinct obstacles and preferences, such as issues about technology literacy, accessibility, and trust. As a result, the moderating effect of age on the relationship between e-banking adoption and e-service satisfaction may reflect differences in satisfaction levels across age groups, with younger individuals exhibiting higher levels of satisfaction due to greater familiarity and comfort with technology. Furthermore, demographic factors such as marital status and educational level can influence people's attitudes and behaviours in the digital banking context. Married people may prioritise joint account administration and financial planning, while singles may be more concerned with personal finance management and budgeting resources. Similarly, those with

higher education levels may have more digital literacy and financial understanding, which leads to increased satisfaction with e-banking services.

In summary, the results indicate that demographic variables significantly influence the association between e-banking adoption and e-service satisfaction. However, it is crucial to critically assess the precise nature and implications of these moderating effects. Financial institutions can better meet the diverse needs of various demographic groups by customising their services and marketing strategies based on understanding how individual characteristics and preferences shape digital banking experiences. This will increase customer satisfaction and loyalty in the digital banking space.

Endnotes

1. E.S., Beshir, & B.A., Zelalem. *The effect of e-banking service quality on customer's satisfaction and loyalty.* **The Strategic Journal of Business & Change Management,** 7(3), 2020, pp.818-832.
2. O., Usman, T., Monoarfa, & M., Marsofiyati. *E-Banking and mobile banking effects on customer satisfaction.* **Accounting,** 6(6), 2020, pp.1117-1128.
3. S., Sardana, & V.N., Bajpai. *E-banking service quality and customer satisfaction: An exploratory study on India.* **International Journal of Services and Operations Management,** 35(2), 2020, pp.223-247.
4. J., Sharma, J., Singh, & A., Singh. *Impact of e-banking service quality on customer satisfaction.* **International Journal of Recent Technology and Engineering,** 8(5), 2020, pp.2296-2300.
5. S.G., Ayinaddis, B.A., Taye, & B.G., Yirsaw. *Examining the effect of electronic banking service quality on customer satisfaction and loyalty: An implication for technological innovation.* **Journal of Innovation and Entrepreneurship,** 12(1), 2023, p.22.
6. V., Ramesh, V.C., Jaunky, R., Roopchund, & H.S., Oodit. *'Customer satisfaction', loyalty and 'adoption'of e-banking technology in Mauritius.* In Embedded Systems and Artificial Intelligence: Proceedings of ESAI 2019, Fez, Morocco, Springer Singapore. 2020, pp. 861-873.
7. S., Butt. *Impact of e-banking service quality on customers' behavior intentions mediating role of trust.* **Global Management Journal for Academic & Corporate Studies,** 11(2), 2021, pp.1-21.
8. S., Kesharwani. *E-service quality in banking industry-a review.* **Global Journal of Enterprise Information System,** 12(2), 2020, pp.111-118.
9. H., Inegbedion, E.E., Inegbedion, S.J., Osifo, S.C., Eze, A., Ayeni, & O., Akintimehin. *Exposure to and usage of e-banking channels: Implications for bank customers' awareness and attitude to e-banking in Nigeria*. **Journal of Science and Technology Policy Management,** 11(2), 2020, pp.133-148.
10. E.S., Beshir, & B.A., Zelalem. *The effect of e-banking service quality on customer's satisfaction and loyalty.* **The Strategic Journal of Business & Change Management,** 7(3), 2020, pp.818-832.
11. M., Sleimi, & M., Musleh. *E-Banking services quality and customer loyalty: The moderating effect of customer service satisfaction: Empirical evidence from the UAE banking sector*, 2020.
12. H.M., Alhanatleh. *The effect of electronic banking services usage on clients electronic loyalty.* **Int. J. Hum. Capital Urban Manage,** 6(4), 2021, pp.461-476.
13. J., Sharma, J., Singh, & A., Singh. *Impact of e-banking service quality on customer satisfaction.* **International Journal of Recent Technology and Engineering,** 8(5), 2020, pp.2296-2300.

14. G.S., Etim, J.A., Ada, I.E., Eyo, S.E., Ndem, & E.E., James. *Electronic banking and customers' access to banking services in rural settlements.* **Res Militaris,** 13(3), 2023, pp.1161-1177.

15. K., Khanal. *Impact of e-Banking services on customer awareness in Nepalese commericial banks.* **Nepalese Journal of Management Research,** 3(1), 2023, pp.1-10.

16. S., Ahmad, S.H., Bhatti, & Y., Hwang. *E-service quality and actual use of e-banking: Explanation through the technology acceptance model.* **Information Development,** 36(4), 2020, pp.503-519.

17. A., Pambudi, R., Widayanti, & P., Edastama. *Trust and acceptance of E-banking technology effect of mediation on customer relationship management performance.* **ADI Journal on Recent Innovation,** 3(1), 2021, pp.87-96.

18. H., Rawwash, F., Masad, O., Enaizan, B., Eneizan, M., Adaileh, A., Saleh, & R., Almestarihi. *Factors affecting Jordanian electronic banking services.* **Management Science Letters,** 10(4), 2020, pp.915-922.

19. O.B., Al-Gharaibah. *Predictors of E-banking service adoption in Malaysia using an extended technology acceptance model.* **Int. J. Contemp. Manag. Inf. Technol,** 1(1), 2020, pp.23-29.

20. B., Almansour, & S., Elkrghli. *Factors influencing customer satisfaction on e-banking services: A study of Libyan banks.* **International Journal of Technology, Innovation and Management (IJTIM),** 3(1), 2023, pp.34-42.

21. B., Almansour & S., Elkrghli. *Factors influencing customer satisfaction on e-banking services: A study of Libyan banks.* **International Journal of Technology, Innovation and Management (IJTIM),** 3(1), 2023, pp.34-42.

22. M., Jaiwani, S., Gopalkrishnan, S.P., Mohanty, & N., Murthy. *Understanding service quality, customer satisfaction and banking behaviour from an E-Banking perspective: An empirical approach.* In 2022 International Conference on Sustainable Islamic Business and Finance (SIBF) (pp. 12-20). IEEE, 2022.

23. H., Indriastuti, A.N.O.D., Putri, R., Robiansyah, & H., Anwar. *The effect of e-service quality and e-trust on customer loyalty and mediating customer satisfaction of internet banking users.* **Jurnal Manajemen dan Kewirausahaan,** 10(1), 2022, pp.24-34.

24. A.H., Mousa, S.H., Mousa, M., Aljshamee, & I.S., Nasir. *Determinants of customer acceptance of e-banking in Iraq using technology acceptance model.* **TELKOMNIKA (Telecommunication Computing Electronics and Control),** 19(2), 2021, pp.421-431.

25. A., Hidayat, & S., Kassim. *E-banking adoption, labour cost and deposit in Islamic banking: Evidence from Indonesia.* In The Proceeding, 2021, p. 21.

26. D.T., Nguyen, V.T., Pham, D.M., Tran, & D.B.T., Pham. *Impact of service quality, customer satisfaction and switching costs on customer loyalty.* **The Journal of Asian Finance, Economics and Business,** 7(8), 2020, pp.395-405.

27. S., Rahi, M.A., Ghani, & A.H., Ngah. *Factors propelling the adoption of internet banking: The role of e-customer service, website design, brand image and customer satisfaction.* **International Journal of Business Information Systems,** 33(4), 2020, pp.549-569.

28. S., Jafar, B., Malik, & N., Gul. *Impact of customer's awareness and perceived risk associated with e-banking: The moderating role of demographics.* **International Journal of Management (IJM)**, 12(1), 2021, pp.88-101.

29. R., Arora. *Moderating effect of demographics in adopting online banking services.* **NeuroQuantology,** 20(10), 2022, p.4592.

30. I.C.A., Cabrita. *Mobile banking: A study on adoption stages using government adoption model (GAM) and the role of demographic moderators: Factors influencing Portuguese consumers' adoption* (Doctoral dissertation, Universidade NOVA de Lisboa (Portugal)), 2021

31. C., Aziza, & N.M., Kassim. *The moderating role of consumer characteristics on e-loyalty in e-banking business: A multigroup analysis.* In SHS Web of Conferences, EDP Sciences. Vol. 124, 2021, p. 09002.

Chapter Five

Conclusion

The previous chapter focused on data analysis and how the results related to the goals and research questions of the study. The discussion was supported by bolstering, validating, and aligning with relevant and comparable findings in the current literature. This chapter summarises the main findings of the research. It emphasises the research's contributions to theory, methodology, and knowledge and discusses the research's analysis considering its methodological and philosophical foundations. The chapter concludes by outlining the research's limitations and offering recommendations for further investigation.

5.1 Summary of Findings

The primary aim of this study was to investigate the interaction effect of e-banking adoption on customers' satisfaction with selected money deposit banks in Nigeria. The study also explored the moderating effects of demographic variables of e-banking adopters on the relationship between e-banking adoption and customers' satisfaction. To achieve this aim, five research questions were formed that collectively contributed to achieving the overall aim. The following is a discussion that demonstrates how each research question was answered.

The first research question concerned how e-banking adoption influences customers' e-service responsiveness. This research question was answered in the data analysis and research findings. The first finding confirmed that e-banking adoption significantly influences customers' service responsiveness. This was discussed extensively in chapter four of the thesis.

The second research question concerned the effect of e-banking adoption on customers' e-service accessibility. This question was answered in the research findings and discussion in

chapter four. Based on the findings, it was discovered that e-banking adoption has a considerable positive relationship with customers' e-service accessibility.

The third research question explored the influence of e-banking adoption on customer e-service convenience. This question was also answered in Chapter Four support. The findings revealed that e-banking adoption has a considerable relationship with customer e-service convenience.

The influence of e-banking adoption on customers' e-service reliability was examined in hypothesis four. The research question was statistically answered in chapter four of the thesis. The findings show that e-banking adoption significantly influences customers' e-service reliability. The fifth hypothesis investigated the influence of e-banking adoption on customer e-service cost. As discussed in Chapter Four, the finding indicates that e-banking adoption considerably affects customer e-service costs.

The last hypothesis focused on the moderating effect of demographic variables on the relationship between e-banking adoption and customers' satisfaction. The finding revealed that demographic variables significantly moderate the relationship between e-banking adoption and customers' satisfaction. After the conclusions had been drawn from the data and cross-referenced with previous research, the findings were again examined through the lens of the technology acceptance model, diffusion of innovation theory, theory of reasoned action, and theory of planned behaviour.

5.2 Conclusion

The conclusion of this study is grounded on the findings from the five formulated hypotheses tested in this study. It validated a conceptual model that elucidated the effect and the relationship between e-banking adoption, demographic variables and customers' satisfaction.

Significant findings have been gleaned from the study of how consumers' responsiveness to e-services is affected by their adoption of online banking. The study concludes a substantial relationship between adopting e-banking in online, mobile, and ATM services and customers' responsiveness to e-services. More specifically, the positive relationship indicates that increased use of these e-banking channels contributes to improved e-service platform service delivery. This highlights the crucial function of e-banking adoption in moulding consumers' attitudes and experiences with the digital banking environment.

Investigating the relationship between adopting e-banking and consumers' accessibility to e-services produced some exciting findings. The study concludes that customers who use these e-banking channels more frequently have easier access to e-service platforms. This emphasised the importance of using e-banking to improve accessibility to financial services, especially in the digital sphere. The findings highlight the need for financial institutions to keep making the development and optimisation of e-banking channels a top priority to guarantee greater accessibility for all clients, promote inclusivity, and enable seamless banking experiences in a world that is becoming more and more digitalised.

In a related development, the third hypothesis investigates the effect of e-banking adoption on consumers' ease of access to e-services. The study concludes that customers' experiences with e-banking are becoming more convenient because of the easy assimilation of digital technology into routine banking procedures. These indicate how essential it is for financial institutions to keep investing in and improving e-banking channels to give their clients more convenience and effectiveness when handling their financial matters. In a banking environment that is becoming more and more digitally focused, banks can effectively fulfil their customers' changing requirements and expectations by putting e-service convenience first. This will strengthen customer connections and encourage loyalty.

The results of the fourth hypothesis clarify the critical relationship between customers' use of e-banking services and their opinion of the reliability of e-services. The study concludes that when customers believe e-banking platforms are dependable, they are far more likely to adopt and actively use them across various digital channels. This emphasises how important reliability is in helping consumers develop a sense of trust and confidence, which promotes e-banking solutions' wider acceptance and adoption. These findings highlight the necessity for financial institutions to prioritise improving the dependability of e-services through all available channels. In the ever-changing digital banking world, banks can enhance client trust and promote increased engagement and loyalty by providing dependable experiences regularly.

The study also concludes that e-banking adoption significantly affects customers' e-service costs. This implies that one of the main factors impacting the price of digital banking services is the uptake of e-banking channels. These results emphasise the need for financial institutions to carefully weigh the economic effects of adopting e-banking in the future and to create plans that maximise cost-effectiveness without sacrificing service quality. Banks may better satisfy their clients' changing demands and expectations while maintaining the viability and competitiveness of their digital banking solutions by comprehending and addressing the variables driving e-service costs.

Based on the last hypothesis, the study concluded that demographics like age, gender, marital status, and level of education significantly moderate the relationship between e-banking adoption (online, mobile, and ATM services) and different aspects of customer e-service satisfaction. This demonstrates the importance of demographic traits in influencing consumers' opinions and experiences in digital banking. To align with consumers' varied demands and preferences, financial institutions should take a nuanced approach in the future and consider demographic aspects when creating and implementing e-banking strategies.

5.3 Recommendations

The following are the recommendations using the specific research questions and hypotheses formulated.

1. Financial institutions that prioritise user-friendly interfaces and continuous innovation could improve customer experience by investing in intuitive design and keeping up with developing technologies. This will increase customer acceptance and usage of digital banking channels. In addition, effective security protocols and extensive customer support resources could enhance trust and confidence in users, hence strengthening their loyalty to e-banking services. Highlighting these advantages draws prospective customers to seek convenient, secure digital banking alternatives.

2. Financial institutions should prioritise optimising digital accessibility features across online banking, mobile banking, and ATM services. For all consumer segments, including those with disabilities, this means empowering them with clear instructions through educational campaigns and upholding accessibility standards. It also means adding features like keyboard navigation and screen reader compatibility. Offering specialised support services, such as dedicated hotlines and training on assistive technology. Ongoing user testing and feedback gathering also guarantee continual progress. Working with advocacy organisations and adhering to changing legislation strengthens the efforts to improve e-service accessibility, promoting inclusivity and enabling all users to interact with digital banking systems without difficulty.

3. Financial institutions should emphasise streamlining the user experience across online banking, mobile banking, and ATM services, ensuring seamless access and consistent functionality. It is essential to prioritise personalisation and customisation of services according to user preferences, using data analytics to predict user demands and

provide customised solutions. To enhance consumer convenience and satisfaction, e-banking services must be available around the clock, integrated with third-party conveniences, and offer extensive educational materials. Robust safety measures and regular consumer feedback-driven enhancements reinforce the allure of online banking services, building a more profound sense of community and allegiance inside the digital banking environment

4. Financial institutions should improve reliable technology infrastructure, clear communication channels, and feedback mechanisms to capitalise on the relationship between consumers' perceptions of e-service reliability and their use of e-banking services. Further enhancing reliability can involve working with technology partners and fortifying security measures. Thorough personnel training guarantees effective problem-solving. These actions encourage customers to have increased confidence and satisfaction with digital banking

5. Financial institutions should carry out cost-benefit studies to find efficiencies without compromising the quality of their services. Reducing overall costs can be achieved by investing in technological advancements and enacting pricing incentives for efficient e-banking channels. In the world of digital banking, tactics for affordability can be adjusted and improved through ongoing observation and consumer input

6. Financial institutions should implement customised tactics that target a range of demographic groups, given the noteworthy moderating effect of demographic variables on the relationship between e-banking adoption and consumers' satisfaction with e-services. To comprehend the particular preferences and requirements of various client groups based on variables like gender, age, marital status, and educational background, this entails performing extensive demographic research. It

can improve customer happiness and engagement by customising e-banking options, communication methods, and customer support services to appeal to particular demographic groups. Moreover, ongoing strategy evaluation and modification in response to demographic shifts and consumer input guarantees banks' adaptability to changing client demands in the ever-changing digital banking world.

5.4 Contribution to the Knowledge

This study has made significant contributions to knowledge in the field of digital banking in Nigeria deposit money banks. The following are some of the contributions to the body of knowledge.

1. The findings highlight the positive relationship between e-banking adoption dimensions (online, mobile, and ATM services) and customers' e-service responsiveness, accessibility, convenience, reliability, and cost. This underlines the role of e-banking channels in moulding customers' perceptions and experiences in the digital banking environment.

2. Another contribution to the body of knowledge is the identification of demographic characteristics as moderators (gender, age, marital status, and educational degree), emphasising the importance of personalised strategies for serving diversified customers. Financial institutions may optimise e-banking solutions to increase customer satisfaction and interaction by recognising and accounting for these demographic variations.

3. The study also contributed to knowledge by offering significant insights for building specialised e-banking strategies that fit customers' changing demands and preferences

across different demographic groups, resulting in the growth of knowledge in the field of digital banking.

4. This study developed a Digital Banking Adoption model which integrated the dimensions of e-banking adoption, demographic characteristics of adopters and customers' e-service satisfaction for deposit money banks, as depicted in Figure 5.1

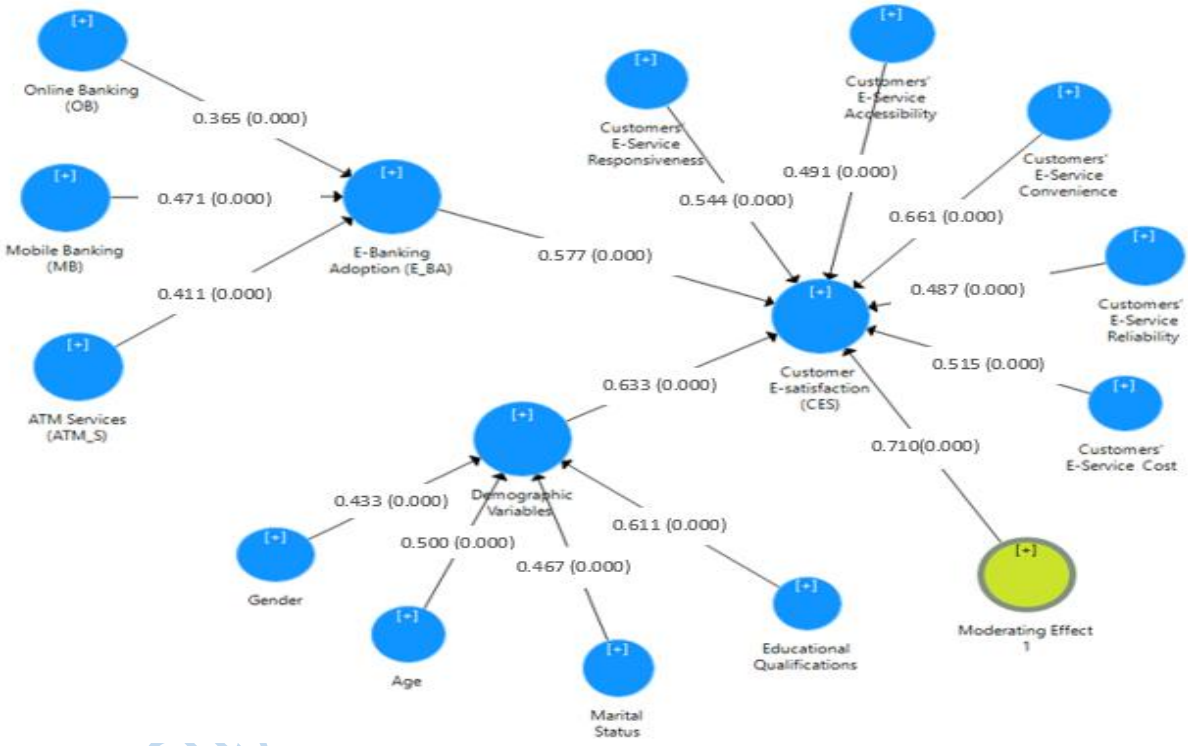


Figure 5.1: E-banking Adoption, Demographic Variable and Customers' E-Service Satisfaction Model

5.5 Suggestions for Further Studies

Future research should endeavour to sample populations that are more significant than a particular city or region to improve the generalizability of results. A more thorough

knowledge of e-banking uptake and satisfaction might result from including clients from different areas of Nigeria and possibly from other countries or cultural backgrounds.

Future studies may consider using a mixed-methods strategy that blends interviews and questionnaire surveys to improve the data quality and provide a more in-depth understanding of the experiences and opinions of the target audience. The utilisation of qualitative interviews can yield more prosperous and more thorough data by capturing subtleties and context that may need to be adequately captured through quantitative surveys alone.

Future research should include controls to reduce the possibility of biases in the self-report data. Multiple data collection techniques, including observational studies or third-party evaluations, can lessen the impact of social desirability and standard method bias on the findings and assist in confirming self-reported data.

Future research should examine the impact of additional moderating variables, such as economic level, occupation, technical skill, cultural factors, and demographic features. A more comprehensive comprehension of the variables impacting the adoption and satisfaction of e-banking among various client categories would be possible by including a more extensive array of moderating variables.

Bibliography

Books

Conner, M. *Theory of planned behavior.* Handbook of Sport Psychology, 2020, pp.1-18.

Khan, H.F. E-Banking system benefits and issues. *Dr. Bhatt, KN (Ed.), Insights into Economics and Management,* Book Publisher International (a part of Sciencedomain International), 11, 2021, pp.40-48.

Ridwan-Lanre, I., Eregha, P.B. & Sampson, H. *Determinants of e-banking adoption in Lagos State.* NDIC Quarter, 34, 2019, pp.1-18.

Conference Proceedings

Alansari, Y., & Al-Sartawi, A.M.M. *IT governance and E-banking in GCC listed banks.* Procedia Computer Science, 183, 2021, pp.844-848.

Alsmadi, A.A., Sha'ban, M. & Al-Ibbini, O.A. *The relationship between E-banking services and bank profit in Jordan for the period of 2010-2015.* In Proceedings of the 2019 5th International Conference on E-Business and Applications, 2019, pp. 70-74.

Aziza, C. & Kassim, N.M. *The moderating role of consumer characteristics on e-loyalty in e-banking business: A multigroup analysis.* In SHS Web of Conferences, EDP Sciences. Vol. 124, 2021, p. 09002.

Buddhika, H.K.T. & Gunawardana, T.S.L.W. *The impact of E-Banking on customer satisfaction in Private Commercial Banks, Sri Lanka.* In Proceedings of the 9th International Conference on Management and Economics, 2020, pp. 353-368.

Hidayat, A. & Kassim, S. *E-banking adoption, labour cost and deposit in Islamic banking: Evidence from Indonesia.* In The Proceeding, 2021, p. 21.

Jaiwani, M., Gopalkrishnan, S., Mohanty, S.P. & Murthy, N. *Understanding service quality, customer satisfaction and banking behaviour from an e-banking perspective: An empirical approach.* In 2022 International Conference on Sustainable Islamic Business and Finance (SIBF) 2022, pp. 12-20.

Le, T.T.K. *E-banking and Customer Satisfaction: A Case Study in Vietnam.* In Proceedings of the 2022 3rd International Conference on Internet and E-Business, 2022, pp. 50-55.

Octabriyantiningtyas, D., Suryani, E. & Jatmiko, A.R. *Modeling customer satisfaction with the service quality of E-money in increasing profit of Pt. Telekomunikasi Indonesia.* Procedia Computer Science, 161, 2019, pp.943-950.

Ramesh, V., Jaunky, V.C., Roopchund, R. & Oodit, H.S. *'Customer satisfaction', loyalty and 'adoption'of e-banking technology in Mauritius.* In Embedded Systems and Artificial Intelligence: Proceedings of ESAI 2019, Fez, Morocco, Springer Singapore. 2020, pp. 861-873.

Rauf, A., Rauf, S., Mehmood, R. & Kamboh, U.R. *E-banking services as a competitive edge in Pakistan banking sector: Recent adopters prospective.* In 2018 International Conference on Information Management and Processing (ICIMP) (pp. 66-72). IEEE.

Sakhnini, Z., Elali, W. & Al-Sartawi, A. *Behavioral and non-behavioral factors and the level of adapting and implementing fintech and E-banking in Bahrain: Suggested model.* In Artificial Intelligence for Sustainable Finance and Sustainable Technology: Proceedings of ICGER 2021. Springer International Publishing, 1, 2022, pp. 188-193.

Salloum, S.A., Alhamad, A.Q.M., Al-Emran, M., Monem, A.A. & Shaalan, K. *Exploring students' acceptance of e-learning through the development of a comprehensive technology acceptance model.* IEEE access, 7, 2019, pp.128445-128462.

Yau, H.K., Siu, M.K. & Tang, H.Y. *Effects of e-service quality dimensions on overall e-banking service quality, customer satisfaction and customer loyalty in Hong Kong banking sector.* In Lecture Notes in Engineering and Computer Science: Proceedings of the International MultiConference of Engineers and Computer Scientists, 2021, pp. 20-22.

Journals

Abdulhadi, R.A. & Ahmad, S. *Internet banking in Saudi Arabia.* **PalArch's Journal of Archaeology of Egypt/Egyptology,** 18(13), 2021, pp.673-684.

Abed, N.K. & Islam, M.K. *Factors impacting e-banking adoption in Iraq*. **International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies,** 13(9), 2022, pp.1-11.

Aburbeian, A.M., Owda, A.Y. & Owda, M. *A technology acceptance model survey of the metaverse prospects.* Ai, 3(2), 2022, pp.285-302.

Adeniyi, A.M., Kayode, A.K., Sakirat, S.O. & Olamide, F.T. *Monetary policy and bank credit in Nigeria: A Toda-Yamamoto approach.* Acta Universitatis Danubius. Œconomica, 14(5), 2018.

Adepoju, A. & Adeniji, A. *Technology acceptance of e-banking services in an unnatural environment.* **SEISENSE Journal of Management,** 3(3), 2020, pp.34-50.

Adhikari, P.R. *Role of information technology on banking service delivery in Kathmandu valley*. **The Journal of Economic Concerns,** 11(1), 2020, pp.1-6.

Adil, M., Nasir, M., Sadiq, M. & Bharti, K. *SSTQUAL model: Assessment of ATM service quality in an emerging economy.* **International Journal of Business Excellence,** 22(1), 2020, pp.114-138.

Ahanthem, A.M.C. *Examining factors affecting customers adoption towards e-banking services: An empirical investigation in Manipur.* **Isbr Management Journal** 6(02), 2021. ISSN (Online)-2456-9062.

Ahmad, S., Bhatti, S.H. & Hwang, Y. *E-service quality and actual use of e-banking: Explanation through the technology acceptance model.* **Information Development,** 36(4), 2020, pp.503-519.

Ahmed, M.A. & Sağlam, M. *The impact of CRM on customer satisfaction of commercial banks in Mogadishu Somalia*, 2020.

Ahmed, R.R., Streimikiene, D., Channar, Z.A., Soomro, R.H. & Streimikis, J. E-*banking customer satisfaction and loyalty: Evidence from serial mediation through modified ES-QUAL model and second-order PLS-SEM.* **Engineering Economics,** 32(5), 2021, pp.407-421.

Ajanthan, D. *Customers' adoption and use of e-banking services: A study in public commercial banks, Sri Lanka.* **SAARJ Journal on Banking & Insurance Research,** 7(2), 2018, pp.29-38.

Ajayi, S. *Effect of stress on employee performance and job satisfaction: A case study of Nigerian banking industry.* 2018, SSRN 3160620.

Ajzen, I. & Kruglanski, A.W. *Reasoned action in the service of goal pursuit*. **Psychological Review,** 126(5), 2019, p.774.

Ajzen, I. *The theory of planned behavior: Frequently asked questions.* Human Behavior and Emerging Technologies, 2(4), 2020, pp.314-324.

Ajzen, I. *The theory of planned behavior: Frequently asked questions.* Human Behavior and Emerging Technologies, 2(4), 2020, pp.314-324.

Alarifi, A.A. & Husain, K.S. *The influence of Internet banking services quality on e-customers' satisfaction of Saudi banks: comparison study before and during COVID-19.* **International Journal of Quality & Reliability Management,** 40(2), 2023, pp.496-516.

Al-Dmour, R., Alnafouri, M. & Al-Alwan, A. *The mediating role of satisfaction in the relationship between e-service quality and customer e-loyalty in internet banking.* **Jordan Journal of Business Administration,** 15(2), 2019.

Al-Emran, M., Mezhuyev, V. & Kamaludin, A. *Technology acceptance model in M-learning context: A systematic review.* **Computers & Education,** 125, 2018, pp.389-412.

Al-Gharaibah, O.B. *Predictors of E-banking service adoption in Malaysia using an extended technology acceptance model.* **Int. J. Contemp. Manag. Inf. Technol,** 1(1), 2020, pp.23-29.

Al-Gharaibah, O.B. *Predictors of E-banking service adoption in Malaysia using an extended technology acceptance model.* **Int. J. Contemp. Manag. Inf. Technol,** 1(1), 2020, pp.23-29.

Alhanatleh, H.M. *The effect of electronic banking services usage on clients electronic loyalty.* **Int. J. Hum. Capital Urban Manage,** 6(4), 2021, pp.461-476.

Ali, M.I., Tony, J.R. & Anputhasan, V. *E-service quality and customer satisfaction: With reference to Atm services of state banks in Sri Lanka.* **International Journal on Economics, Finance and Sustainable Development,** 4(6), 2022, pp.25-34.

Alkhaibari, M., Albarq, A., Elrayah, M., Moustafa, M., Ghaleb, M. & Abbas, A. *The impact of e-banking service quality on the sustainable customer satisfaction: Evidence from the Saudi Arabia commercial banking sector.* **International Journal of Data and Network Science,** 7(3), 2023, pp.1153-1164.

Alkhazaleh, A.M.K. & Haddad, H. *How does the Fintech services delivery affect customer satisfaction: A scenario of Jordanian banking sector.* **Strategic Change,** 30(4), 2021, pp.405-413.

Almansour, B. & Elkrghli, S. *Factors influencing customer satisfaction on e-banking services: A study of Libyan banks.* **International Journal of Technology, Innovation and Management (IJTIM),** 3(1), 2023, pp.34-42.

Al-Omoush, K.S., Al Attar, M.K., Saleh, I.H. & Alsmadi, A.A. *The drivers of E-banking entrepreneurship: An empirical study.* **International Journal of Bank Marketing,** 38(2), 2019, pp.485-500.

Altobishi, T., Erboz, G. & Podruzsik, S.J.I.J.O.M.S. *E-Banking effects on customer satisfaction: The survey on clients in Jordan banking sector.* **International Journal of Marketing Studies,** 10(2), 2018, pp.151-161.

Amidjaya, P.G. & Widagdo, A.K. *Sustainability reporting in Indonesian listed banks: Do corporate governance, ownership structure and digital banking matter?.* **Journal of Applied Accounting Research,** 21(2), 2020, pp.231-247.

AmmaraPhakdeeburi, P.L. *Creative service values in Thailand 4.0 finance industry.* **Turkish Journal of Computer and Mathematics Education (TURCOMAT),** 12(14), 2021, pp.5872-5884.

Ananda, S., Devesh, S. & Al Lawati, A.M. *What factors drive the adoption of digital banking? An empirical study from the perspective of Omani retail banking.* **Journal of Financial Services Marketing,** 25(1-2), 2020, pp.14-24.

Anh, T., Anh, V., Quynh, N., Le, N., Huyen, T. & Trung, H. *Factors affecting the acceptance of gamification application in e-banking.* **International Journal of Data and Network Science,** 7(2), 2023, pp.601-608.

Anidiobu, G.A., Okolie, P.I. & Oleka, D.C. *Analysis of inflation and its effect on economic growth in Nigeria.* **Journal of Economics and Finance,** 9(1), 2018, pp.28-36.

Anouze, A.L.M. & Alamro, A.S. *Factors affecting intention to use e-banking in Jordan.* **International Journal of Bank Marketing,** 38(1), 2019, pp.86-112.

Arora, R. *Moderating effect of demographics in adopting online banking services.* **NeuroQuantology,** 20(10), 2022, p.4592.

Arora, S. & Kaur, S. *Perceived risk dimensions and its impact on intention to use e-banking services: a conceptual study.* **Journal of Commerce and Accounting Research,** 7(2), 2018, p.18.

Asiyanbi, H. & Ishola, A. *E-banking services impact and customer satisfaction in selected bank branches in Ibadan metropolis, Oyo state, Nigeria.* **Accounting,** 4(4), 2018, pp.153-160.

Aslam, W., Tariq, A. & Arif, I. *The effect of ATM service quality on customer satisfaction and customer loyalty: An empirical analysis.* **Global Business Review,** 20(5), 2019, pp.1155-1178.

Ayinaddis, S.G., Taye, B.A. & Yirsaw, B.G. *Examining the effect of electronic banking service quality on customer satisfaction and loyalty: An implication for technological innovation.* **Journal of Innovation and Entrepreneurship,** 12(1), 2023, p.22.

Ayodeji, A. & Oluwole, A. *Impact of monetary policy on economic growth in Nigeria.* **Open Access Library Journal,** 5(2), 2018, pp.1-12.

Balamurugan, S. & Selvalakshmi, M. *E-banking: An empirical study of the factors affecting young customer's satisfaction in India*. **Finance India,** 34(4), 2020.

Banker, A. & Parmar, H. *A study on determinants for measuring the impact of service quality parameters of e-banking.* **Solid State Technology,** 63(6), 2020, pp.22608-22616.

Banker, A., Jadhav, D. & Bhatt, V. *A classification of E-Banking users based on impact of service quality parameters in Banking industry.* **PalArch's Journal of Archaeology of Egypt/Egyptology,** 17(12), 2020, pp.1746-1758.

Bashir, M.A., Ali, M.H., Akther, N., Lam, M.W., Mohd Paiz, N.A. & Islam, A. *Developing an integrative customer satisfaction model: an application of customer experience in Malaysian E-banking services.* **International Journal of Advanced Science and Technology,** 29(4), 2020, pp.868-881.

Bashir, M.A., Ali, M.H., Wai, L.M., Hossain, M.I. & Rahaman, M.S. *Mediating effect of customer perceived value on the relationship between service quality and customer satisfaction of E-Banking in Bangladesh.* **International Journal of Advanced Science and Technology,** 29(2), 2020, pp.3590-3606.

Benhabib, J., Perla, J. & Tonetti, C. *Reconciling models of diffusion and innovation: A theory of the productivity distribution and technology frontier.* **Econometrica,** 89(5), 2021, pp.2261-2301.

Beshir, E.S. & Zelalem, B.A. *The effect of e-banking service quality on customer's satisfaction and loyalty.* **The Strategic Journal of Business & Change Management,** 7(3), 2020, pp.818-832.

Bojang, I. & Ceesay, L.B. *Consumer susceptibility to e-banking services: Evidence from retail banking sector of the Gambia.* **European Journal of Business and Management Research,** 5(2), 2020.

Bosnjak, M., Ajzen, I. & Schmidt, P. *The theory of planned behavior: Selected recent advances and applications.* **Europe's Journal of Psychology,** 16(3), 2020, p.352.

Buabeng-Andoh, C. *Predicting students' intention to adopt mobile learning: A combination of theory of reasoned action and technology acceptance model.* **Journal of Research in Innovative Teaching & Learning,** 11(2), 2018, pp.178-191.

Butt, S. *Impact of e-banking service quality on customers' behavior intentions mediating role of trust.* **Global Management Journal for Academic & Corporate Studies,** 11(2), 2021, pp.1-21.

Chaimaa, B., Elkamoun, N., & Hilal, R. *"E-banking overview: Concepts, challenges and solutions."* **Wireless Personal Communications** 117: 2021, 1059-1078.

Chandel, A. & Vij, R. *E-banking service quality: A scale development and validation attempt.* **Indian Journal of Marketing,** 49(9), 2019, pp.23-41.

Chandrasekaran, S. & Narayanan, S.M. *Recent and future trends in e–banking services for Indian banking sector.* **Journal of The Gujarat Research Society,** 21(16), 2019, pp.245-251.

Chauhan, V., Yadav, R. & Choudhary, V. *Adoption of electronic banking services in India: An extension of UTAUT2 model.* **Journal of Financial Services Marketing,** 2022, pp.1-14.

Chmielarz, W. & Zborowski, M. *Towards sustainability in E-banking website assessment methods.* **Sustainability**, 12(17), 2020, p.7000.

Chukwudi, D.G. & Amah, E. *Development of e-banking, its benefits and challenges in the Nigerian banking industry.* **ASPL International Journal of Management Sciences Journals**@ arcnjournals. Org, 1(2), 2018, pp.1-7.

Daka, G.C. & Phiri, J. *Factors driving the adoption of e-banking services based on the UTAUT model.* **International Journal of Business and Management,** 14(6), 2019, pp.43-52.

Das, S.A. & Ravi, N. *A study on the impact of e-banking service quality on customer satisfaction.* **Asian Journal of Economics, Finance and Management,** 2021, pp.450-458.

Dearing, J.W. & Cox, J.G. *Diffusion of innovations theory, principles, and practice.* **Health Affairs,** 37(2), 2018, pp.183-190.

Dhanya, B.K. & Velmurugan, V.P. *Perception towards the problems of e-banking among the new users at Thiruvananthapuram District.* **Journal of Critical Reviews,** 7(1), 2020, pp.474-477.

Eluyela, D.F., Akintimehin, O.O., Okere, W., Ozordi, E., Osuma, G.O., Ilogho, S.O. & Oladipo, O.A. *Board meeting frequency and firm performance: Examining the nexus in Nigerian deposit money banks.* **Heliyon**, 4(10), 2018.

Essel, R.E. *Assessing the moderating role of trialability and perceived risk of e-banking adoption in an emerging economy.* Vision, 2022, p.09722629221106260.

Etim, G.S., Ada, J.A., Eyo, I.E., Ndem, S.E. & James, E.E. *Electronic banking and customers' access to banking services in rural settlements.* **Res Militaris,** 13(3), 2023, pp.1161-1177.

Firman, A. & Kamaluddin, L.A. *Benefits and confidence in the interest of e-banking.* **Jurnal Economic Resource,** 4(1), 2021.

Ghasemi, Z., Afshar Kermani, M. & Allahviranloo, T. *Exploring the main effect of e-banking on the banking industry concentration degree on predicting the future of the banking industry:* A case study. Advances in Fuzzy Systems, 2021, pp.1-14.

Godswill, O., Ailemen, I., Osabohien, R., Chisom, N. & Pascal, N. *Working capital management and bank performance: Empirical research of ten deposit money banks in Nigeria.* Banks & bank systems, (13, Iss. 2), 2018, pp.49-61.

Goh, E. & Sigala, M. *Integrating information & communication technologies (ICT) into classroom instruction: Teaching tips for hospitality educators from a diffusion of innovation approach.* **Journal of Teaching in Travel & Tourism,** 20(2), 2020, pp.156-165.

Goodie-Okio Jennifer, A. *Mobile banking service quality and customer satisfaction of deposit money banks in Port Harcourt.* **International Academic Journal of Management & Marketing,** 2022.

Gorgievski, M.J., Stephan, U., Laguna, M. & Moriano, J.A. *Predicting entrepreneurial career intentions: Values and the theory of planned behavior.* **Journal of Career Assessment,** 26(3), 2018, pp.457-475.

Gowda, M.P. *Impact of e-banking on rural India-A bird's eyeview.* **Asian Journal of Management,** 9(3), pp.1191-1194.

Granić, A. & Marangunić, N. *Technology acceptance model in educational context: A systematic literature review.* **British Journal of Educational Technology,** 50(5), 2019, pp.2572-2593.

Hadid, K.I., Soon, N.K. & Amreeghah, A.A.E. *The effect of digital banking service quality on customer satisfaction: A case study on the Malaysian banks.* **Asian Journal of Applied Science and Technology,** 4(01), 2020, pp.06-29.

Halder, S., Albino, M.G. & Peralta, G.A. *The effect of automation of banking services on customer satisfaction.* **The Asian Journal of Technology Management,** 15(2), 2022, pp.177-186.

Hammoud, J., Bizri, R.M. & El Baba, I. *The impact of e-banking service quality on customer satisfaction: Evidence from the Lebanese banking sector.* Sage Open, 8(3), 2018, p.2158244018790633.

Hanafizadeh, P. & Zare Ravasan, A. *An empirical analysis on outsourcing decision: The case of e-banking services.* **Journal of Enterprise Information Management,** 31(1), 2018, pp.146-172.

Haralayya, B. *How Digital Banking has brought innovative products and services to India.* **Journal of Advanced Research in Quality Control and Management,** 6(1), 2021, pp.16-18.

Harijanto, A.T. & Watson, W. *The influence of e-service quality towards customer satisfaction and customer loyalty on gopay electronic wallet users.* **Jurnal Inovasi Penelitian,** 2(6), 2021, pp.1833-1844.

Ho, S.P.S. & Wong, A. *The role of customer personality in premium banking services.* **Journal of Financial Services Marketing,** 28(2), 2023, pp.285-305.

Huda, S.N., Aktar, S. & Islam, M.S. *Impact of e-banking on service quality and customer satisfaction in selected private commercial banks in Bangladesh.* **Globus-An International Journal of Management and IT,** 11(2), 2020, pp.21-27.

Ibrahim, A.U. & Daniel, C.O. *Impact of e-banking on the development of banking sector in Nigeria.* **International Journal of Managerial Studies and Research (IJMSR),** 7(2), 2019, pp.19-27.

Indriastuti, H., Putri, A.N.O.D., Robiansyah, R. & Anwar, H. *The effect of e-service quality and e-trust on customer loyalty and mediating customer satisfaction of internet banking users.* **Jurnal Manajemen dan Kewirausahaan,** 10(1), 2022, pp.24-34.

Inegbedion, H., Inegbedion, E.E., Osifo, S.J., Eze, S.C., Ayeni, A., & Akintimehin, O. *Exposure to and usage of e-banking channels: Implications for bank customers' awareness and attitude to e-banking in Nigeria.* **Journal of Science and Technology Policy Management,** 11(2), 2020, pp.133-148.

Isibor, A.A., Omankhanlen, A.E., Okoye, L.U., Achugamonu, B.U., Adebayo, M.E., Afolabi, G.T. & Ayodeji, O.E. *Impact of electronic banking technology on customers satisfaction and economic growth in Nigeria.* **International Journal of Civil Engineering and Technology,** 9(12), 2018, pp.536-544.

Jafar, S., Malik, B. & Gul, N. *Impact of customer's awareness and perceived risk associated with e-banking: The moderating role of demographics.* **International Journal of Management (IJM)**, 12(1), 2021, pp.88-101.

Jose, A., Mathew, S., Chacko, D.P. & Thomas, A.K. *The role of switching cost in the e-service recovery framework among banking customers.* **International Journal of Quality and Service Sciences,** 14(1), 2022, pp.86-109.

Kalu, A.O.U., Unachukwu, L.C., Ibiam, O. & Nwadighoha, E.E. *Electronic customer relationship management and consumer behaviour (A study of Diamond Bank Plc, Nigeria).* **Invention Journal of Research Technology in Engineering & Management (IJRTEM),** 2(7), 2018, pp.26-36.

Kavishemi, S. & Thavakumar, D. *Impact of mobile banking applications usage on customers' satisfaction for selected commercial banks in the Manmunai North Division of Batticaloa District,* 2020.

Kesharwani, S. *E-service quality in banking industry-a review.* **Global Journal of Enterprise Information System,** 12(2), 2020, pp.111-118.

Khan, A.J., Hanif, N., Iqbal, J., Ahmed, T., Hameed, W.U. & Malik, A.A. *Greening for greater good: investigating the critical factors for customer satisfaction with sustainable e-banking.* **Environmental Science and Pollution Research,** 2023, pp.1-11.

Khan, M.L. & Idris, I.K. *Recognise misinformation and verify before sharing: A reasoned action and information literacy perspective.* **Behaviour & Information Technology,** 38(12), pp.1194-1212.

Khan, S.A., Epoc, F., Gangwar, V., Ligori, T.A.A. & Ansari, Z.A. *Will online banking sustain in Bhutan post COVID-19? A quantitative analysis of the customer satisfaction and e-loyalty in the Kingdom of Bhutan.* **Transnational Marketing Journal,** 9(3), 2021, pp.607-624.

Khanal, K. *Impact of e-Banking services on customer awareness in Nepalese commericial banks.* **Nepalese Journal of Management Research,** 3(1), 2023, pp.1-10.

Khattab, I., Ahmed, A.M. & Al-Magli, O.A.O. *The implications of e-banking channels on job security and personal development.* **Banking & Financial Studies,** (35), 2020, pp.9-39.

Kitigin, B., Korir, M. & Chepkwony, K. *E-Banking technology characteristics and performance of micro and small enterprise in kenya: A moderated mediation model of adoption and innovative behavior.* **SEISENSE Journal of Management,** 4(1), 2021, pp.13-30.

Kumar, R., Sachan, A. & Kumar, R. *The impact of service delivery system process and moderating effect of perceived value in internet banking adoption.* **Australasian Journal of Information Systems,** 24, 2020.

Kumar, R.M., Ramakrishnan, L. & Krishnamacharyulu, C.S.G. *Review of e-customer Loyalty in Internet Banking.* **Webology**, 18(SI01), 2021, pp.280-287.

La Barbera, F. & Ajzen, I. *Control interactions in the theory of planned behavior: Rethinking the role of subjective norm.* **Europe's Journal of Psychology,** 16(3), 2020, p.401.

Ladipo, P., Dixon-Ogbechi, B., Enyinnaya, N. & Akeke, O. *Influence of technology acceptance model (TAM) on customer adoption of e-banking practice in Lagos state.* **Journal of Social Sciences,** 3(4), 2021, pp.124-138.

Lin, L. & Shiqian, W. *Factors influencing the behavior intention of E-banking transactions through mobile phones in China.* **Journal of Internet Banking and Commerce,** 23(1), 2018, pp.1-11.

Lusaya, S. & Kalumba, B. *The challenges of adopting the use of e-banking to the customers: The case of Kasama district banking customers.* **Scholar Journal of Applied Sciences and Research,** 1(2), 2018, pp.26-31.

M. Hamakhan, Y.T. *The effect of individual factors on user behaviour and the moderating role of trust: an empirical investigation of consumers' acceptance of electronic banking in the Kurdistan Region of Iraq.* **Financial Innovation,** 6(1), 2020, p.43.

Mahmoud, M.A. *Gender, e-banking, and customer retention.* **Journal of Global Marketing,** 32(4), 2019, pp.269-287.

Mahrakani, N., Shammot, M.M. & Areiqat, A.Y. *Customer satisfaction measurement of e-banking service quality in Riyadh, Saudi Arabia.* **Academy of Strategic Management Journal,** 20(Special Issue 2), 2021, pp.1-19.

Malc, D., Dlačić, J., Pisnik, A. & Milfelner, B. *The development of e-banking services quality measurement instrument: MPQe-BS.* **Sustainability**, 15(16), 2023, p.12659.

Malhotra, N., Sahadev, S., Leeflang, P.S.H. & Purani, K. *New insights into e-loyalty of internet banking users in an emerging market context: A multilevel analysis.* **Information Systems Frontiers,** 23, 2021, pp.1521-1536.

Mathenge, C.W. *Electronic banking and the financial performance of commercial banks*, 2020.

Matousek, R. & Solomon, H. *Bank lending channel and monetary policy in Nigeria.* **Research in International Business and Finance,** 45, 2018, pp.467-474.

Min, S., So, K.K.F. & Jeong, M. *Consumer adoption of the Uber mobile application: Insights from diffusion of innovation theory and technology acceptance model.* **In Future of Tourism Marketing**, 2021, pp. 2-15.

Mogos, G. & Jamail, N.S.M. *Study on security risks of e-banking system.* **Indonesian Journal of Electrical Engineering and Computer Science,** 21(2), 2021, pp.1065-1072.

Mohammadi, M.M., Poursaberi, R. & Salahshoor, M.R. *Evaluating the adoption of evidence-based practice using Rogers's diffusion of innovation theory: A model testing study.* **Health Promotion Perspectives,** 8(1), 2018, p.25.

Mohammed, N. & Faleel, J. *Empirical study on security in online banking in Saudi Arabia.* **PalArch's Journal of Archaeology of Egypt/Egyptology,** 18(13), 2021, pp.58-67.

Mohammed, O.K. *Electronic banking and customer satisfaction in selected banking institutions in Mogadishu Somalia,* 2019.

Mori, N. & Mlambiti, R. *Determinants of customers' adoption further of mobile evidence banking from in a Tanzania: Diffusion of innovation theory.* **Behavioral Determinants of Enterprise Development and Innovation,** 16(2), 2020, p.203.

Mosa, R.A. *The influence of e-customer relationship management on customer experience in e-banking service.* Soc. Sci, 12(2), 2022, pp.193-215.

Mousa, A.H., Mousa, S.H., Aljshamee, M. & Nasir, I.S. *Determinants of customer acceptance of e-banking in Iraq using technology acceptance model.* **Telkomnika (Telecommunication Computing Electronics and Control),** 19(2), 2021, pp.421-431.

Mousa, A.H., Mousa, S.H., Aljshamee, M. & Nasir, I.S. *Determinants of customer acceptance of e-banking in Iraq using technology acceptance model.* **TELKOMNIKA (Telecommunication Computing Electronics and Control),** 19(2), 2021, pp.421-431.

Mudalige, P.W. *Quality of e-banking service delivery in Sri Lanka and people's level of satisfaction*: *A study conducted in Kiribathgoda town in Gampaha district,* 2021.

Mulia, D., Usman, H. & Parwanto, N.B. *The role of customer intimacy in increasing Islamic bank customer loyalty in using e-banking and m-banking.* **Journal of Islamic Marketing,** 12(6), 2021, pp.1097-1123.

Mwiya, B., Katai, M., Bwalya, J., Kayekesi, M., Kaonga, S., Kasanda, E., Munyonzwe, C., Kaulungombe, B., Sakala, E., Muyenga, A. & Mwenya, D. *Examining the effects of electronic service quality on online banking customer satisfaction: Evidence from Zambia.* **Cogent Business & Management,** 9(1), 2022, p.2143017.

Naeem, M. & Ozuem, W. *The role of social media in internet banking transition during COVID-19 pandemic: Using multiple methods and sources in qualitative research.* **Journal of Retailing and Consumer Services,** 60, 2021, p.102483.

Nagar, N. & Ghai, E. *A study of bank customer's reliability towards electronic banking (e-banking) channel's.* **Int. J. Manag. Stud,** 6, 2019, p.34.

Näsholm Johansen, J. & Al Amin, N. *E-loyalty in digital platforms: How do the employees in banks experience their work with customer e-loyalty, individually and in relation to each other?*. 2018.

Nayanajith, D.G., Weerasiri, R.A.S. & Damunupola, K.A. *A review on e-banking adoption in the context of e-service quality.* **Sri Lanka Journal of Marketing,** 5(2), 2019.

Nazaritehrani, A. & Mashali, B. *Development of E-banking channels and market share in developing countries.* **Financial Innovation,** 6(1), 2020, p.12.

Nguyen, D.T., Pham, V.T., Tran, D.M. & Pham, D.B.T. *Impact of service quality, customer satisfaction and switching costs on customer loyalty.* **The Journal of Asian Finance, Economics and Business,** 7(8), 2020, pp.395-405.

Nguyen, Q., Ngo, A. & Mai, V. *Factors impacting online complaint intention and service recovery expectation: The case of e-banking service in Vietnam.* **International Journal of Data and Network Science,** 5(4), 2021, pp.659-666.

Nso, M.A. *Impact of technology on e-banking; Cameroon perspectives.* **International Journal of Advanced Networking and Applications,** 9(6), 2018, pp.3645-3653.

Nustini, Y. & Fadhillah, N. *Factors that influence the use of e-banking and the effect on consumptivism.* **Review of Integrative Business and Economics Research,** 9, 2020, pp.330-345.

Nwachukwu, D., Azuonwu, B.E., Nwador, C.A., Dike, L.B. & Origbo, H. *Self-service technology adoption and post-purchase intentions of deposit money banks customers in Port Harcourt.* **International Journal of Management Sciences,** 10(1), 2023, pp.175-211.

Nwinyokpugi, P.N. *Workload management strategies and employees efficiency in the Nigeria banking sector.* **International Journal of Innovative Research and Development,** 7(1), 2018, pp.286-293.

Nyagadza, B., Mazuruse, G., Muposhi, A., Chuchu, T., Makoni, T. & Kusotera, B. *Emotions' influence on customers'e-banking satisfaction evaluation in e-service failure and e-service recovery circumstances.* **Social Sciences & Humanities Open,** 6(1), 2022, p.100292.

Obaid, T. *Predicting mobile banking adoption: An integration of TAM and TPB with trust and perceived risk.* 2021, SSRN 3761669.

Ogboye, K.S., Akande, F.I. & Kwarbai, J. *Determinants of digital banking convenience and customer satisfaction of selected deposit money banks in Nigeria.* **European Journal of Accounting, Auditing and Finance Research,** 10(2), 2022, pp.1-30.

Ogonu, G.C. *Ethical employee behaviour an deposit money banks in.* **International Journal of Management and Marketing Systems,** 2020.

Okoye, L.U., Omankhanlen, A.E., Okoh, J.I., Ezeji, F.N. & Achugamonu, B.U. *Imperatives for deepening customer service delivery in the Nigerian banking sector through engineering and technology-based channels*. **International Journal of Civil Engineerin00g and Technology,** 10(1), 2019, pp.2156-2169.

Okpara, A., Ikpefan, O. & Aigbiremolen, M.O. *Impediments to e-banking services marketing in developing economies–A case study of Nigerian banks*, 2018.

Omofowa, M.S., Omofowa, S., Nwachukwu, C. & Le,. V. *E-banking service quality and customer satisfaction: evidence from deposit money bank in south-south Nigeria.* **Management,** 2021.

Omoregie, O.K., Addae, J.A., Coffie, S., Ampong, G.O.A. & Ofori, K.S. *Factors influencing consumer loyalty: evidence from the Ghanaian retail banking industry.* **International Journal of Bank Marketing,** 37(3), 2019, pp.798-820.

Onyekwelu, U.L., Chukwuani, V.N. & Onyeka, V.N. *Effect of liquidity on financial performance of deposit money banks in Nigeria.* **Journal of Economics and Sustainable Development,** 9(4), 2018, pp.19-28.

Othman, A.K., Hamzah, M.I. & Abu Hassan, L.F. *Modeling the contingent role of technological optimism on customer satisfaction with self-service technologies: A case of cash-recycling ATMs.* **Journal of Enterprise Information Management,** 33(3), 2020, pp.559-578.

Pambudi, A., Widayanti, R. & Edastama, P. *Trust and acceptance of E-banking technology effect of mediation on customer relationship management performance.* **ADI Journal on Recent Innovation,** 3(1), 2021, pp.87-96.

Paul, P., Giri, S., Mitra, P. & Haque, M.M. *Analysing the customer satisfaction index of e-banking using kano (1984) model framework.* **Global Business Review,** 2022, p.09721509221093892.

Putra, Y.A. & Syah, T.Y. *The influence of the self-service technology, service quality, and e-relationship quality on e-loyalty.* **Journal of Interactive Marketing,** 4(08), pp.37-43.

Rahi, S., Ghani, M.A. & Ngah, A.H. *Factors propelling the adoption of internet banking: The role of e-customer service, website design, brand image and customer satisfaction.* **International Journal of Business Information Systems,** 33(4), 2020, pp.549-569.

Rahimi, B., Nadri, H., Afshar, H.L. & Timpka, T. *A systematic review of the technology acceptance model in health informatics.* **Applied Clinical Informatics,** 9(03), 2018, pp.604-634.

Rajaobelina, L., Prom Tep, S., Arcand, M. & Ricard, L. *The relationship of brand attachment and mobile banking service quality with positive word-of-mouth.* **Journal of Product & Brand Management,** 30(8), 2021, pp.1162-1175.

Rajasulochana, D.M.K. *Service quality in SBI: An assessment of customer satisfaction on e-banking services.* **Journal of Positive School Psychology,** 2022, pp.4585-4590.

Rajasulochana, D.S.M. *E-banking and customers' satisfaction in public and private sector banks in Karnataka: An empirical analysis.* **Journal of Positive School Psychology,** 6(8), 2022, pp.8270-8279.

Raji, A., Zameni, A. & Abdulwakil, M. *Effect of electronic banking on customer satisfaction in Kwara State, Nigeria.* **International Journal of Academic Research in Business and Social Sciences,** 11(7), 2021, pp.1571-1585.

Rao, M., Andani, P. & Singh, S. *Perception towards problems and prospects of e-banking.* **International Journal of Research in Engineering, Science and Management,** 5(3), 2022, pp.60-62.

Rashwan, H.H.M., Mansi, A.L. & Hassan, H.E. *Exploring electronic-loyalty antecedents in Egyptian commercial banks; Electronic customer relationship management and banking electronic satisfaction.* **Journal of Business and Retail Management Research,** 14(2), 2020.

Rawwash, H., Masad, F., Enaizan, O., Eneizan, B., Adaileh, M., Saleh, A. & Almestarihi, R. *Factors affecting Jordanian electronic banking services.* **Management Science Letters,** 10(4), 2020, pp.915-922.

Reddy, A.K. *Impact of E-Banking on Customer Satisfaction.* **PalArch's Journal of Archaeology of Egypt/Egyptology,** 18(08), 2021, pp.4220-4231.

Renu, D.P. & Singh, K. *The impact of e-banking on the use of banking services and customers satisfaction.* **International Journal of Trend in Scientific Research and Development,** 3(4), 2019, pp.20-23.

Sagnier, C., Loup-Escande, E., Lourdeaux, D., Thouvenin, I. & Valléry, G. *User acceptance of virtual reality: An extended technology acceptance model.* **International Journal of Human–Computer Interaction,** 36(11), 2020, pp.993-1007.

Saibil, D.I. *Does the banking information system affect customer satisfaction and loyalty?.* **EkBis: Jurnal Ekonomi dan Bisnis,** 4(1), 2020, pp.353-364.

Salimon, M.G., Mohd Mokhtar, S.S. & Yusr, M.M. *E-Banking as a financial supply chain system: Can e-TAM improve trust and the rate of adoption?.* **International Journal of Supply Chain Management,** 2020.

Sandhu, S. & Arora, S. *Customers' usage behaviour of e-banking services: Interplay of electronic banking and traditional banking.* **International Journal of Finance & Economics,** 27(2), 2022, pp.2169-2181.

Sani Abdullahi, M., Mikail Usman, B., Binta Salisu, F. & Suleiman Muhammad, Y. *Investigating the effect of convenience, accessibility and reliability on customer satisfaction in the Nigeria banking industry.* **Pakistan Journal of Humanities and Social Sciences,** 6(3), 2018, pp.296-314.

Sardana, S. & Bajpai, V.N. *E-banking service quality and customer satisfaction: An exploratory study on India.* **International Journal of Services and Operations Management,** 35(2), 2020, pp.223-247.

Sardana, V. & Singhania, S. *Digital technology in the realm of banking: A review of literature.* **International Journal of Research in Finance and Management,** 1(2), 2018, pp.28-32.

Sathiyavany, N. & Shivany, S. *E-banking service qualities, e-customer satisfaction, and e-loyalty: A conceptual model.* **The International Journal of Social Sciences and Humanities Invention,** 5(6), 2018, pp.4808-4819.

Shabbir, M.S. *Nexus between customer preference and operation of conventional banks Islamic windows in Pakistan.* **Journal of Islamic Marketing,** 11(1), 2020, pp.50-65.

Shaikh, S., Saeed, S. & Waqas, M. *The consequences of mobile banking services on customer satisfaction in Pakistan.* **IBT Journal of Business Studies (JBS),** 1(1), 2018.

Shamil, M.M., Herath, H.M.T. & Sumatiratne, W.M. *The influence of e-banking service quality on e-customer satisfaction and loyalty: A Sri Lankan study.* WM O, the

influence of e-banking service quality on e-customer satisfaction and loyalty: A Sri Lankan Study, 2023.

Shankar, A. & Jebarajakirthy, C. *The influence of e-banking service quality on customer loyalty: A moderated mediation approach.* **International Journal of Bank Marketing,** 37(5), 2019, pp.1119-1142.

Sharma, J., Singh, J. & Singh, A. *Impact of e-banking service quality on customer satisfaction.* **International Journal of Recent Technology and Engineering,** 8(5), 2020, pp.2296-2300.

Sleimi, M. & Musleh, M. *E-Banking services quality and customer loyalty: The moderating effect of customer service satisfaction: Empirical evidence from the UAE banking sector*, 2020.

Spoorthi, H. & Basavaraj, C.S. *A comparative analysis of e-banking service quality in select public and private sector banks-the case of Kalaburagi City.* **Journal of Positive School Psychology,** 6(3), 2022, pp.8124-8134.

Sussman, R. & Gifford, R. *Causality in the theory of planned behavior.* Personality and Social Psychology Bulletin, 45(6), 2019, pp.920-933.

Taherdoost, H. *A review of technology acceptance and adoption models and theories.* Procedia manufacturing, 22, 2018, pp.960-967.

Tait, M., Nkoyi, A. & Van der Walt, F. *Predicting the attitude towards electronic banking continued usage intentions among rural banking customers in South Africa.* **South African Journal of Information Management,** 21(1), 2019, pp.1-8.

Teka, B.M. *Factors affecting bank customers usage of electronic banking in Ethiopia: Application of structural equation modeling (SEM).* **Cogent Economics & Finance,** 8(1), 2020, p.1762285.

Thongkhum, P., Wingwon, B., Piriyakul, M., Sukapun, D., Ratchusanti, J. & Uthongsap, K. *Effect of e-trust, customer focus and innovativeness on satisfaction of e-banking; A moderated-mediating analysis.* วารสาร นวัตกรรม การ บริหาร และ การ จัดการ, 11(1), 2023, pp.1-15.

Trang, N.M. *The influence of personal characteristics on customers' perception of E-Banking service quality and cost effectiveness in Vietnam.* **Open Journal of Social Sciences,** 10(1), 2022, pp.377-391.

Ulker-Demirel, E. & Ciftci, G. *A systematic literature review of the theory of planned behavior in tourism, leisure and hospitality management research.* **Journal of Hospitality and Tourism Management,** 43, 2020, pp.209-219.

Ullah, F.A.A. *Electronic banking and its impact on the financial performance of commercial banks in Bangladesh: A Descriptive Analysis,* 2023.

Usman, O., Monoarfa, T. & Marsofiyati, M. *E-Banking and mobile banking effects on customer satisfaction.* **Accounting,** 6(6), 2020, pp.1117-1128.

Vargo, S.L., Akaka, M.A. & Wieland, H. *Rethinking the process of diffusion in innovation: A service-ecosystems and institutional perspective.* **Journal of Business Research,** 116, 2020, pp.526-534.

Wewege, L., Lee, J. & Thomsett, M.C. *Disruptions and digital banking trends.* **Journal of Applied Finance and Banking,** 10(6), 2020, pp.15-56.

Wicaksono, L.A.F. *Impact of BCA e-banking service quality on customer satisfaction and e-loyalty.* **Asian Journal of Social and Humanities,** 1(11), 2023, pp.852-875.

Yang, S., Li, Z., Ma, Y. & Chen, X. *Does electronic banking really improve bank performance? Evidence in China.* **International Journal of Economics and Finance,** 10(2), 2018, pp.82-94.

Yuriev, A., Dahmen, M., Paillé, P., Boiral, O. & Guillaumie, L. *Pro-environmental behaviors through the lens of the theory of planned behavior: A scoping review.* **Resources, Conservation and Recycling,** 155, 2020, p.104660.

Zeleke, S. & Chauhan, S. *The effect of electronic banking service on customer satisfaction: evidence from commercial banks of Ethiopia operating in Hawassa city administration.* **Journal of Positive School Psychology,** 6(8), 2022, pp.3228-3246.

Zephaniah, C.O., Ogba, I.E. & Izogo, E.E. *Examining the effect of customers' perception of bank marketing communication on customer loyalty.* **Scientific African,** 8, 2020, p.e00383.

Unpublished Theses/ Dissertations

Alamu, I. *Impact of mobile banking adoption on customer satisfaction among selected deposit money banks in Ilorin metropolis* (Doctoral dissertation, Kwara State University (Nigeria)), 2018.

Albinalsheikh, A.A. *The influence of online service quality on customer satisfaction, loyalty and preferences: A study of the banking sector in Saudi Arabia* (Doctoral dissertation, Victoria University), 2022.

Albuquerque, A.L. *E-banking: Its impact on customers–an empirical study of selected banks in Goa* (Doctoral dissertation, Goa University), 2018.

Babatunde, A.A. *Effect of mobile banking quality on bank customers satisfaction in selected deposit money banks in Ilorin metropolis* (Doctoral dissertation, Kwara State University (Nigeria)), 2018.

Cabrita, I.C.A. *Mobile banking: A study on adoption stages using government adoption model (GAM) and the role of demographic moderators: Factors influencing Portuguese consumers' adoption* (Doctoral dissertation, Universidade NOVA de Lisboa (Portugal)), 2021

Dhakal, D.P. *Customer's satisfaction towards service delivery system of Nepal bank limited (A case study of Birendranagar branch, Surkhet, Nepal)* (Doctoral dissertation, Central Department of Management), 2020.

Gadal, D.B. *Alternative banking channels and customer satisfaction in commercial banks in Nepal* (Doctoral dissertation, Department of Management), 2022.

Mchomba, D.A. *The impacts of electronic banking on customer satisfaction in Tanzania banking industry: The case of NMB bank* (Doctoral dissertation, The Open University of Tanzania), 2018.

Shrestha, R. *Customer satisfaction with e-banking services of private commercial banks in Nepal* (Doctoral dissertation, Department of Management, People's Campus Paknajol, Kathmandu), 2019.

Appendix I

Questionnaire

Department of Management and Accounting

Faculty of Management and Social Sciences

Lead City University Ibadan

Dear Respondent,

I am a Ph.D. student at the Department of Management and Accounting, Faculty of Management and Social Sciences , Lead City University. I am researching on Adoption of E-Banking and Customers' E-Satisfaction in Money Deposit Banks in Ibadan Oyo State Nigeria. I would like to request your cooperation in completing the attached questionnaire. This is solely for academic purpose and all information provided will be kept confidential. The survey will take approximately 10 minutes. Your contribution will be greatly appreciated.

Thank you.

Wasiu RUFAI

Department of Management and Accounting

Lead City University

Section A: Personal Details

Please tick ☑ as appropriate in the boxes provided below concerning the demographic information that fit you

1. Gender:
   - ☐ Male
   - ☐ Female
2. Age:
   - ☐ 18 – 25 years
   - ☐ 26 – 35 years
   - ☐ 36 – 45 years
   - ☐ 46 – 55 years
   - ☐ Above 55 years
3. Marital Status:
   - ☐ Single
   - ☐ Married
   - ☐ Divorced
   - ☐ Widowed
   - ☐ Separated
   - ☐ Others (please specify) ……
4. Highest educational qualification obtained
   - ☐ Primary school leaving certificate
   - ☐ Secondary school certificate
   - ☐ Diploma
   - ☐ Bachelors Degree/HND
   - ☐ Masters Degree
   - ☐ Doctorate Degree
   - ☐ Others (please specify) ……
5. For how long have you been a customer of the banks?
   - ☐ Less than 1 year
   - ☐ Between 1 and 5 years
   - ☐ Between 6 and 10 years
   - ☐ Between 11 and 20 years
   - ☐ More than 20 years
6. Which of the following accounts do you operate?
   - ☐ Savings account
   - ☐ Current account
   - ☐ Deposit account
   - ☐ Domiciliary account
   - ☐ Others (please specify) ……

7. **Occupation (Category of Respondents) ***

☐ Civil/ Public servant

☐ Private Sector Employee

☐ Self Employed

☐ Student

Section B

Please indicate with a tick, which number most approximately, captures your response to the statements.1. Strongly Agree (SA) 2-Agree (A) 3-Neutral (N) 4 – Disagree (D) 5 – Strongly Disagree (SD). We are interested in the number that best shows your opinions.

	Items on Adoption of E-banking	1(SA)	2 (A)	3 (N)	4 (D)	5(SD)
NO	**Questions on online internet banking**					
8	My bank's website is operational 24hrs a day					
9	I often use online banking for e-banking transactions					
10	It is easy to make third party payments and others bills online in my Bank					
11	Online internet banking is free from security risks					
12	There are no problems in networks regarding online banking					
	Questions on mobile banking	1(SA)	2 (A)	3(N)	4 (D)	5(SD)
13	My bank allows me to pay all bills using a cell-phone at home					
14	I use mobile banking often for my bank transactions					
15	I can easily check my bank account using his/her phone					
16	My bank can allow me to withdraw from the bank using my phone					
17	Interactive Voice Response is part of the banking services in my Bank					

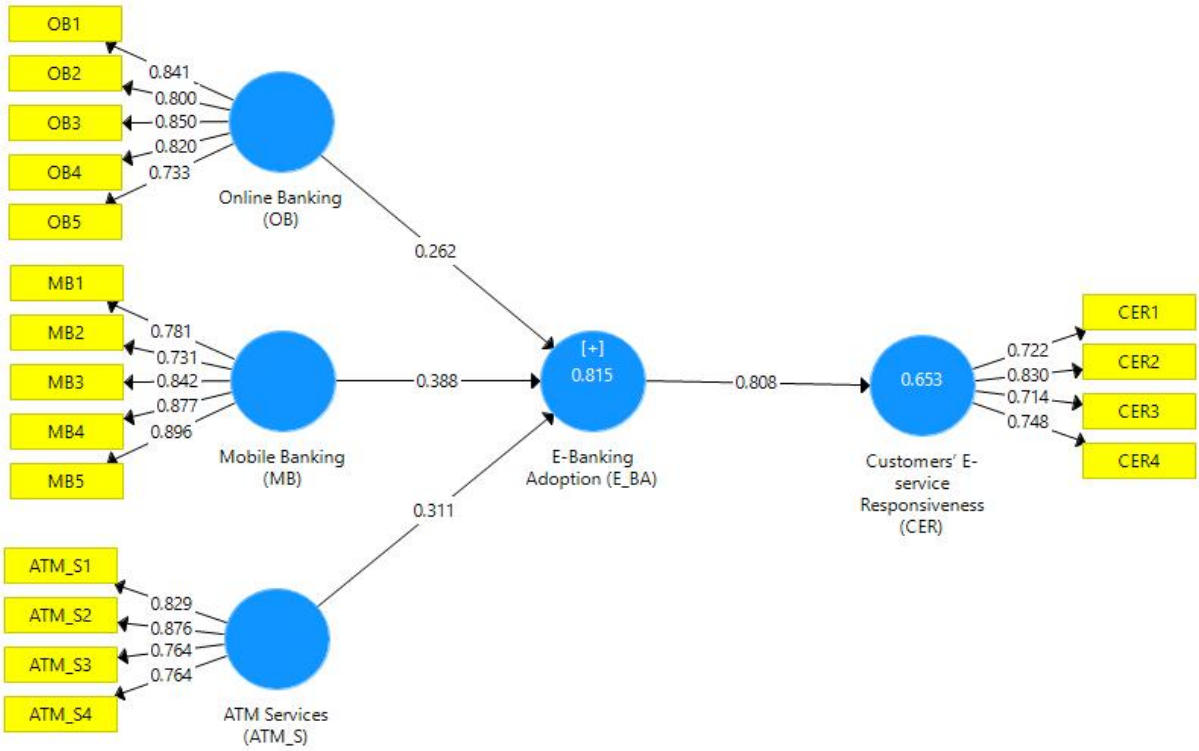
	Questions on ATM machines services					
18	My bank provides ATMs services for customers					
19	I always fee cormfortable using my bank's ATMs services					
20	My bank's ATMs are always working 24hrs					
21	My banks' ATM Inter-banking technology of Inter-switch is very efficient, effective and convenient.					
22	My Bank has both credit and debit cards for its customers					
	Section C **Items on E-satisfaction**	1(SA)	2 (A)	3(N)	4 (D)	5(SD)
	Questions on service responsiveness					
23	My bank has always be responsive to my e-banking needs.					
24	My expectation has always been met by e-banking services.					
25	My experiences with e-banking have been good.					
26	I am happy transacting e-banking than using branch banking.					
27	I feel satisfied with using this e-banking site.					
	Questions on **service accessibility**	1(SA)	2 (A)	3(N)	4 (D)	5(SD)
28	I believe that the processes of e-banking are very easy to access.					
29	I believe it is very easy for me to recover from errors and mistakes while using e-banking.					
30	I can easily remember my password and other codes while operating on e- banking platform.					
31	I derive a lot of fun while using e-banking channels					
32						
	Questions on **service convenience**	1(SA)	2 (A)	3(N)	4 (D)	5(SD)
33	I believe that the interface of e-banking is user friendly.					
34	I believe that the use of e-banking is not very difficult.					

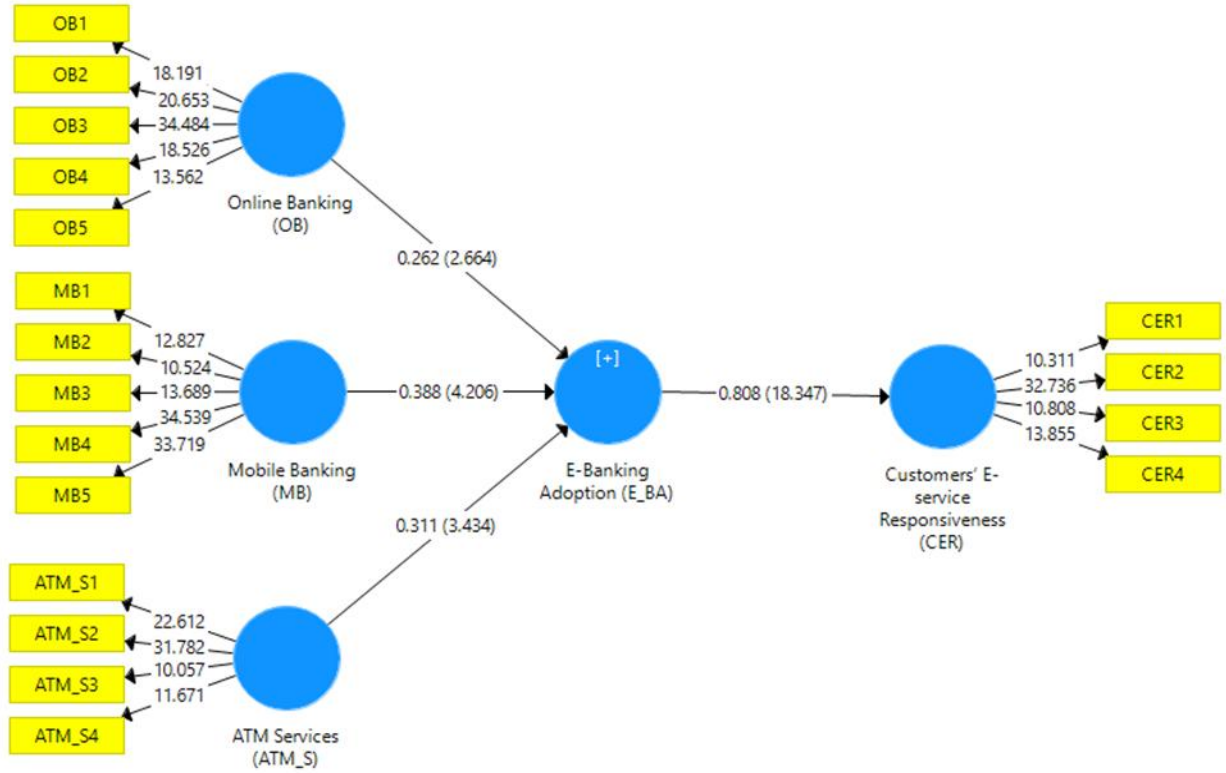
35	I am not facing any difficulty using e-banking.					
36	Overall, I feel satisfied using e-banking site.					
37	I am always pleased with the usage of e-banking.					
	Questions on service reliability	1 (SA)	2 (A)	3 (N)	4 (D)	5 (SD)
38	My banking institution provides reliable websites for banking services					
39	E-banking generally helps me to improve quality of my banking transactions.					
40	E-banking helps me to monitor my financial transactions and other online transactions.					
41	I believe that using e-banking saves my time when compared with branch banking.					
42	Overall, I believe that e-banking is useful for me to utilize banking services.					
	Questions on service cost					
43	My experiences with e-bankingin terms of charges have been good.					
44	I feel satisfied with my bank regarding e-banking charges .					
45	The transactions in Internet banking are at a lower price, or at no cost					
46	Service charges make me not using e-banking regularly					
47						

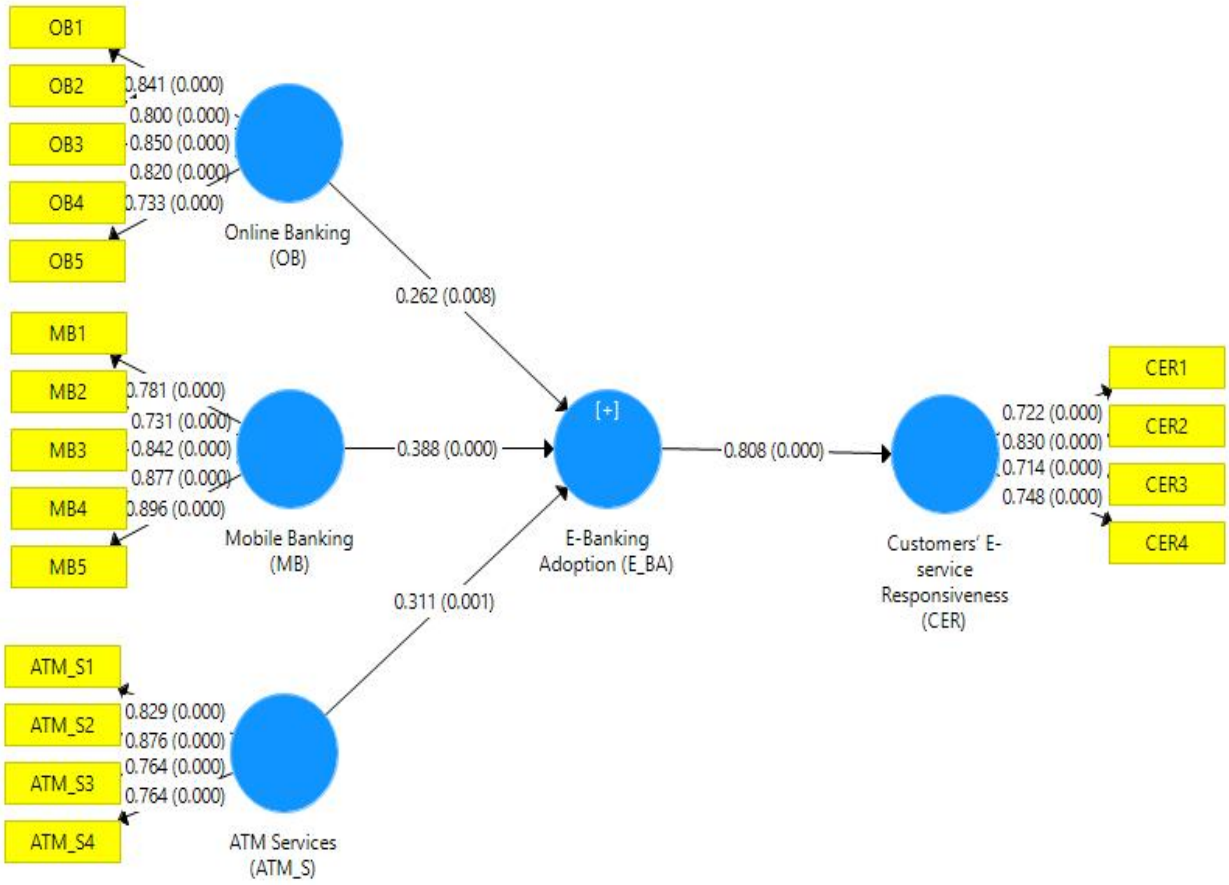
Appendix II

SEM Results

Raw Analysis for Hypothesis One




OB1
OB2
OB3
OB4
OB5
18.191
20.653
34.484
18.526
13.562
Online Banking (OB)
0.262 (2.664)
MB1
MB2
MB3
MB4
MB5
12.827
10.524
13.689
34.539
33.719
Mobile Banking (MB)
0.388 (4.206)
[+]
E-Banking Adoption (E_BA)
0.808 (18.347)
Customers' E-service Responsiveness (CER)
10.311
32.736
10.808
13.855
CER1
CER2
CER3
CER4
0.311 (3.434)
ATM_S1
ATM_S2
ATM_S3
ATM_S4
22.612
31.782
10.057
11.671
ATM Services (ATM_S)


OB1
OB2
OB3
OB4
OB5
0.841 (0.000)
0.800 (0.000)
0.850 (0.000)
0.820 (0.000)
0.733 (0.000)
Online Banking (OB)
0.262 (0.008)
MB1
MB2
MB3
MB4
MB5
0.781 (0.000)
0.731 (0.000)
0.842 (0.000)
0.877 (0.000)
0.896 (0.000)
Mobile Banking (MB)
0.388 (0.000)
[+]
E-Banking Adoption (E_BA)
0.808 (0.000)
Customers' E-service Responsiveness (CER)
0.722 (0.000)
0.830 (0.000)
0.714 (0.000)
0.748 (0.000)
CER1
CER2
CER3
CER4
0.311 (0.001)
ATM_S1
ATM_S2
ATM_S3
ATM_S4
0.829 (0.000)
0.876 (0.000)
0.764 (0.000)
0.764 (0.000)
ATM Services (ATM_S)

R Square

Matrix | R Square | R Square Adjusted

	R Square	R Square Adjus...
Customers' E-s...	0.653	0.650
E-Banking Ado...	0.815	0.809

Path Coefficients

Mean, STDEV, T-Values, P-Val... | Confidence Intervals | Confidence Intervals Bias Cor... | Samples | Copy to Clipboard: Excel Format

	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O/...	P Values
ATM Services (ATM_S) -> E-Banking Adoption (E_BA)	0.311	0.303	0.091	3.434	0.001
E-Banking Adoption (E_BA) -> Customers' E-service Respons...	0.808	0.808	0.044	18.347	0.000
Mobile Banking (MB) -> E-Banking Adoption (E_BA)	0.388	0.398	0.092	4.206	0.000
Online Banking (OB) -> E-Banking Adoption (E_BA)	0.262	0.259	0.098	2.664	0.008

f Square

Matrix | f Square | Copy to Clipboard:

	ATM Services (...	Customers' E-s...	E-Banking Ado...	Mobile Bankin...	Online Bankin...
ATM Services (ATM_S)			0.134		
Customers' E-service Responsiveness (C...					
E-Banking Adoption (E_BA)		1.886			
Mobile Banking (MB)			0.202		
Online Banking (OB)			0.102		

Construct Reliability and Validity

Matrix | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (... | Copy to

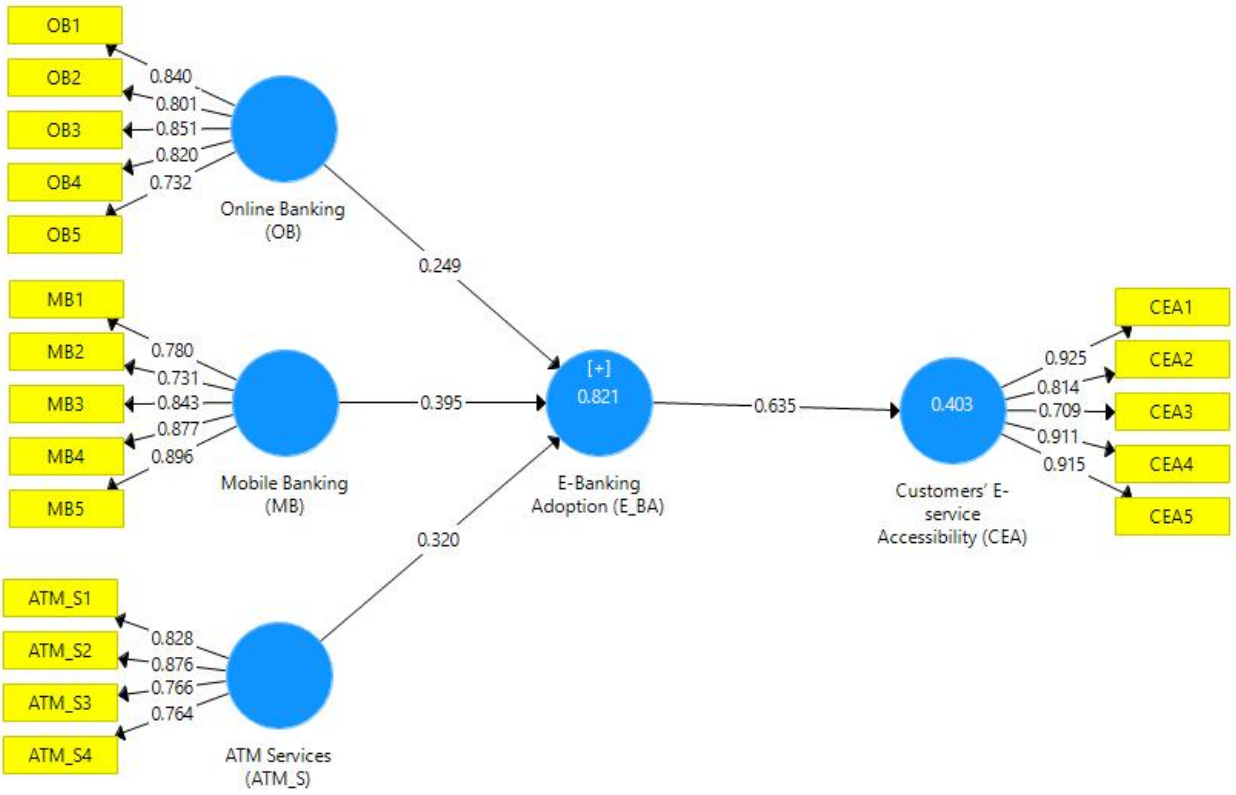
	Cronbach's Al...	rho_A	Composite Rel...	Average Varian...
ATM Services (ATM_S)	0.825	0.839	0.883	0.655
Customers' E-service Responsiveness (CER)	0.747	0.751	0.841	0.569
E-Banking Adoption (E_BA)	0.755	0.755	0.891	0.803
Mobile Banking (MB)	0.884	0.899	0.915	0.685
Online Banking (OB)	0.868	0.876	0.905	0.656

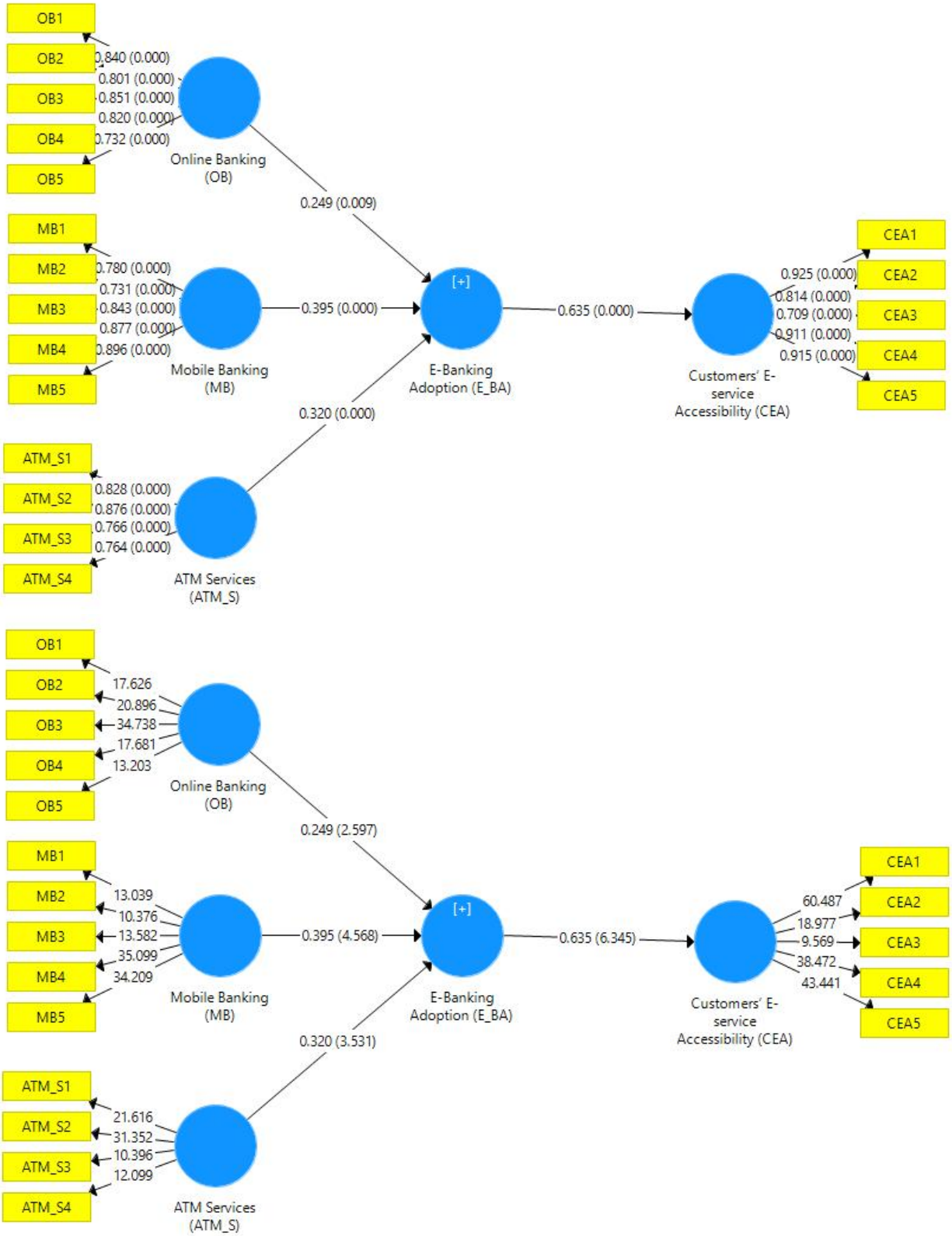
Construct Crossvalidated Redundancy

Total | Case1 | Case2 | Case3 | Case4 | Case5

	SSO	SSE	Q^2 (=1-SSE/SSO)
ATM Services (...	400.000	400.000	
Customers' E-s...	400.000	255.308	0.362
E-Banking Ado...	200.000	72.871	0.636
Mobile Bankin...	500.000	500.000	
Online Banking...	500.000	500.000	

Raw Analysis for Hypothesis Two




OB1
OB2
OB3
OB4
OB5
0.840 (0.000)
0.801 (0.000)
0.851 (0.000)
0.820 (0.000)
0.732 (0.000)
Online Banking (OB)
0.249 (0.009)
MB1
MB2
MB3
MB4
MB5
0.780 (0.000)
0.731 (0.000)
0.843 (0.000)
0.877 (0.000)
0.896 (0.000)
Mobile Banking (MB)
0.395 (0.000)
[+]
E-Banking Adoption (E_BA)
0.635 (0.000)
Customers' E-service Accessibility (CEA)
0.925 (0.000)
0.814 (0.000)
0.709 (0.000)
0.911 (0.000)
0.915 (0.000)
CEA1
CEA2
CEA3
CEA4
CEA5
0.320 (0.000)
ATM_S1
ATM_S2
ATM_S3
ATM_S4
0.828 (0.000)
0.876 (0.000)
0.766 (0.000)
0.764 (0.000)
ATM Services (ATM_S)
OB1
OB2
OB3
OB4
OB5
17.626
20.896
34.738
17.681
13.203
Online Banking (OB)
0.249 (2.597)
MB1
MB2
MB3
MB4
MB5
13.039
10.376
13.582
35.099
34.209
Mobile Banking (MB)
0.395 (4.568)
[+]
E-Banking Adoption (E_BA)
0.635 (6.345)
Customers' E-service Accessibility (CEA)
60.487
18.977
9.569
38.472
43.441
CEA1
CEA2
CEA3
CEA4
CEA5
0.320 (3.531)
ATM_S1
ATM_S2
ATM_S3
ATM_S4
21.616
31.352
10.396
12.099
ATM Services (ATM_S)

R Square

Matrix | R Square | R Square Adjusted

	R Square	R Square Adjus...
Customers' E-service Accessibility (CEA)	0.403	0.397
E-Banking Adoption (E_BA)	0.821	0.815

f Square

Matrix | f Square | Copy to Clipboard:

	ATM Services (...	Customers' E-s...	E-Banking Ado...	Mobile Bankin...	Online Bankin...
ATM Services (ATM_S)			0.147		
Customers' E-service Accessibility (CE...					
E-Banking Adoption (E_BA)		0.675			
Mobile Banking (MB)			0.216		
Online Banking (OB)			0.095		

Construct Crossvalidated Redundancy

Total | Case1 | Case2 | Case3 | Case4 | Case5

	SSO	SSE	Q^2 (=1-SSE/SSO)
ATM Services (...	400.000	400.000	
Customers' E-s...	500.000	355.566	0.289
E-Banking Ado...	200.000	72.391	0.638
Mobile Bankin...	500.000	500.000	
Online Banking...	500.000	500.000	

Construct Reliability and Validity

Matrix | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (... | Copy to

	Cronbach's Al...	rho_A	Composite Rel...	Average Varian...
ATM Services (ATM_S)	0.825	0.838	0.884	0.656
Customers' E-service Accessibility (CEA)	0.909	0.930	0.933	0.738
E-Banking Adoption (E_BA)	0.755	0.764	0.891	0.803
Mobile Banking (MB)	0.884	0.899	0.915	0.685
Online Banking (OB)	0.868	0.876	0.905	0.656

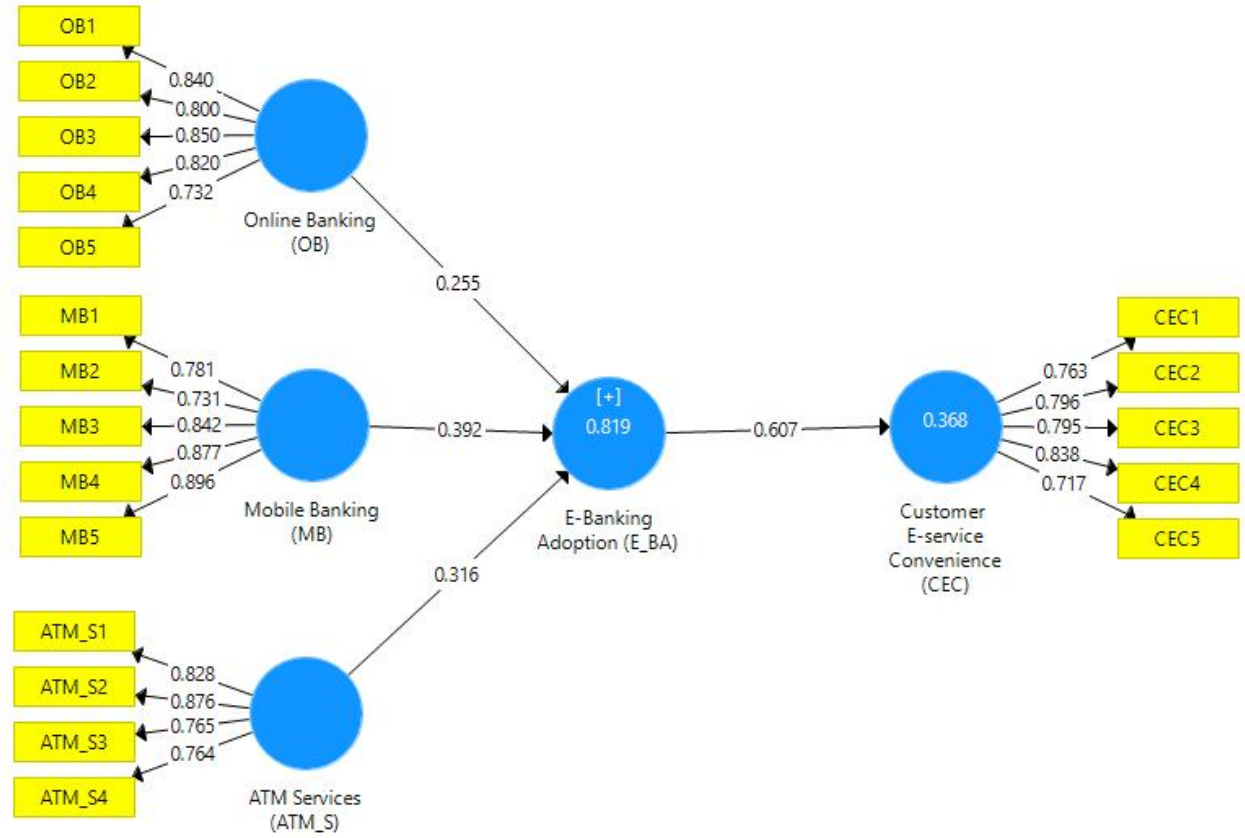
Path Coefficients

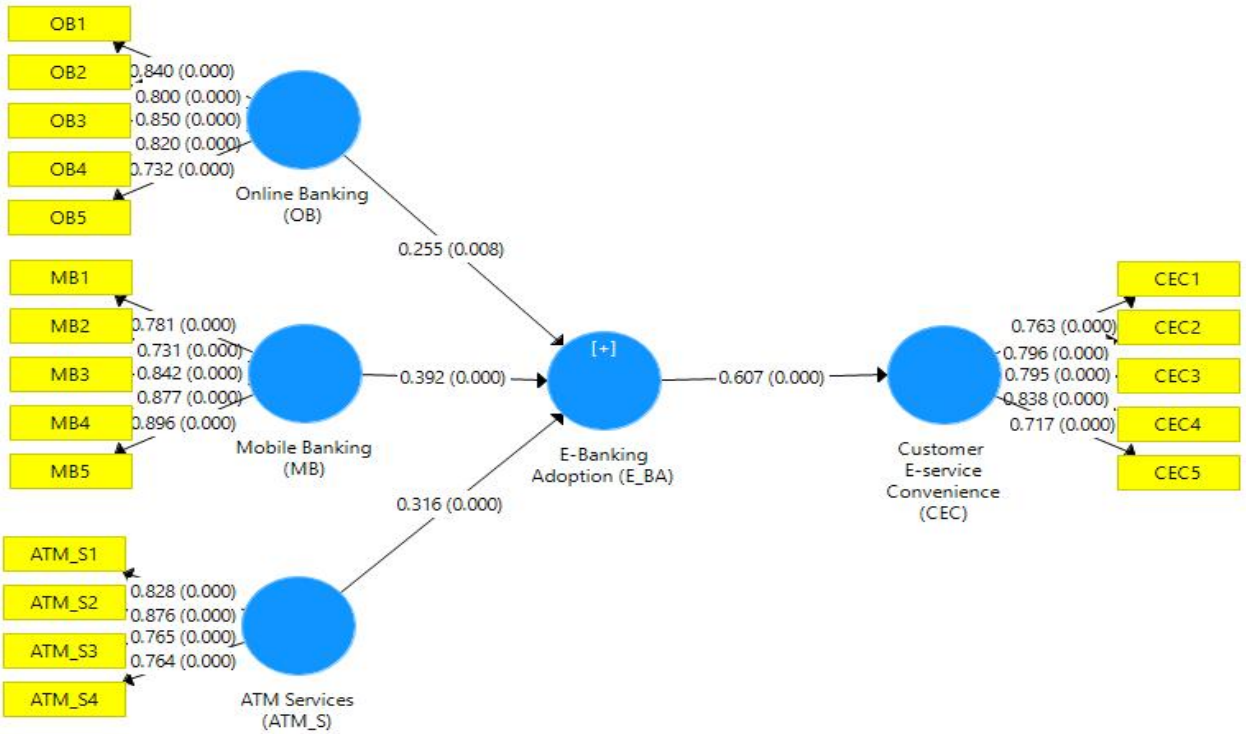
Mean, STDEV, T-Values, P-Val... | Confidence Intervals | Confidence Intervals Bias Cor... | Samples | Copy to Clipboard: | Excel Format

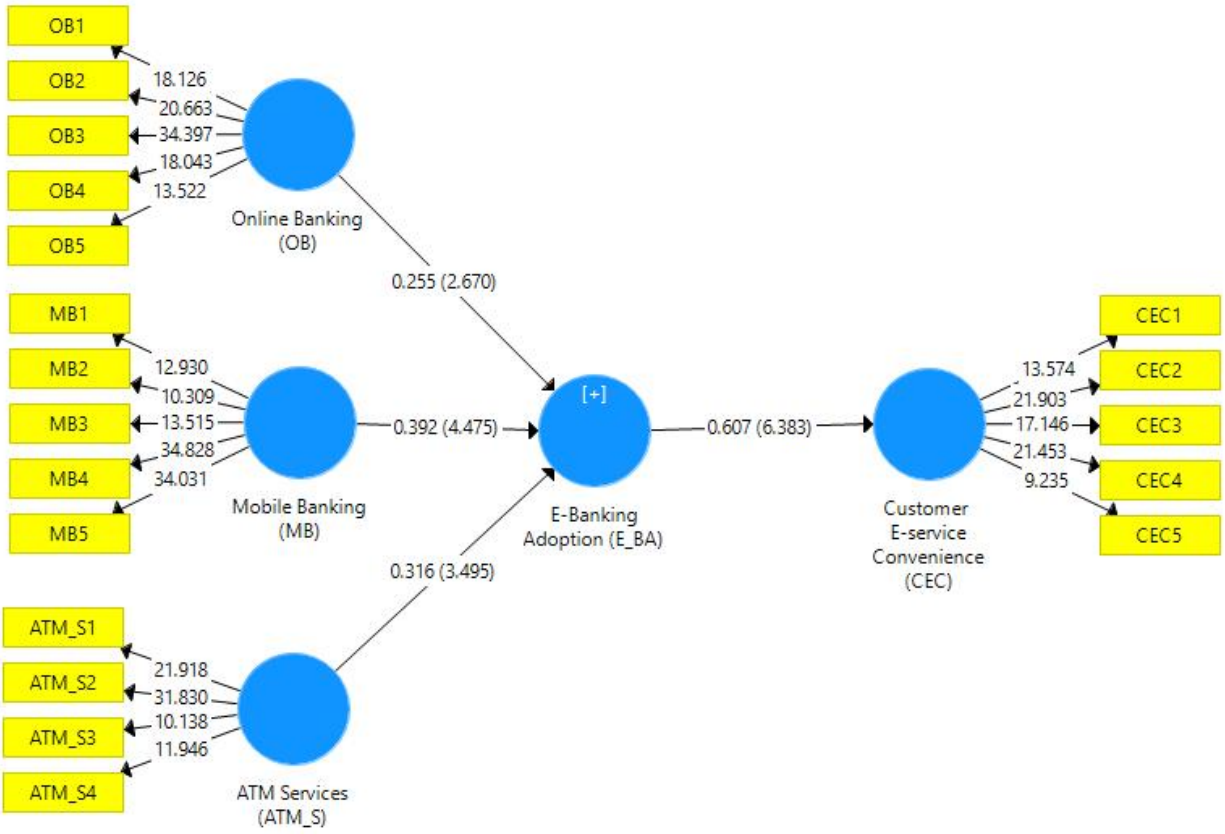
	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O/...	P Values
ATM Services (ATM_S) -> E-Banking Adoption (E_BA)	0.320	0.312	0.091	3.531	0.000
E-Banking Adoption (E_BA) -> Customers' E-service Acce...	0.635	0.636	0.100	6.345	0.000
Mobile Banking (MB) -> E-Banking Adoption (E_BA)	0.395	0.404	0.086	4.568	0.000
Online Banking (OB) -> E-Banking Adoption (E_BA)	0.249	0.247	0.096	2.597	0.009

Raw Analysis for Hypothesis

Three


OB1
OB2
OB3
OB4
OB5
0.840
0.800
0.850
0.820
0.732
Online Banking (OB)
0.255
MB1
MB2
MB3
MB4
MB5
0.781
0.731
0.842
0.877
0.896
Mobile Banking (MB)
0.392
[+]
0.819
E-Banking Adoption (E_BA)
0.607
0.368
Customer E-service Convenience (CEC)
0.763
0.796
0.795
0.838
0.717
CEC1
CEC2
CEC3
CEC4
CEC5
0.316
ATM_S1
ATM_S2
ATM_S3
ATM_S4
0.828
0.876
0.765
0.764
ATM Services (ATM_S)


OB1
OB2
OB3
OB4
OB5
0.840 (0.000)
0.800 (0.000)
0.850 (0.000)
0.820 (0.000)
0.732 (0.000)
Online Banking (OB)
0.255 (0.008)
MB1
MB2
MB3
MB4
MB5
0.781 (0.000)
0.731 (0.000)
0.842 (0.000)
0.877 (0.000)
0.896 (0.000)
Mobile Banking (MB)
0.392 (0.000)
[+]
E-Banking Adoption (E_BA)
0.607 (0.000)
Customer E-service Convenience (CEC)
0.763 (0.000)
0.796 (0.000)
0.795 (0.000)
0.838 (0.000)
0.717 (0.000)
CEC1
CEC2
CEC3
CEC4
CEC5
0.316 (0.000)
ATM_S1
ATM_S2
ATM_S3
ATM_S4
0.828 (0.000)
0.876 (0.000)
0.765 (0.000)
0.764 (0.000)
ATM Services (ATM_S)



R Square

Matrix | R Square | R Square Adjusted

	R Square	R Square Adjus...
Customer _E-service Convenien...	0.368	0.362
E-Banking Adoption (E_BA)	0.819	0.813

f Square

Matrix | f Square

	ATM Services (...	Customer _E-s...	E-Banking Ado...	Mobile Bankir
ATM Services (...			0.141	
Customer _E-s...				
E-Banking Ado...		0.583		
Mobile Bankin...			0.210	
Online Banking...			0.098	

Construct Reliability and Validity

Matrix | Cronbach's Alpha | rho_A | Composite Reliability | Average Var

	Cronbach's Al...	rho_A	Composite Rel...	Average Varian...
ATM Services (...	0.825	0.838	0.884	0.655
Customer _E-s...	0.842	0.851	0.888	0.613
E-Banking Ado...	0.755	0.758	0.891	0.803
Mobile Bankin...	0.884	0.899	0.915	0.685
Online Banking...	0.868	0.876	0.905	0.656

Construct Crossvalidated Redundancy

Total | Case1 | Case2 | Case3 | Case4 | Case5

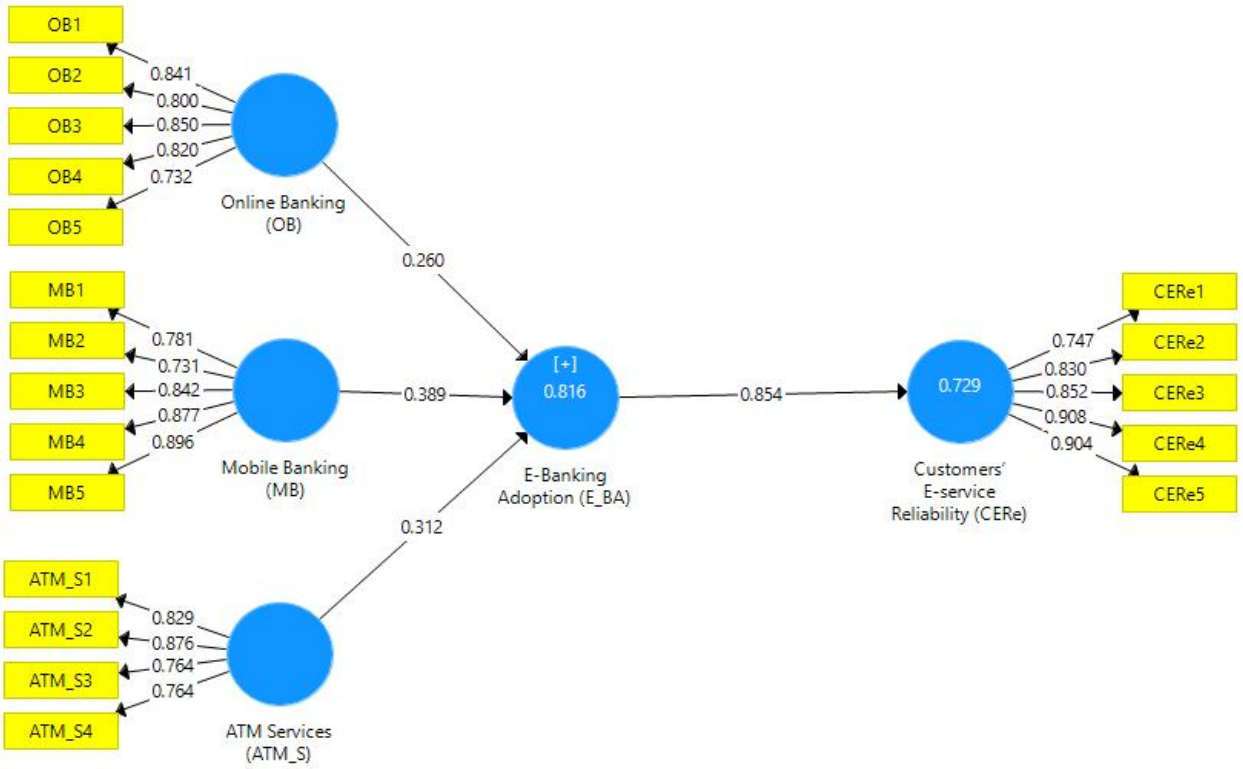
	SSO	SSE	Q^2 (=1-SSE/SSO)
ATM Services (...	400.000	400.000	
Customer _E-s...	500.000	391.323	0.217
E-Banking Ado...	200.000	72.568	0.637
Mobile Bankin...	500.000	500.000	
Online Banking...	500.000	500.000	

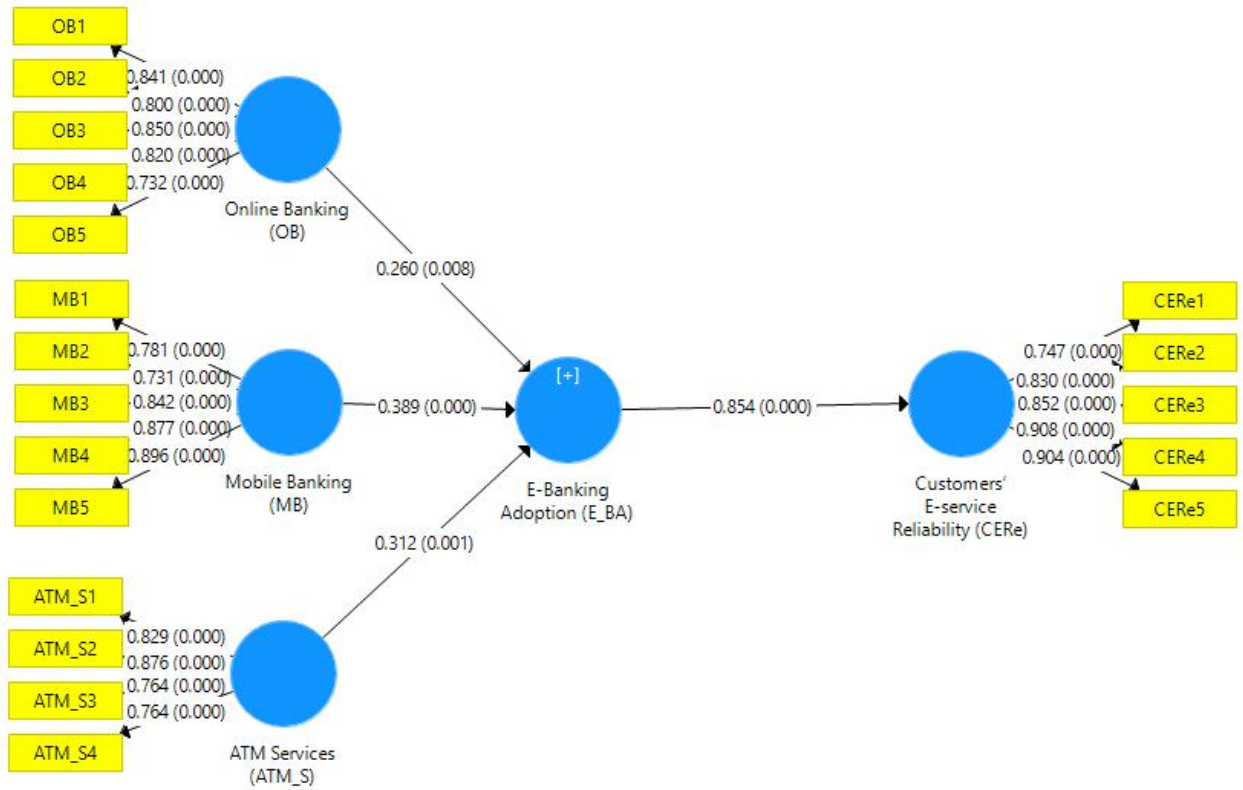
Path Coefficients

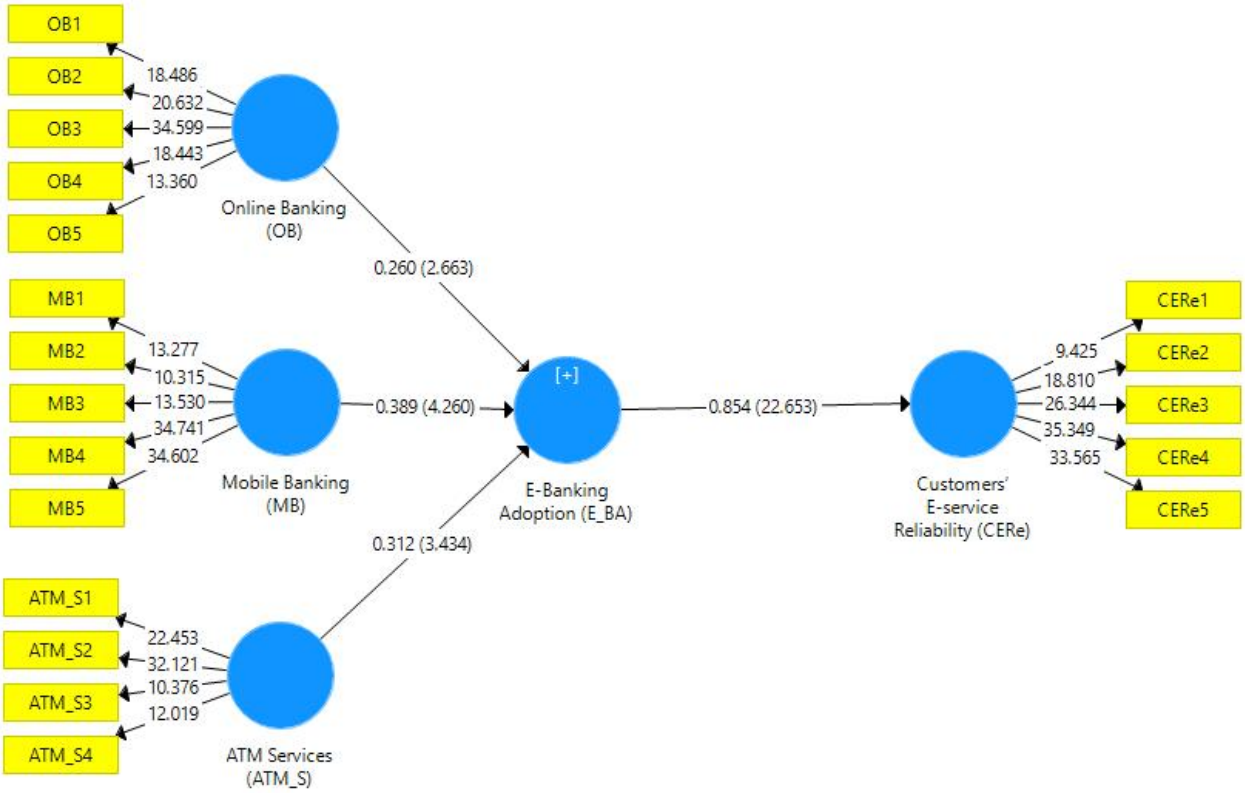
Mean, STDEV, T-Values, P-Val... | Confidence Intervals | Confidence Intervals Bias Cor... | Samples | Copy to Clipboard: | Excel Forma

	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O/...	P Values
ATM Services (ATM_S) -> E-Banking Adoption (E_BA)	0.316	0.309	0.090	3.495	0.000
E-Banking Adoption (E_BA) -> Customer _E-service C...	0.607	0.609	0.095	6.383	0.000
Mobile Banking (MB) -> E-Banking Adoption (E_BA)	0.392	0.401	0.088	4.475	0.000
Online Banking (OB) -> E-Banking Adoption (E_BA)	0.255	0.251	0.095	2.670	0.008

Raw Analysis for Hypothesis Four







R Square

Matrix | R Square | R Square Adjusted

	R Square	R Square Adjus...
Customers'_E-service Reliability (CE...	0.729	0.727
E-Banking Adoption (E_BA)	0.816	0.810

f Square

Matrix | f Square | Copy to Clipboa

	ATM Services (...	Customers'_E-...	E-Banking Ado...	Mobile Bankin...	Online Bankin...
ATM Services (ATM_S)			0.136		
Customers'_E-service Reliability (CER...					
E-Banking Adoption (E_BA)		2.695			
Mobile Banking (MB)			0.205		
Online Banking (OB)			0.101		

Construct Reliability and Validity

Matrix | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extr

	Cronbach's Al...	rho_A	Composite Rel...	Average Varian...
ATM Services (ATM_S)	0.825	0.839	0.884	0.655
Customers'_E-service Reli...	0.903	0.911	0.928	0.723
E-Banking Adoption (E_BA)	0.755	0.756	0.891	0.803
Mobile Banking (MB)	0.884	0.899	0.915	0.685
Online Banking (OB)	0.868	0.876	0.905	0.656

Path Coefficients

Mean, STDEV, T-Values, P-Val... | Confidence Intervals | Confidence Intervals Bias Cor... | Samples | Copy to Clipboard: | Excel Form

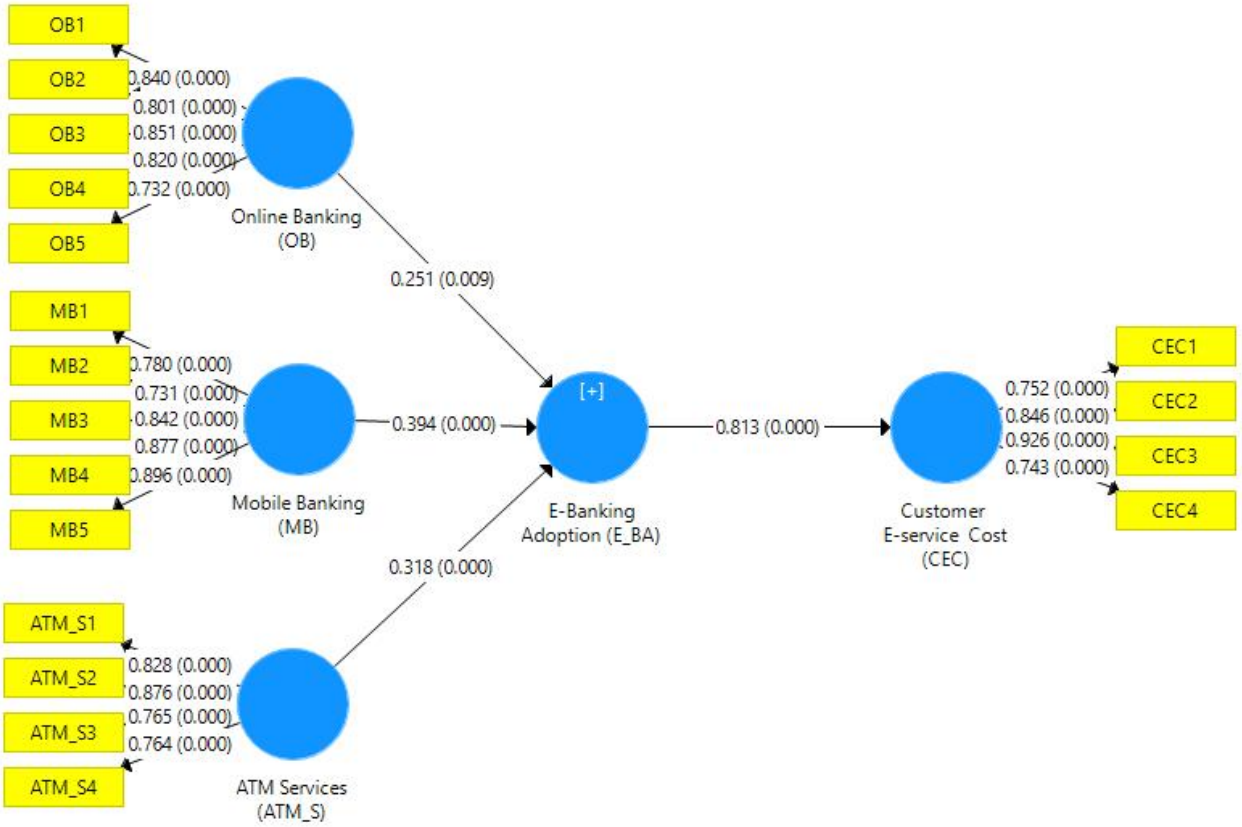
	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O/...	P Values
ATM Services (ATM_S) -> E-Banking Adoption (E_BA)	0.312	0.307	0.091	3.434	0.001
E-Banking Adoption (E_BA) -> Customers'_E-service...	0.854	0.852	0.038	22.653	0.000
Mobile Banking (MB) -> E-Banking Adoption (E_BA)	0.389	0.396	0.091	4.260	0.000
Online Banking (OB) -> E-Banking Adoption (E_BA)	0.260	0.258	0.097	2.663	0.008

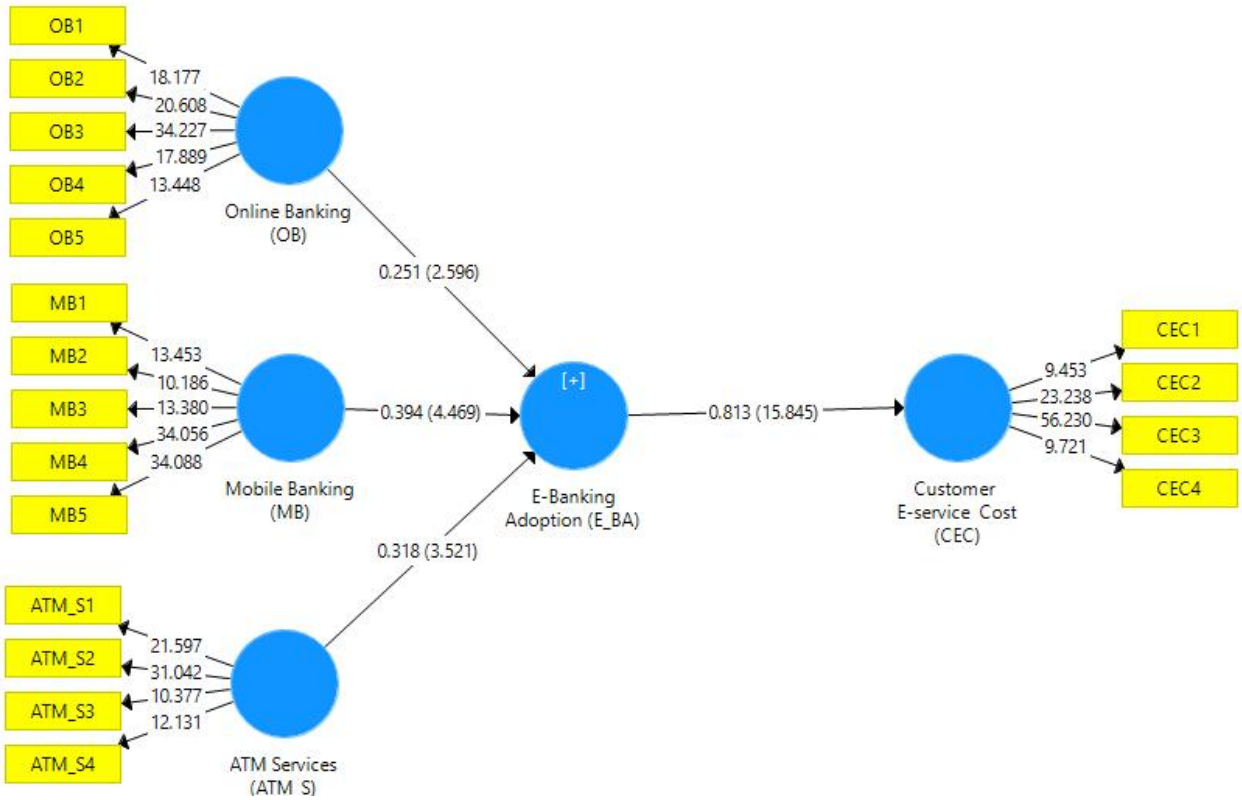
Construct Crossvalidated Redundancy

Total | Case1 | Case2 | Case3 | Case4 | Case5

	SSO	SSE	Q^2 (=1-SSE/SSO)
ATM Services (...	400.000	400.000	
Customers'_E-s...	500.000	241.819	0.516
E-Banking Ado...	200.000	72.781	0.636
Mobile Bankin...	500.000	500.000	
Online Banking...	500.000	500.000	

Raw Analysis for Hypothesis Five


OB1
OB2
OB3
OB4
OB5
0.840 (0.000)
0.801 (0.000)
0.851 (0.000)
0.820 (0.000)
0.732 (0.000)
Online Banking (OB)
0.251 (0.009)
MB1
MB2
MB3
MB4
MB5
0.780 (0.000)
0.731 (0.000)
0.842 (0.000)
0.877 (0.000)
0.896 (0.000)
Mobile Banking (MB)
0.394 (0.000)
[+]
E-Banking Adoption (E_BA)
0.813 (0.000)
Customer E-service Cost (CEC)
0.752 (0.000)
0.846 (0.000)
0.926 (0.000)
0.743 (0.000)
CEC1
CEC2
CEC3
CEC4
0.318 (0.000)
ATM_S1
ATM_S2
ATM_S3
ATM_S4
0.828 (0.000)
0.876 (0.000)
0.765 (0.000)
0.764 (0.000)
ATM Services (ATM_S)


OB1
OB2
OB3
OB4
OB5
18.177
20.608
34.227
17.889
13.448
Online Banking (OB)
0.251 (2.596)
MB1
MB2
MB3
MB4
MB5
13.453
10.186
13.380
34.056
34.088
Mobile Banking (MB)
0.394 (4.469)
[+]
E-Banking Adoption (E_BA)
0.813 (15.845)
Customer E-service Cost (CEC)
9.453
23.238
56.230
9.721
CEC1
CEC2
CEC3
CEC4
0.318 (3.521)
ATM_S1
ATM_S2
ATM_S3
ATM_S4
21.597
31.042
10.377
12.131
ATM Services (ATM_S)

Path Coefficients

Mean, STDEV, T-Values, P-Val... | Confidence Intervals | Confidence Intervals Bias Cor... | Samples | Copy to Clipboard: Excel Format

	Original Sampl...	Sample Mean (...	Standard Devia...	T Statistics (|O/...	P Values
ATM Services (ATM_S) -> E-Banking Adoption (E_BA)	0.318	0.312	0.090	3.521	0.000
E-Banking Adoption (E_BA) -> Customer _E-service Co...	0.813	0.808	0.051	15.845	0.000
Mobile Banking (MB) -> E-Banking Adoption (E_BA)	0.394	0.398	0.088	4.469	0.000
Online Banking (OB) -> E-Banking Adoption (E_BA)	0.251	0.252	0.097	2.596	0.009

R Square

Matrix | R Square | R Square Adjusted

	R Square	R Square Adjus...
Customer _E-service Cost (CEC)	0.661	0.657
E-Banking Adoption (E_BA)	0.820	0.814

f Square

Matrix | f Square | Copy to Clipb

	ATM Services (...	Customer _E-s...	E-Banking Ado...	Mobile Bankin...	Online Bankin...
ATM Services (ATM_S)			0.145		
Customer _E-service Cost (CEC)					
E-Banking Adoption (E_BA)		1.946			
Mobile Banking (MB)			0.214		
Online Banking (OB)			0.097		

Construct Reliability and Validity

Matrix | Cronbach's Alpha | rho_A | Composite Reliability | Average Variance Extracted (.

	Cronbach's Al...	rho_A	Composite Rel...	Average Varian...
ATM Services (ATM_S)	0.825	0.838	0.884	0.656
Customer _E-service Cost (CEC)	0.835	0.854	0.891	0.673
E-Banking Adoption (E_BA)	0.755	0.761	0.891	0.803
Mobile Banking (MB)	0.884	0.899	0.915	0.685
Online Banking (OB)	0.868	0.876	0.905	0.656

Construct Crossvalidated Redundancy

Total | Case1 | Case2 | Case3 | Case4 | Case5

	SSO	SSE	Q^2 (=1-SSE/SSO)
ATM Services (...	400.000	400.000	
Customer _E-s...	400.000	227.147	0.432
E-Banking Ado...	200.000	72.470	0.638
Mobile Bankin...	500.000	500.000	
Online Banking...	500.000	500.000	

Bio-data

A. Personal Data

1.	Full Names:	Wasiu Adeyemi RUFAI
2.	Email	wasrufai@gmail.com
3.	Phone no:	+234 80 22680143
4.	Address:	39 Alhaja Anotallahi Rufai Close,Nihort-Alafara Road, Aiyedade, Ibadan.
5.	Date and Place of Birth:	13th November 1975/ Lagos Island
6.	Nationality:	Nigeria
7.	Name and Address of Next of Kin:	Rufai Mistura Adedoyin

B. Educational Background with Dates

1. Educational Institutions Attended with Dates and Qualifications

- Lead City University Ibadan. 2020-2024 PhD Marketing
- University of Ibadan, Ibadan. 2017-2019 Masters Business Administration (MBA Agribusiness)
- University of Ibadan, Ibadan. 2004-2005 Masters in Managerial Psychology (MMP)
- Federal Polytechnic Ilaro 1997-1998 Higher National Diploma (HND Marketing)
- Ogun State Polytechnic, Abeokuta. 1994-1995 Ordinary National Diploma (OND Marketing)

2. Academic Qualifications Obtained (with dates):

- Lead City University Ibadan. PhD Marketing 2024
- University of Ibadan, Ibadan. Masters Business Administration (MBA Agribusiness) 2019
- University of Ibadan, Ibadan. Masters Managerial Psychology (MMP) 2005
- Federal Polytechnic Ilaro, Higher National Diploma (HND Marketing) 1998

- Ogun State Polytechnic, Abeokuta. Ordinary National Diploma (OND Marketing) 1995

3. Professional Qualifications with Dates:

- National Institute of Marketing of Nigeria (NIMN)Chartered- June 2001
- National Institute of Management (NIM) Chartered August 2004
- Licensed International Financial Analyst (USA)(LIFA) Chartered-August 2008
- Chartered Institute of Bankers of Nigeria November 2021

C. Working Experience with Dates

- Union Bank of Nigeria Plc 2014-date(Regional Manager, Agribusiness, Export & Sustainability South-west)
- Unicapital Plc 2012-2014 Investment Associate
- Access Bank Plc 2010-2012 Branch Operations
- Intercontinental Bank Plc 2007-2010 Head, Money Transfer Centre
- First Bank Of Nigeria Plc 2003-2007 Branch Operations
- Kolorkote Nigeria Limited 2001-2003 Management Staff, Marketing

D. Award and Fellowship (if any)

E. Member of Academic Professional Bodies

- Associate, Chartered Institute of Bankers of Nigeria (CIBN)
- Associate, National Institute of Marketing of Nigeria (NIMN)
- Associate, Life Insurance Federation of America (LIFA)
- Associate, Nigerian Institute of Management (NIM)

F. Publication (s)

- Determinant of Customer's Satisfaction towards Retail Banking Transaction in the Banking Industry (2005) Unpublished

- Impact of Commercial Agricultural Credit Scheme on Agribusiness Development in South-West Nigeria. (2019) Unpublished

- Employees' Commitment and Customer Retention: A Cursory Look at Deposit Money Banks in Lagos. Fortune Ugochukwu Abiaziem & Wasiu Adeyemi Rufai (Published 2020)

- Throwing Away and Retrieving the Baby with the Birth Water the Tourism: Historical and Economic Potentials of Lokoja. Ayozie Daniel Ogechukwu (PhD), Fortune Ugochukwu Abiaziem & Wasiu Adeyemi Rufai (Published 2021)

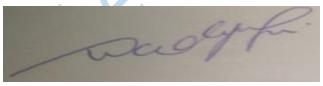
G. Major Conferences Attended with Dates

- AFRACA Conference
- Credit Risk Management Module I
- Foreign Banking Operation Module I
- Customer Attraction & Retention Strategies
- Fraud Detection Prevention & Control ATM First Level Maintenance Training
- ISO 9001:9002 Certification

H. References

- Professor E. Adebowale
  Vice Chancellor University of Ibadan

- Senator Teslim Kolawole Folarin (OFR)



30th August, 2024

Signature **Date**

The University Compliance Certification

This is to certify that this thesis was written by **Wasiu Adeyemi RUFAI** with Matriculation number **LCU/PG/001578**, in the Department of Management & Accounting, Faculty of Management and Social Sciences, Lead City University, Ibadan in full compliance with approved University format and style.

_____ _____

Signature **Date**