DETERMINANTS OF DEMAND FOR INTEREST FREE BANKING PRODUCTS AND SERVICES: AN APPLICATION OF INNOVATION DIFFUSION THEORY (IDT) THE CASE OF COMMERCIAL BANK OF ETHIOPIA IN ADDIS ABABA

By

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STATEMENT OF DECLARATION

I, the undersigned declare that this research called **"Determinants of Demand for Interest Free Banking products and services: an application of Innovation Diffusion Theory (IDT) the case of Commercial bank of Ethiopia in Addis Ababa"** is my original work in addition it has not been submitted for a degree in any other universities and all the materials used in this study have been duly acknowledged.

Name: Mohammed Nasser

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STATEMENT OF CERTIFICATION

This is to confirm that Mohammed Nasser has done a study on the topic **"Determinants of Demand for Interest Free Banking products and services: an application of Innovation Diffusion Theory (IDT) the case of Commercial bank of Ethiopia in Addis Ababa".** This study is of his original work and all the sources of materials used for the research project paper had been duly acknowledged.

Advisor's name: Degefe Duressa (PhD)

Signature:_____ **date: _____**

Place: Addis Ababa University

ENDORSEMENT

We, the undersigned, members of the Advisor and Examiner Committee is here by confirm that Mohammed Nasser has done a final oral defense on the topic "**Determinants of Demand for Interest Free Banking products and services: an application of Innovation Diffusion Theory (IDT) the case of Commercial bank of Ethiopia"** and examined the candidate. This is therefore to certify that the thesis has been accepted in partial fulfillment for the award of the degree of Master of science Accounting and Finance.

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Acronyms and Abbreviations

AMOS: Analysis of Moment Structure

CBE: Commercial Bank of Ethiopia

CFA: Confirmatory Factor Analysis

GOF: Goodness of FIT

IDT: Innovation Diffusion Theory

IFB: Interest Free Banking

IFBWS: Interest Free Banking Window Service

KMO: Keiser-Meyer- Olkin

MIS: Management Information System

NBE: National Bank of Ethiopia

PLS: Profit and Loss Sharing

SEM: Structural Equation Modeling

SPSS: Statistical Package for the Social Sciences

TAM: Technological Acceptance Model

TRA: Theory of Reasoned Action

TPB: Theory of Planned Behavior

Abstract

The purpose of *the study is to examine the demand for interest free Banking products and services in Ethiopia by giving emphasis to implementing IFB service in Commercial Bank of Ethiopia. The sample consisted of 384 customers of CBE found in four districts of Addis Ababa city branches. Data were obtained through structured questionnaire. Among the returned 360 respondents response 354 were used for further analysis. The study used primary and secondary data, the primary data was collected through structured questionnaire having Likert Scale using standardized questionnaire collected from randomly chosen 50 CBE branches found in Addis Ababa, Ethiopia while secondary data was collected from reports, directives and working documents. The collected data was analyzed using descriptive analysis like tables, figures and charts using SPSS version 23 and Structural Equation Modeling of Amos Software.* ***The finding of*** *the study depicts Awareness, relative Advantage, Compatibility and Customer Involvement have a significant impact, whereas Trialability and Complexity do not have a significant effect on determining the demand of Interest Free Banking products and services .* ***The results would*** *be useful for CBE interest free banking sector in strategically addresses the demand of Interest Free Banking products and services on the target market. In addition, the concerned policy makers, regulators and other concerned stakeholders shall contribute for the growth of sector aiming towards promoting the enhancement of the market share of Interest Free Banking.*

Keywords*: Interest Free banking, Customers, Rogers' Diffusion of Innovation Theory,*

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CHAPTER ONE

1. INTRODUCTION

1.1 Background of the Study

Interest Free Banking (IFB) is a recent development in Ethiopian Banking industry, it is backed some six years ago, when banks in the country showed willingness to offer the service of Islamic Banking services using the dedicated window model, as dictated in the National Bank of Ethiopia directive number SBB/51/2011, that authorize Banks to offer the service of interest free banking by using the Islamic mode of operation and principles. The dedicated window model for offering IFB service subject to criticism, as the service provided using the window system does not fully operated in compliance with the Sharia and being not fully in compliance with the Islamic teaching, as a result knowing the gap of IFB window system in particular and to address the demand of fully Sheria compliant banking service in Ethiopia the National bank of Ethiopia issued directive number SBB/72/2019, that authorizes Banks in Ethiopia to provide fully fledged Interest Free Banking services.

The history of modern Islamic Bank (Interest Free Banking) has been traced back to the saving house established in Egypt in 1963, in small rural village called Mit Ghamar, the Bank that was established through the great role of Ahmed El Najjar, was based on the principle of profit and loss sharing Kahf (1998). The Banking and financial institutions are now in operation in all parts of the world Rajesh and Yousaf (2000).

Countries like Egypt, Iran, Kuwait, Malaysia, Pakistan, Saudi Arabia, Sudan and UAE can be traced as the founder in providing interest free financial services. It is emerging industry not only in Muslim countries but also in a country where Muslims are minorities, for instance England, United States of America United Kingdom and Europe Garas (2007) as cited in Ifran et al. (2014) and Kerima (2016). In recent years, it has emerged as the fastest-growing segment of global finance ISFD (2018).

The current status of Islamic finance in sub Saharan African countries remains small, although it has potential given the region's demographic structure and potential for financial deepening IMF (2012).

The assessment that recommend establishment of Interest Free Banking service in Ethiopia goes some three years Back from the issuance of the SBB/51/2011 directive as per survey conducted by Sankaramu & Devamohan (2008) as cited in Debebe (2015). It was in 2008 the survey recommended that the government of Ethiopia has to consider introducing Interest Free Banking (Islamic Banking) by making use of smooth relationship between the Christians and Muslims as an opportunity and by giving emphasis to its immense and untapped contribution filling the gap left by conventional banking.

The request for getting interest free banking service in Ethiopia stayed for long period of time until the concerned government organ respond the issue by issuing a circulated draft, that has permitted Ethiopian National to establish a standalone or fully fledged interest free banking service, "Zemzem" Bank was the pioneer bank to start full-fledged Islamic Bank at that time. However the hope was short living as finally directive number SBB/51/2011 does not allow the establishment of full-fledged Islamic financial institution; rather it allows banks in Ethiopia could start operation of IFB along with the conventional banking system using the dedicated window (Mohammed, 2012).

The National Bank of Ethiopia, Licensing and Supervision of Banking Business, issued a directive number SBB/72/2019 on June 18, 2019 to allow banks in Ethiopia to conduct interest free Banking operation using the fully fledged banking system, which is a replacement of the directive number SBB/51/2011 that was issued for authorizing conventional banks to provide IFB services and products using the conventional bank infrastructure in accordance with Islamic economic principles and mode of operation that mainly states avoiding of receiving and paying of interest. After the issuance of the directive number SBB/72/2019 the model of the Interest free banking operation is left to the bank either to conduct using the window model system, that provide Interest Free Banking service along side with the conventional banking or providing standalone interest free banking system, that exclusively offer interest free banking services. Private Banks like "Nejashi bank", "Hijira bank" and "Zemzem bank" banks currently are found themselves under formation by offering the sale of prescribed shares to the public, to raise the fund needed for establishing Interest Free Banking business.

The pioneering Bank to get a license to conduct interest free Banking service is Oromiya International Bank September 16, 2013 and just on September 17, 2013 Commercial Bank of

Ethiopia took license to engaged in Interest Free Banking operation Teferi (2015). Though Oromiya International Bank took the license first it was Commercial Bank of Ethiopia to made the first move in providing service to its customers October 28, 2013, later on December 15, 2013 Oromiya International Bank started giving IFB service operation Teferi (2015).

Commercial Bank of Ethiopia has been started operating its IFB services using 23 branches throughout the country in organized IFB windows for dedicated services using conventional branch infrastructure since October 28, 2013. Presently the number of branches providing IFB service reaches more than 1,400 having a total number of customers more than 2.1 million (MIS Report), and the report further reveal that total deposit collected by the IFB is more than Birr 25.2 billion as of September 30, 2019.

1.2 Statement of the problem

Banking system is one of the most important economic sectors and strongest financial intermediaries in the economy that plays a key role in economic development in societies through receiving the deposits and advancing it to applicants and give and receive interest Iravani et al. (2012) .Business organizations and especially the banking sector are operating in an environment characterized by a complex and competitive climate Agbolade (2011). In today's competitive world, banks are struggling to get a resource they need in the form of deposit mobilization and then advancing same to generate interest (profit) out of it. Banks' do compete each other for resources and uses of those resources using criteria such as bank's image, performance, speed of transaction, channel of delivery system, banking convenience and product diversity to attract customers. Besides, to achieve their mission and objectives, they will have to understand their customers' perceptions Metawa (1998); Dusuki and Abdullah (2007).

Banks are indebted to apply the financial innovation to enable them respond to customers' demand and acquire the scarce resources because innovation is very important to acquire scarce resources in the market, the introduction of interest free banking services and products is no exception because financial innovation is typically associated with the production of a new financial products; it may also occupy an entirely new financial intermediary system.

There were many research works conducted to investigate the behaviors/intention of customers. These studies Echchabi and Aziz (2012); Amin et al. (2013); Rogers (2003)

integrated the theory of reasoned action, the theory of planned behavior and the innovation diffusion theory (IDT) into their studies. The variables such as subjective norm, attitude, perceived behavioral control, relative advantage, complexity, compatibility and uncertainty are relevant in influencing the customer demand to adopt Islamic banking. These studies have revealed that though there is some determinant factor common to many countries, there are also factors which are unique to each country due to social, cultural, economical, technological, political, religion and other factors. This study therefore intended to fill this gap in Ethiopian context.

In Ethiopia, Interest free banking financial service is a recent phenomenon in banking industry that exhibits six years, the study conducted in interest free Banking is few. Among these studies Debebe (2015) has conducted a study on "Factors Affecting Customers to Use Interest Free Banking in Ethiopia". The research is give emphasis about impact assessment on the attitude towards IFB usage. The study conducted by Teferi's (2015) is about "Contribution of IFB to economic development and its prospect in Ethiopia". Besides some other researches has been conducted on the Prospect and challenges of introducing Interest free Banking in Ethiopia Mohamed (2012); Akmel (2015); & Kerima (2016), Their work has identified the potential challenges as: lack of awareness, regulatory and supervisory challenges, institutional challenges, lack of support and link institutions, gap in research and development in Islamic banking studies, lack of qualified human resource as well as wrongful association with specific religion and the global terrorism & the studies conducted were only bank officials and bank employees, those studies excludes the customers, the final consumer to whom the service of Interest Free Banking ultimately delivered. The study conducted by Abraham (2017) "determinants for customers' intention to use interest free banking products and factors affecting employees' product knowledge using theory of reasoned action'. Accordingly the effect of Attitude, Social Influences, Perceived Financial Cost, Religious belief and Financial Cost (Pricing) found to the determinant factors. Lastly Nobel (2019) conducted a research to investigate major factors affecting the implementation of Interest Free Banking service.

Thus, none of the above studies have addressed the factors that determines for demand of interest free banking products and services in Ethiopia. Moreover, the present study will examine Determinants of demand for Interest Free banking product and services for the case of Commercial Bank of Ethiopia, as CBE represent 48% shares of IFB Bank wise Customer Base (Dec. 31, 2018 NBE data), Using Innovation diffusion Theory (IDT) model. This study

will use the four major original construct of IDT model namely, relative advantage, Trialability, compatibility and Complexity as the factors for an explanation of the rate of Demand of an innovation adoption. Besides, the researcher adds Awareness and Customer Involvement as an additional constructs.

Furthermore, this study will employ Structural Equation Modeling (SEM). The advantage of this approach is able to estimate measurement model and structural model simultaneously.

As a rule of thumb, from the inception of its establishment the potential market for interest free banking is assumed to be huge; however, after its six years of implementation it only constitutes around 4.69% (MIS report, September 30, 2019) from the total deposit of the bank. The above figure witness that interest free banking sector has not been yet grows to the level required as compared to the potential market. This study is, therefore, will examine the determinants of demand for interest free banking products and services for greater success of the newly embarked business.

1.3 Research Questions

1. What is the significance of Awareness on determining the demand of interest free Banking products and services in Commercial Bank of Ethiopia?
2. What is the significance of Relative Advantage on determining the demand of interest free Banking service Commercial Bank of Ethiopia?
3. What is the significance of Compatibility on determining demand of interest free banking service Commercial Bank of Ethiopia?
4. What is the implication of Complexity on influence of the demand of interest free banking service Commercial Bank of Ethiopia?
5. What is the significance of Customer Involvement on affecting the demand of interest free banking service Commercial Bank of Ethiopia?
6. What is the significance of Trialability on affecting the demand of interest free banking service Commercial Bank of Ethiopia?
7. Does Customer Involvement mediate the relationship between key determinants of Demand for Interest Free Banking products and services?

1.4 Objective of the study

1.4.1 General Objective

The general objective of the study is to identify the determinants for demand of interest free Banking products and services in Ethiopia with specific reference to Commercial Bank of Ethiopia.

1.4.2 Specific Objective

The specific objectives of the study will be

- To determine the influence of Awareness on Demand of interest free Banking service.
- To find out how Relative Advantage affect on Demand of interest free Banking service.
- To examine the association of Compatibility with Demand of interest free Banking service.
- To assess the influence of Complexity on Demand of interest-free Banking products and services in Commercial Bank of Ethiopia.
- To assess the influence of Customer Involvement on Demand of interest-free Banking products and services in Commercial Bank of Ethiopia.
- To determine the influence of Trialability on Demand of interest free Banking service.
- To assess the mediating effect of Customer Involvement on determinants of Demand for IFB products and services.

1.5 Hypothesis

The under mentioned hypothesis was proposed on the review of respective literatures on "Determinants of Demand for Interest Free Banking products and services" in Commercial Bank of Ethiopia.

- (H_1): there is a positive relationship between Awareness and Demand of Islamic banking products and services.
- (H_2): There is positive relationship between Relative Advantage and Demand of Islamic banking products and services.
- (H_3): There is positive relationship between Compatibility and demand of Islamic banking products and services.

- (H4): There is a positive relationship between Complexity and the Demand of Islamic banking products and services.
- (H5): Customer Involvement would have a positive influence on Demand of Islamic banking products and services.
- (H6): There is a positive relationship between Trialability and the Demand of Islamic banking products and services.

In addition, the following hypothesis was proposed based on the respective literatures, by considering customer involvement as a mediator between respective constructs and dependent variable.

- H7: Customer Involvement mediates the relationship between Awareness and Demand of IFB products and service.
- H8: Customer Involvement mediates the relationship between Relative Advantage and demand of IFB products and services.
- H9: Customer Involvement mediates the relationship between Compatibility and Demand of IFB products and services
- H_{10}: Customer Involvement mediates the relationship between Complexity and Demand of IFB products and services.
- $H_{11:}$ Customer Involvement mediates the relationship between Trialability and Demand of IFB products and services.

1.6 Significance of the study

Interest Free Banking is a relatively new business model in Ethiopian Banking industry. The industry is growing in Muslim countries as well as non Muslim countries, though development of Islamic financial services and products derived from the basic economic principles of the teaching of Islam it can be used by both Muslim and non Muslim communities by obeying the principles of interest free banking system. It is assumed that inclusion of those portion of the societies, that were excluded from the financial service of conventional banking system will be brought forward using the introduction the banking system by which we will expand the financial frontier and bring about economic benefit for the country as a whole and for the business organizations and individuals in particular. As a result, the effect of the study will be helpful to the country at large.

Besides the research will add to level of stock of knowledge and hence will serve as a basis for further research in the area of interest free banking theoretically. Furthermore, the study will contribute towards expanding the knowledge of the performers in providing interest free Banking services, by which the banks will satisfy the demands of their respective customers', which were left untouched by conventional banking system for long time.

1.7 Scope and limitation of the study

1.7.1 Scope of the study

The study was conducted on the Commercial Bank of Ethiopia branches found in Addis Ababa districts due to time and money constraints, henceforth the result from the study might not be generalized to the customers of Commercial Bank outside Addis Ababa city and for the other Banks providing Interest Free Banking services. In addition there was a limitation on obtaining sufficient literature information due to the businesses infancy in the country, to minimize the limitation the researcher consulted experts in the area of Interest Free Banking services.

1.7.2 Limitation of the study

The study was conducted on Commercial Bank of Ethiopia in Addis Ababa city and for this reason may not be applicable to other areas and regions for the reason of contextual factors. Besides, the finding of the study will be to Interest Free account holders of the Bank, hence the generalization of result for analysis of conventional Bank account holders must be made with due care.

1.8 Organization of the Paper

The research will be organized into five chapters, the first chapter will deal with the introduction of the study that is, background, statement of the problem, research questions and objectives, hypothesis, significance of the study, limitation and scope of the study, the second chapter will discusses the theoretical and empirical literature about interest free Banking. The third chapter will be about the methodology of the research that is the research design, sampling technique, method of data collection, data collection instruments, method of data analysis and so forth. The fourth chapter of the paper will presents the findings as well as the quantitative and qualitative data analysis. The fifth chapter will deal with conclusion and implication of the study.

CHAPTER TWO

2. REVIEW OF LITERATURES

2.1 Theoretical Literature Review

2.1.1 Definition and basic concepts used in the study

Interest Free Bank (Islamic Banks) are financial intermediaries that are governed by Islamic law (Sharia' law) Iqbal and Mirakhor (2007). Interest Free Banking "Islamic Banking" is also defined as the conduct of banking operation in consonance with Islamic teaching Mirakhor (2000). National Bank of Ethiopia also defines Interest Free Banking as a Banking business in which mobilizing or advancing of funds taken in a manner consistent with Islamic finance principles and mode of operation (NBE's Directive no SBB/51/2011).Interest Free Banking

also is defined as a financial and social institution whose objectives and operations as well as principle must conform to the principles of Islamic Sharia' Hassen and Ahmed (2002). The source of interest free banking income derived as a result of the Islamic principles on the concept of profit and loss sharing principles and /or by participating on sales transaction contrary to conventional banking practice by which income is generating mainly by paying and receiving interest for the usage of money. An interest free bank provides services to its customers free from interest as the receiving and paying of interest is prohibited in all transactions rather it is operated on the basis of risk and reward sharing based upon the performance of Interest Free banking through profit and loss sharing (PLS) Lewis and Agarwal, 2003 and Ahmed (2008).

According to Ketell (2011), Interest Free Banks provide commercial services that comply with religious injunction of Islam. Interest free Banking provides services to their customers free from interest as Sharia' prohibits the practice of receiving and payment of additional money for money that is borrowed. Bello and Abubaker (2014) also define as Interest Free Banking system that operates strictly on the basis of Sharia'.

As stated above, Interest Free Banking service transaction require and promote the adherence of Islamic finance and economic principles that among other topics mainly introduce prohibition of payment and receipt of interest in any form.

2.1.2 Principles of Interest Free Banking

Interest free banking principles are not a recent phenomenon, it was known since the advent of Islamic religion, it was in the 7_{th} century AD Islamic financial operations were known and practiced when the Prophet Mohammed (peace be upon him) prohibited some transactions involving *Riba* (interest), *Gharar* (deception), *Qimr* (gambling), *Mujazafah* (speculation), *Ihtikar* (monopoly) and other similar transactions. However, some transactions were allowed such as *Murabaha* (Mark-up sale), *Musharakah* (partnership), *Mudarabah* (sleeping partnership), and other similar transactions. Some of these operations were known to many earlier Islamic civilizations, but those transactions were developed and customized further to achieve the required attribute and respond to the modern banking industry requirements Chachi (2005).

The Islamic economic principles have been developed over time based on the rulings of *Sharia* on commercial and financial transactions. The Islamic financial structure originates from the principles developed within these principles, which are outlined below.

2.1.2.1 Prohibition of Interest

Interest free Banking provides financial services in compliance with the religious injunction of Islam, which mainly prohibits taking and receiving of interest in any of its transactions. Any fixed, positive, predetermined rate tied to the maturity and the amount of principal that is, guaranteed regardless of the performance of the investment is considered interest and is prohibited Iqbal (2014). The distinguishing feature of interest free banking from that of the conventional counterpart is the taking and giving of interest, which is strictly prohibited in all transactions.

2.1.2.2 Profit and loss Sharing

In performing interest free banking financing activity the provider of the capital and the one that uses the fund need to share the risk and the reward of the investment, derived from the principle “no gain without pain”. The provider of capital (Customer), the Bank and the borrower should all share the risks and the rewards of business venture. The profit and loss sharing principle is not the feature of conventional banking system, as the whole pressure is the responsibility of the borrower regardless of the performance of the business venture. The central theme of interest free banking financing arrangement is the financier is only qualified to get income if he is willing to assume risk of business venture. According to Kettle (2011)

the main objective of PLS (profit and loss sharing) is to promote investment and thereby provide a stimulus to the economy.

2.1.2.3 Emphasis on productivity as compared to credit worthiness

In extending loan as per the practice of conventional Banking system the main consideration is that credit worthiness of the borrower however, under equity participation financing (partnership arrangement) in case of interest free banking the bank will receive a return only if the project succeeds and produces a profit and hence, interest free banking will be more concerned with the soundness of the project Kettle (2011).

2.1.2.4 Making money out of money is not acceptable

Money has no intrinsic value in itself, hence Interest Free Banking consider Money as a medium of exchange, a means of defining the value of things , and therefore should not be possible to generate more money via fixed interest payment being deposited in bank or lent to someone else. As mentioned in kettle (2011), Muslim scholars consider money as potential capital that must be injected in real economic activities to consider it as a capital. For the reason stated Interest free banking system invest in business venture assuming the risk of business venture while performing its day to day business activities using the financing modalities designed for the purpose in order to change the potential capital (Money) in to capital.

2.1.2.5 Uncertainty is prohibited

Any contract performed in the Interest Free banking system shall be free from uncertainty or speculation Kettle (2011). Hence, parties entering in to the contract should have perfect knowledge about the result of their transaction before entering in to the contract.

2.1.2.6 Sanctity of Contract and Sharia' Approved contract

The subject matter of the contract shall be pure and acceptable by Sharia' hence, Interest Free Banks are not allowed to finance wine factory, pork, a casino, a night club or in general any activities prohibited by Islam or known to be harmful to societies.

2.1.3 Interest Free Banking Vs Conventional Banking

Even if both Interest Free Banking system and conventional Banking system share a common attribute as being act as discharging intermediary role in mobilizing funds and advancing

those funds, they differ in way of providing the services. As per Shanmugam and Zahari (2009) Islamic Finance is based on themes of community Banking, Ethical Banking, and societal responsible investing. The table 2,1,3_1 shows lists of differences between Islamic and Conventional bank.

Table 2.1.3_1 the difference between Islamic Banking and Conventional Banking

Characteristics	Islamic Banking System	Conventional Banking
Business Framework	Functions and operating modes are based on Sharia. Islamic Banks must ensure that business activities are in compliance with sharia requirements.	Functions and operating modes are based on secular principles, not religious laws or religious guidelines.
Interest Charging	Financing is not interest (Riba) oriented and should be based on risk-and reward sharing.	Financing is interest oriented, and a fixed or variable interest rate is charged for the use of money.
Interest on deposit	Account holder do not receive interest (Riba) but may share risk and rewards of investments made by Islamic Bank and not guarantee principal amount i.e. in Mudarabah Deposit.	Depositors receive interest and a guarantee of principal repayment.
Risk Sharing in equity Financing	Islamic Banks offers equity financing with risk sharing for a project or venture. Losses are shared on the basis of equity participation. Whereas profit is shared on the basis of pre agreed ratio in Musharakah Finance.	Risk sharing is not generally offered but is available through venture capital firms and investment banks which may also participate in management.

Characteristics	Islamic Banking System	Conventional Banking
Restriction	Islamic Banks are allowed to participate only in economic activities that are Sharia' compliant. For example , banks cannot finance a business that involves impermissible business activities.	Conventional Banks may finance any lawful product or service.
Penalty on Default	Islamic Banks are not allowed to charge penalty for their enrichment they may however, allow imposition of default or late payment penalties on the grounds that these penalties discouraged late payments or defaults. Which impose administrative costs on banks, for processing and collecting the amount owed; Penalties are donated to a charity organization. Not income of the Islamic Banks.	Conventional Banks normally charge additional money (compound interest) in case of late payment or defaults.
Avoidance of *Gharar*	Transactions with elements of gambling or speculation are discouraged or forbidden	Speculative investment are allowed
Customer Relationship	The status of Islamic bank in relation to its clients is that of partner and investor	The status of a conventional bank in relation to its clients is one
Sharia' Supervisory board	Each Islamic Bank must have a supervisory board to ensure that all activities are in line with Sharia' requirements.	Conventional banks have no such requirements.
Statutory requirements	An Islamic Bank must be in compliance with the statutory requirements of the National Bank of the country in which it operates and also with Sharia' requirements.	A conventional Bank must be in compliance with the statutory requirements of the National central Bank of the country in which it operates.

Source: Shanmugam and Zahari (2009)

2.1.4 Interest Free Banking Products

The introduction of Interest Free Banking system pave a way for inclusion of portion of the societies that were ignored to get a banking services in line with their religious teachings, following the commencement of Interest Free Banking, various types of deposit and financing products are introduced complying the Islamic rule (Sharia').

2.1.4.1 Deposit Products

i. Demand Deposit (Quard)

The operations are based on the principle of al-wadiah (deposit) whereby the depositors are guaranteed repayment of their fund on demand, depositors do not receive a return for their deposit as no benefit is associated with the account, the customers deposit their money for the purpose of making business dealing convenient and safe Kettell (2011).

ii. Wadia (safe keeping deposit)

The operation of the account done under the principle of al-wadiah (deposit), the Bank may invest the Wadia deposit amount after getting the permission from the account holder, the Bank may pay the premium (hiba) at its discretion to the holder of the account, and the Bank has to pay the amount on demand upon the request of the customer Kettell (2011).

iii. Investment Account (Mudaraba saving account)

The investment account holder shares on profit after the bank generate by extending the customers money through a financing products Kettell (2011). However if the bank sustain a loss the investment account holder has to share on loss with the bank as the principle says "no gain without pain" i.e. if one wants to share on profit he has to assume the risk too.

2.1.4.2 Financing Products

i. Mudaraba (Silent Partnership)

Mudaraba is a contract between two or more parties whereby one party, the financier entrusts funds to another party, the entrepreneur to undertake on activity or venture. It is a partnership in profit between capital and work. The management of the venture left only to the entrepreneur and the Bank (Financier) will not have a say on the management of the business. The yield is not guaranteed in profit sharing and financial losses are borne entirely by the

provider of the capital (Financier), the partner that provides its expertise only losses the time and effort invested in the enterprise.

ii. Musharaka

It is a form of partnership between an Interest Free Bank and its client where by each party contributes to the partnership capital, in equal or varying proportion, to establish a new project or share an existing one where by each of the parties become owner of Capital on a permanent or declining basis and is owed its due share of profits. Losses if any are shared in proportion to the capital contributed Kettell (2011).

iii. Murabaha

The Murabaha contract refers to the sale of goods with a pre-agreed profit mark-up on the cost. Interest Free Bank purchase the goods ordered by a customer from a third party and then sells these goods to the same customer by adding profit rate on the purchase cost of the item. The Interest Free Bank purchases the goods only after a customer has made a promise to purchase them from the Bank Kettell (2011).

iv. Istisna'

Istisna' refers to a contract to sell to a purchaser a non- existent asset that is to be constructed, built or manufactured according to the agreed specifications and delivered on a specified future date at a pre determined price Kettell (2011).

v. Ijara

Ijara is the transfer of ownership of a service for an agreed upon consideration (rent). Ijara relates to the usage (usufruct) of assets and properties, Ijara in this sense means to transfer the usufruct of a particular property to another person in exchange for a rent claimed from him. The term Ijara is analogous to the English term "leasing" Kettell (2011).

vi. Salam

Salam is a sale whereby the seller undertakes to supply some specific goods to the buyer at a future date, in exchange for an advanced price fully paid at spot Kettell (2011). It is a contract involving the purchase of a commodity for deferred delivery of goods in exchange for immediate payment according to specified conditions.

2.1.5 Hypothesis Development

2.1.5.1 The Proposed Research Model for Demand of IFB

The model of the study Innovation diffusion theory (IDT) derived from the model created by Rogers (2003). The model is adapted as it is better explained the demand of Interest Free Banking services. Rogers (2003) asserts that the diffusion of an innovation among a particular population can be characteristically measured by its implementation rate. Academic studies in the field of diffusion and adoption have been inspired by the scholarly work of Rogers (2003). In social science, the theory of Rogers' Diffusion of Innovation (DOI) is one of the most commonly used models in the field of adoption behavior. According to Hussein et al. (2011), the model of Roger's diffusion accommodate attributes-of-innovation model related to customer based studies is considered as the most excellent theoretical model. According to the model, the decision to adopt an innovation may be influenced by various factors: Relative Advantage, Compatibility, Trialability and Complexity. This study adopted those constructs used in the model to investigate and determine the relationship with the demand of Interest Free Banking. The model is modified adding the variables Customer Involvement and Awareness as an additional constructs. One of the original construct of Innovation diffusion theory i.e. Observability deliberately left out from the model as the study is concentrating on the service giving business not technological business, according to Parisot (1997) Observability is the key motivational factor in the adoption and diffusion of technology.

i. Awareness

Interest free Banking business engaged in introduction of various new product developments that differ from the conventional banking system and necessitate effective communication with its customers to persuade and sale them to eventual consumers. According to Rogers (2003), "consumers go through a process of knowledge, persuasions, decision and confirmation before they are ready to adopt a product or services". Consumer awareness have been studied to be one of the major variable in numerous studies specifically in the area of on-line banking, internet banking, and self service technology adoption Gerard et al. (2003). However limited studies have investigated on consumer awareness in the area Demand of Islamic banking Haron (1994), according to his study 100% of the target population (Muslim) and 75% non Muslim are aware of the Islamic Banking service in Malaysia and further the conducted survey revealed that 63% of the respondents understood the difference between

Islamic Banking and Conventional Banking System. The level of Customers awareness in connection with Islamic and conventional Banking products is better in common products such as current account, time deposit account. But most of the customers had no information about the peculiar feature of Islamic financial products such as Murabaha, Ijara Khattak and Rehman (2010). According to the study conducted by Wahyuni (2012) "Muslim community with better knowledge about Islamic Banking has greater intention to use Islamic Banking products".

Proposition (H_1): there is a positive relationship between customer Awareness and the usage of Islamic banking service in Ethiopia.

ii. Relative advantage

According to Rogers (2003), "relative advantage is the degree to which consumers perceived using a new product or services as better that of using its substitutes". The service quality and the cost of acquiring the service could be seen as the criteria for selecting the products and service of an organization; however the extent to which the products and services of IFB satisfy with the religious value system could be an additional reason for selecting the service of Interest free Banking against its conventional banking system. As per Tornatzky & Klein, (1982) "Relative Advantage is one of the significant factors in influencing the adoption of new idea, hence the better the Relative Advantage could be derived from the new products the better the usage of the product". The hopeful alliance of perceived Relative Advantage with that of its rate of intention to use was commonly advocated by Rogers (2003) and in further definite term, a number of studies of innovation adoption and usage in various perspective established the impact of Relative Advantage Thambiah et al, (2011b), ; Gerrard & Cunningham (2003); Tan and Teo (2000); Kolodinsky et al, (2004).

Tan & Teo (2000), also studied the adoption characteristics of users of Internet Banking in Singapore, by employing online questionnaire survey; they were sampled the required number of the sample size to examine the adoption of internet banking in Singapore. The output for their study shows that relative advantage was an important factor in determining customers' adoption of Internet banking services in the country.

Proposition (H_2): There is positive relationship between Relative Advantage and Demand of Islamic banking products and services among customers in Ethiopia.

iii. Compatibility

Compatibility according to Rogers (2003) as cited in Debebe, 2015 is "The degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters". Hence Compatibility is how far the products and services of the Bank could be consistent and compatible with consumers' belief, values, experiences, and habits; skills and work practices of the potential adopters Harrington & Ruppel (1999). Compatibility is not an exception of Interest Free Banking as the issue is how far the products and services build alignment with its customers banking needs, belief, values, experience and habit. "Islamic banking was to accept deposit and mobilized financial resources through Sharia' compatible mode" Perry & Rehman (2011), the Interest Free Banking service provision must be consistent with the Islamic teachings. "Individuals tend to aligned themselves to ideas which are in accords with their interests, needs and existing attitudes" Rogers (2003). The Adoption of an innovation was substantiated to have a direct relationship with that of Compatibility by quite number of empirical studies conducted Al-Ghaith et al. (2010); Amin et al. (2013); Gerrard & Cunningham (2003); Kolodinsky et al. (2004); Tan & Teo (2000); Thambiah et al. (2010). Echchabi & Aziz (2012) studied Moroccans customers in relation to adoption of Islamic banking services; the result reveals that Compatibility score a significant impact on the adoption of Islamic banking in Morocco. In addition, Tornatzky & Klein (1982) conducted a meta-analysis of innovation adoption; the study found that the adoption of an innovation is greatly linked to its Compatibility with individuals' values and belief. The above stated various occasions of the studies reveal Compatibility was showed to score the direct relationship with the rate of usage of new products. According to Rogers (2003) "the more an innovation is compatible with the potential adopters' values, the more the adoption of such an innovation".

Proposition (H_3): There is positive relationship between compatibility and demand of Islamic banking products and service among the bank customers in Ethiopia.

iv. Complexity

According to Rogers (2003), "Complexity refers to the extent to which an innovation is considered by its users as difficult to understand and use". The negative direction of the usage may be realized when participants of innovation find utilizing the new idea very difficult. On the other hand new Innovation may be understandable in such a manner that adopters may find it easy and easily utilize the benefit derived out of it. Arts et al (2011) argued that

"complexity had a positive effect in the initial stage as the adopters' intent to adopt a certain innovation but the effect suddenly reverse to a negative one on the actual usage". The majority of the studies found complexity having reverse relation with adoption of a particular product or service with exception of Tan and Teo (2000). They reported "perceived complexity as not having any remarkable influence on the users' intention toward adoption of internet banking service". The American banker (2000) cited in Kolodinsky et al, (2004) reported that "one-third of consumers who had signed up for e-banking had stopped using it due to unsatisfactory customer service or the complexity of using the service". The effect of complexity was further reported by Butt et al (2012) where uncertainty in products and transaction and perceived complex transaction procedure were jointly revealed as the obstacle elements accountable for separation of potential Interest Free Banking customers to its products and services.

Proposition (H_4): There is a negative relationship between Complexity and the demand of Islamic banking products and services among Ethiopia bank customers.

v. Customer Involvement

Customer Involvement is characterized as the degree of interest and the general importance that that the customers associated to the products and services and her/his willingness of being committed and be part of the Interest Free Banking. Interest free Banking system principally base its services with the involvement of the customers to participate in profit and loss sharing principle, as the main product either in deposit and financing include the willingness of the customer to take part by putting oneself at risk so as to be able to eligible for return. The ultimate buyers of the products and services of interest free bank fall in to its customers on the usage of the products, readiness on the side of the customers to honor the basic principles of Interest Free banking as well as willingness on the dissemination of information about the product to others. "A positive relationship between Customer Involvement and the purchase/usage of the financial product was reported" Howcroft, et al. (2007). Similarly, the significant impact of Customer Involvement on rational benefit was found in a study by Kinard & Capella (2006). "Customer Involvement was emphasized as an important factor for its profound influence on customer willingness to continue the relationship with the service provider" Varki & Wong (2003). "Customers with high involvement are more likely to engage in a positive behavior compared to the low involved customers" Kinard & Capella (2006). It was further discovered to have contributed a vital

role in building confidence in the customer as well as buffering the social benefits perception of the customer to engage in behavior Kinard & Capella (2006).

Proposition (H5): Customer Involvement would have a positive influence on Demand of Islamic banking products and services among the bank customers in Ethiopia.

vi. Trialability

It is defined as the degree to which the innovation can be tested or experimented with before a commitment to adopt is made, according to Rogers (2003), "Trialability is the degree to which an innovation may be experimented with on a limited basis" (p. 16). The correlation of Trialability and rate of adoption is positive, the more an innovation is carried out by the respective users the faster its adoption is. For the adoption of an innovation, another important factor is the clear testing of the newly adopted products, which is especially helpful for later adopters. Later adopters use the experience of peers as a marvelous trial of the innovation. Rogers stated that "earlier adopters see the trialability attribute of innovations as more important than later adopters".

Proposition (H_6): Trialability would have a positive influence on Demand of Islamic banking products and services among the bank customers in Ethiopia.

Furthermore, the study investigates the mediating effect of Customer Involvement between constructs and dependent variable. "A mediator variable is the variable that causes mediation in the dependent and independent variables" Hair el al. (2010) .Thus, to investigate the mediating effect of the Customer Involvement on the relationship between the perceived attributes (Awareness, Relative Advantage, Compatibility, Complexity and, Trialability) and the demand of IFB products and services the under mentioned hypothesis were developed.

H7: Customer Involvement mediates the relationship between Awareness and demand of IFB products and services among the bank customers in Ethiopia.

H8: Customer Involvement has mediates the relationship between Relative Advantage and demand of IFB products and services among the bank customers in Ethiopia.

H_9: Customer Involvement has mediates the relationship between Compatibility and demand of IFB products and services among the bank customers in Ethiopia.

H10: Customer Involvement mediates the relationship between Complexity and demand of IFB products and services among the bank customers in Ethiopia.

H_{11}: Customer Involvement mediates the relationship between Trialability and demand of IFB products and services among the bank customers in Ethiopia.

2.1.6 Theory Model for adoption (Demand) of product and services

Theories give a collection of independent variables which can be used to forecast a particular situation. Whereas, Model give as a systematic description of a situation, a theory or a phenomenon that accounts for its recognized attributes, on which case it may provide a way for further revision of its characteristics. As per Burch (2003) A model may be seen as "an abstract demonstration of a few part of the real world, constructed for the purpose of understanding, explaining, predicting or controlling a phenomenon being investigated". A number of theories have proposed to explain adoption (Demand) of new product inventions especially in technology industry. The Theory of Reasonable Action (TRA) Fishbein and Ajzen (1975), The Cognitive Dissonance Theory Festinger (1957), Theory of Planned Behavior Ajzen (1991), Unified Theory of Acceptance and Use of Technology Venkatesh (2003) are some of theories discussed here under.

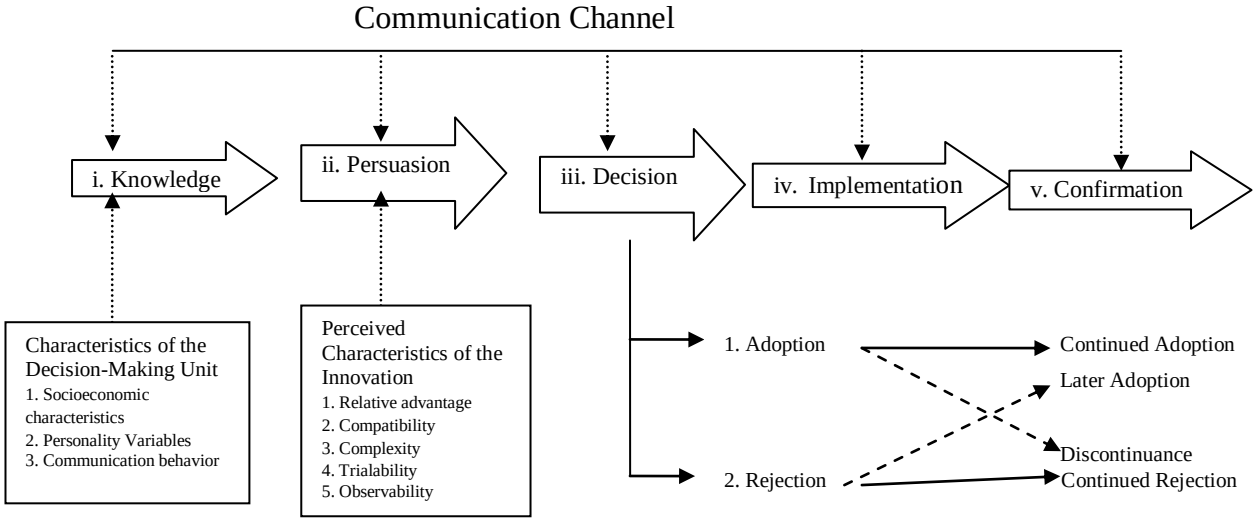
i. Innovation Diffusion Theory

Interest Free banking is considered as a new idea by its adopters as the best way, methods and manner of their financial transactions offered as alternative to the conventional method of financing especially for those portions of the societies that kept away due to their religious teachings. As per Kotler (1994) new products comprise of original products, products modification and products improvement. New product is also includes the products ready to be launched in to the market and those that are perceived as new in comparison to others by the potential adopters Blackwell et al. (2006). Adoption according to Rogers & Shoemaker (1971) is defined as "making the full use of a new idea as the best course of action available". The mirror through which most of the researchers used to study the adoption and development of new ideas as well as behavior prediction study is typically known as Innovation Diffusion Theory Couros (2003); Jamshidi & Hussin (2013); Thambiah et al (2011b). "In its basic form, Diffusion is defined as the process by which an innovation is adopted and gains acceptance by individuals or members of a community" Couros (2003). According to Rogers (2003) Diffusion of Innovation Theory remained as the one of the most

widely used models in innovation adoption studies. The usage of the innovation diffusion theory is widespread in the world; over half a million studies were reported to have used the innovation diffusion theory Rogers (2003); Thambiah et al (2011b); Jamshidi & Hussin, (2012).

Innovations Diffusion Theory Rogers (1995); Rogers and Shoemaker (1971) uses to explain the innovation-decision process. It has been step by step evolved before the existing the top well-known innovation-decision process was introduced by Rogers (1995); Rogers and Shoemaker (1971).

Figure 2.1.6_ 1 Model of Five Stages in the innovation-decision Process

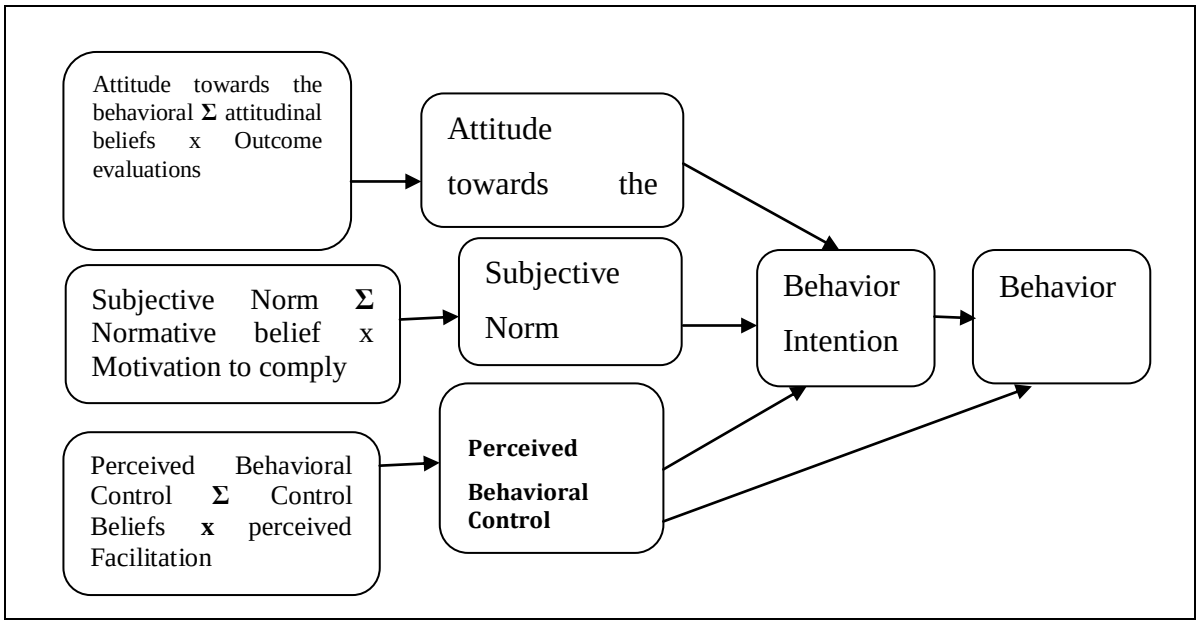


Source: Rogers (2003)

ii. Theory of Planned Behavior (TPB)

The theory of planned behavior (TPB) is an extension of the theory of reasoned action (TRA), which adds a construct that integrates the difficulty or ease of performing a behavior. Perceived Behavioral Control (PBC) emerged as a strong predictor of intention, which outperformed attitudes and subjective norm. Ajzen (1991) reasoned his extension to the TRA as to "The TRA's limitations in dealing with behaviors over which people have incomplete control". Based on a review of a set of studies that were related to the TPB, Ajzen came to conclude that the new construct provided a significant improvement when compared with the TRA. The next figure illustrates the theory and its components.

Figure 2.1.6_ 2: Theory of Planned Behavior (TPB)



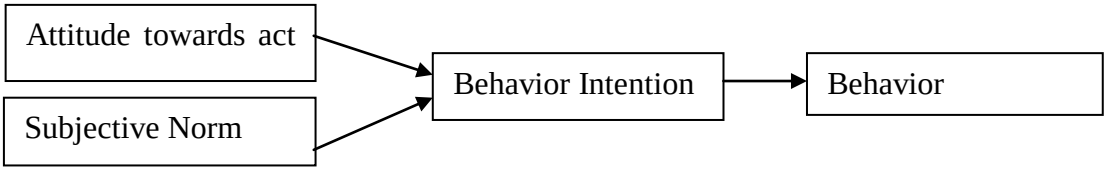
Source: Ajzen (1991)

Due to the TPB (theory of planned behavior) model added perceived behavioral control; several researchers indicated that TPB has a better prediction power of individuals' behavior than TRA model. Adding perceived behavioral control lead to increase TPBs explanatory power Ajzen (1991). As a general theory, TPB does not specify the particular beliefs that are associated with any particular behavior, so determining those beliefs is left to the researcher's preference.

iii. Theory of Reasoned Action (TRA)

As per the study conducted by Ajzen and Fishbein (1975) "TRA is the first theoretical perspective to gain widespread acceptance in technology acceptance". The theory proposes three constructs that is "behavioral intention, attitude and subjective norm". As per the theory of TRA behavioral intention of a person depends on his attitude and subjective norms. Theory of Reasoned Action (TRA) is a versatile behavioral theory and models that indicate the attitude and behavior relationships.

Figure 2.1.6_ 3 Theory of reasoned action

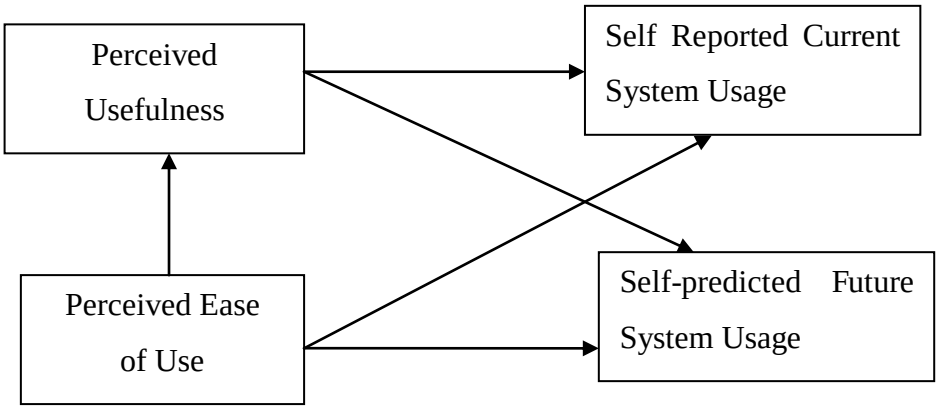


Source: Fishbein and Ajzen, (1975)

iv. Technology acceptance theories and model (TAM)

It was Fred D Davis (1989), who originally invented the model the intention was to show and measure acceptance of computers by the user's. He proposes two theoretical constructs, namely "Perceived Usefulness and Perceived Ease of Use", which are theorized to be essential determinants of Information Technology use. He afterwards studied the proposed constructs on real information technology usage intention of users. TAM has been used by itself or by making the model integrated with incorporate it with all models in related with all kinds of researches related with adoption of technology. Predominantly, TAM is the most known model for the researches in the common model for most researchers that are conducted in relation with Electronic banking adoption. Based on two separate empirical studies conducted by Davis, he found out that "Perceived Usefulness and Perceived Ease of Use" are significantly linked with both current usage and predicted future usage Davis (1989).

Figure 2.1.6_ 4 Technology acceptance Model



Source: Davis (1989)

v. Cognitive Dissonance Theory (CDT)

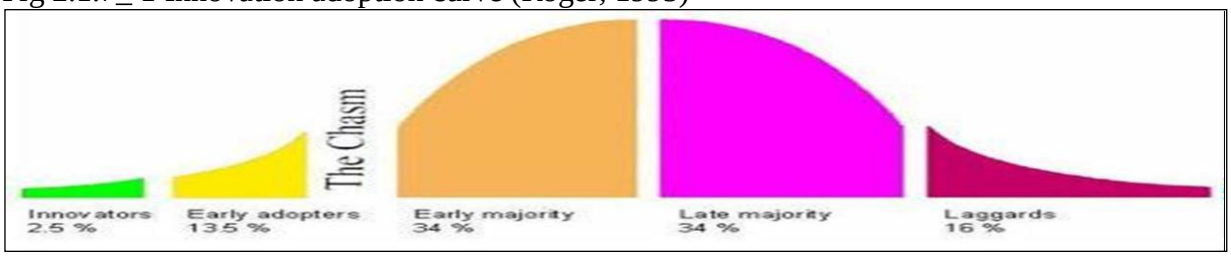
Cognitive Dissonance Theory was formulated by Festinger (1957) "to explain how discrepancies (dissonance) between one's cognition and reality change the person's subsequent cognition and/or behavior" Bhattacherjee (2001). This theory depicts a process model of individual behavior whereby users from an initial pre-usage expectation (belief) about a technology, experience its usage overtime, and then from post-usage perceptions of the technology. The dissonance between users' original expectations and observed performance is captured in the disconfirmation construct Bhattacherjee (2001).

2.1.7 Rationalization for the selection Diffusion of Innovation Model

Rogers (1995) projected that "the theory of 'diffusion of innovation was to establish the foundation for conducting research on innovation acceptance and adoption". He amalgamated 508 studies made up by using diffusion studies and come up with the "diffusion innovation" theory for the adoption of innovation along with individuals and organizations. The theory explicates "the process by which an innovation is communicated through certain channels over time among the numbers of social system" Rogers (1995, "p.5")

The phases through which innovation and adoption process took during innovation theory include understanding, persuasion, decision, implementation, and confirmation that in turn led to the development of Rogers (1995) S-shaped adoption curve of innovators, early adopters, early majority, late majority and laggards as shown in Figure below.

Fig 2.1.7_ 1 Innovation adoption curve (Roger, 1995)



- ✓ Innovator: Venturesome → interest in new ideas leads them out of a local circle
- ✓ Early Adopter: Respect → has highest degree of opinion leadership in most systems
- ✓ Early Majority: Deliberate → interact frequently with peers, 1/3
- ✓ Late Majority: Skeptical → pressure from peers, economic necessity, cautious,1/3
- ✓ Laggards: Traditional → possess no opinion leadership, isolates, suspicious of innovation.

2.2 Empirical Literature Review

2.2.1 Empirical Literature Review - General

Interest Free Banking is an alternative banking business which could be characterized as an emerging phenomenon in a modern Banking industry though out the world. This banking business becomes successful and growing at annual average growth rate of 15%. "Interest Free Banking is striving to develop its own institutional operation and regulatory infrastructures in order to grow and prosper" Khan & Bhatti (2008).

According to Erol and El-Bdour (1989) the banking business increasingly happen to an important part of the world financial system, a number of studies have been conducted at an international level to understand the nature of customers' attitude in connection with its usage Bley & Kuehn (2004); Khan et al. (2007); Matawa & Amossawi (1998).

The phenomenon is not only where Muslim communities are majority, but its potential and prospective importance of Islamic banking become a global occurrence even on the countries where Muslims are minorities. Thus, President Bush has appointed Mohammed el-Gamal, from Rice University knowing the importance and prospects for Islamic banking, to consult the US Government on Islamic finance Janahi and Weir (2005).

Various Studies were conducted on the factors of Determinants for the usage of interest free banking products and services at an international level, the standard of determinant variables varies from country to countries as there exists economical, cultural, political and social factors in the respective countries and other factors though there are some common determinants factors to those countries. Accordingly, the researcher has reviewed some of the studies conducted at international level on usage of the services and products of Interest Free banking determinants factors as follows.

The study was made by Naeem et al. (2016) to validate the impact of religion, awareness, advertising, reputation, networking on the perception of customers in Islamic Banking system in Pakistan. Based on the assessment undertaken on the study a significant perception criteria concerning Islamic Banking and the most important factors that affect the perception of customers on choosing interest free banking products and services are religion awareness regarding financial teaching of Islam, advertising, awareness of the interest free banking products and services and Networking. The study explains that there is need to educate the people about Islamic Banking products and services and Islamic Banking system required to more work for competition with conventional Banking system in Pakistan.

The research conducted by Abdurehim A. (2011) to examine the determinant factors of customers intention to use Islamic Banking personal financing by employing "attitude, social influence, religious obligation and pricing" as factors for his study. Accordingly three determinants factors namely attitude, social influence and religious obligation found to be significant in influencing the use of Islamic personal financing.

Religious passion was a motivated factor for adoption of Islamic Banking among some customers Bley & Kuehn (2004); Khan et al (2007); Metawa & Almossawi (1998) whereas other customers consider adoption as a means to produce additional economic benefits Dusuki & Abdullah (2007); Erol & El-Edour (1989); Gerrard & Cunningham (1997). However, Going beyond a description of customers' religious zeal and economic benefits, researchers have also try to validate the causal relationship between the psychological factors and adoption of Islamic banking using the theory of reasoned action Ajzen & Fishbein (1980); Fishbein & Ajzen (1975), theory of planned behavior Ajzen (1985), Decomposed theory of planned behavior Taylor & Todd (1995) and technology acceptance model Davis (1989).

As per the research study conducted by Echchabi & Abdlazizi (2012) on the title Empirical Investigation of customers' perception and adoption towards Islamic Banking service in Morocco, the study reveal that relative advantage, uncertainty, compatibility, subjective norm and awareness, have the significant impact on the attitude towards Islamic banking services. Similarly, normative belief was also found to have a significant influence on subjective norm, with particular reference to the parents, siblings, peers and colleagues, as the main referent groups. Furthermore, facilitating conditions was also found to have a significant influence on perceived behavioral control. At last attitude, subjective norm and perceived behavioral control were found to have a significant impact on the intention to adopt Islamic banking services in Morocco. However, Complexity and Self efficacy do not have any influence on perceived behavioral control. On the other hand, the results have also shown that the Moroccan customers are willing to shift to Islamic banking services, with a slight preference of long run adoption i.e. three years and above.

The collective study done by Jamshidi et al (March 2014) on their study they try to examine about the important significant factors on adoption and usage of Islamic home financing by its end users. The result of the study reveals that perceived relative advantage, perceives compatibility, perceived complexity, perceived Triability, and perceived Observability on top of that positive attitude regarding Islamic home financing will influence its usage and acceptance by its consumers.

Under the study conducted by Mamman et al (2016) studied about factors that influence customer's intention to adopt Islamic banking in Niger includes, as a result factors like

confidentiality, quick service, credibility, religious, service quality, product, trust, among others are found to be significantly affect the adoption of Islamic banking in Niger.

2.2.2 Empirical Literature Review-Ethiopian perspective

Interest Free Banking is an alternative approach for those portion of the society who were unbanked for the reason that their religious teachings prohibit the activities of conventional banking system. Nowadays, the service of offering Interest Free Banking system increased around the world for the fact that the strong desire to offer services to growing Muslim population and the desire to hold the increasing demand of international investors attracted to Shariah compliant products. The introduction of Interest Free Banking is a recent phenomenon to the Ethiopian context, that exhibited only a six years since inception, after the issuance of directive number SBB/51/2011 by National Bank of Ethiopia, that allows Banks in Ethiopia to conduct Interest Free services using the dedicated window model, however on June 18, 2019 following the repetitive request by stakeholders, the National Bank issued a directive SBB/72/2019 as the continuation of directive SBB/51/2011 that authorizes banks to open standalone or fully fledged interest free banking operation. Interest free banks in Ethiopia weather they are using window model or stand alone model are required to operate in the banking business in consistent with the Islamic teachings, mainly avoidance of the taking and receiving of interest from the mode of operation. In Ethiopia context there are some empirical literature conducted on the topic of Interest Free Banking having various titles as discussed below.

Sankaramu (2009) conducted a research on the subject matter of interest free banking. His study aimed to forward suggestion whether or not Ethiopia should introduce Interest Free Banking in the country or not. As per the result obtained in the study, he gave emphasis on the introduction of Interest Free Banking in Ethiopia in to the country "by making use of smooth relationship between the Christians and Muslims as an opportunity on the basis of its enormous and untapped potential by fulfilling the gap ignored by the conventional banking", the study further announce introduction of IFB will have economic benefit to the country in general and various microeconomic benefits in particular.

The following studies have been conducted in Ethiopia in the topic of IFB: Mohammed (2012) has study on topic "Islamic Banking: Prospects, Opportunities and Challenges in Ethiopia", it was Teferi (2015), who conducted a research on "Contribution of IFB to economic Development and its Prospect in Ethiopia"; research was also undertaken by

Debebe (2015) on "Factors Affecting Customers to Use Interest Free Banking in Ethiopia", a research conducted by Kerima (2016) on "Challenges on Interest Free Banking Services", the study conducted by Abraham R. (2017) was "Determinants Of Customers' Intention To Use Interest Free Banking Products And Factors Affecting Employees' Product Knowledge", and lastly Nobel D. (2019) "Factors Affecting Implementation of Interest Free Banking Services in Ethiopia: The Mediating Role of Customer Involvement". Accordingly, their findings in brief presented as follows.

Mohammed (2012) has studied the "Prospects, Opportunities and Challenges of Islamic Banking in Ethiopia" and found: lack of awareness, regulatory and supervisory challenges, institutional challenges, lack of support and link institutions, gap in research and development in Islamic studies, lack of qualified human resource as well as wrongful association with specific religion and the global terrorism, to be among the challenges identified in his research work.

The research conducted by Teferi (2015) on title "Contribution of IFB to economic Development and its Prospect in Ethiopia". In his study work he come up with the deduction IFB could contribute an inclusion of the target population in the financial system, by which means economic development and GDP growth shall be maintained. Debebe (2015), has conducted a study on "Factors Affecting Customers to Use Interest Free Banking in Ethiopia". His work mainly addressed on willingness on support of interest free banking services. The study showed that perceived relative advantage, perceived compatibility, and customers' level of awareness have a significant positive impact towards the expansion of interest free banking system in Ethiopia.

As per research conducted by Kerima (2016) the following items challenges has been found out as a challenge for the growth of IFB service: lack of capacity to deliver IFB product at full range, awareness about IFB products by customers, lack of trust and confidence of customers, inadequate marketing and promotion, double taxation, nature of IFB products, unavailability of IFB products in all of its branches and the IFB being delivered in a Window model. in view of that, the following recommendations were forwarded by her about IFB products, offer training to its employees continuously to build the capacity, the bank shall increase accessibility of its products having the expected services, the bank has to have *Sharia'* Advisory committee, the bank shall give the required attention and focus for the business and the bank has to be transparent in its IFB business undertaking, in addition to

these NBE directives, tax law and ECX law shall include some exceptions for IFB business development.

A research conducted by Abreham (2017) to analyze the determinants for customers' intention to use interest free banking products and factors affecting employees' product knowledge. The finding indicates that the effect of Attitude, Social Influences, Perceived Financial Cost, Religious belief and Financial Cost (Pricing) found to be statistically significant, which affect customers' intention to use Interest Free Banking. Moreover, the study analyzed product knowledge of employees' by testing Training and Underlying Sharia' principles. The study in general showed that, except for Knowledge from Customers Intention model and Underlying Arabic Terminology from Employees Product Knowledge model, all other constructs have effect on intention and product knowledge of CBE's customers and employees respectively in the city of Addis Ababa.

Lastly, a research conducted by Nobel (2019) to investigate major factors affecting the implementation of Interest Free Banking service. The finding indicates that Awareness, compatibility, complexity, Observability, perceived risk, religious belief and customer involvement were significant factors on implementation of IFB service.

2.3 Research Gap

- ✓ As per the discussion of the review of literature undergone at International level various researchers conducted many research works in the area and found various factors determining the adoption of Islamic Banking products and services. Though the studies have showed that there are some determinant factors common to many countries, the peculiar nature of respective country for the reason social, economical, cultural, technological, religion and other factors may create different perspective on handling the issue. In addition, most of the study environment of the international researches were on Muslim countries; for the reason, it could be difficult to implement policy recommendations of the researches directly in to the Ethiopian context. This, study, therefore, tries to meet fill the research gap by investigating the major factors in determining the Demands of Interest Free Banking products and services.
- ✓ The introduction of Interest Free Banking is the recent phenomena in Ethiopia exhibiting about six years since commencement; for that reason few studies were conducted on the area of IFB: Debebe (2015) has conducted a study on "Factors Affecting Customers to Use Interest Free Banking in Ethiopia". The study is centered on "customer" intention and

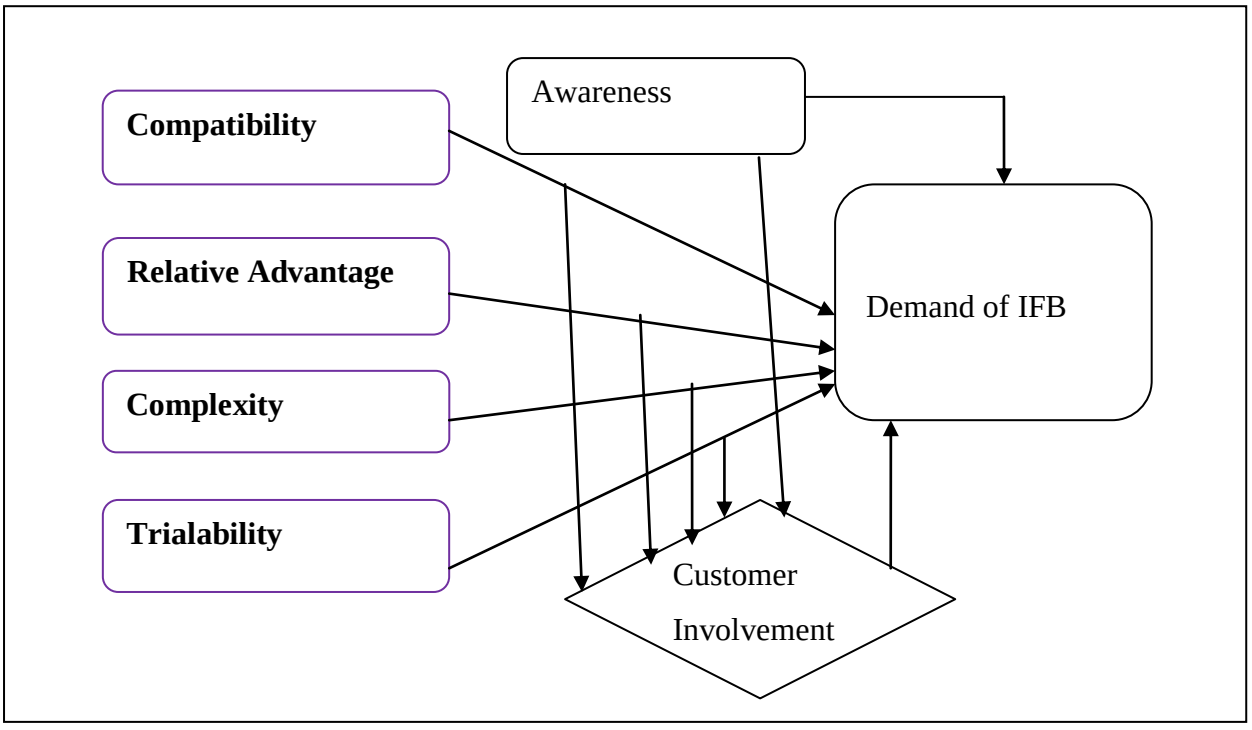
willingness to use interest free banking". On the other hand Teferi, 2015 studied about "Contribution of IFB to economic development and its prospect in Ethiopia". While little research has been limited to the Prospect and challenges of introducing Interest free Banking in Ethiopia" (Mohamed, 2012; Akmel, 2015; Teferi, 2015 & Kerima, 2016; Abraham, 2017). Lastly a research conducted by Nobel (2019) to investigate major factors affecting the implementation of Interest Free Banking service. Thus, none of the above studies have addressed the determinant factors that affect the Demands of Interest free Banking products and service.

- ✓ As far as the researcher knowledge is concerned, there is no earlier work in the country in context of Interest free banking which tries to model proper implementation of interest free banking service based on the full Innovation Diffusion Theory (IDT) attributes, no research in Ethiopia is conducted using full IDT model. Moreover, the research work modified IDT model by introducing Customer Involvement as a mediating factor.
- ✓ The study therefore propose to investigate factors determining the Demands of Interest Free Banking products and services in Ethiopia, considering four Addis Ababa districts and to distinguish the determining factors that need more consideration to provide recommendation for Bank management so as to enable Interest free Banking industry plays its role in building the National economy.

2.4 Conceptual Framework of the Study

The study adopted the dimensions of IFB from related literature. The dependent variable in this study is the DEMAND for Interest Free Banking products and services in the Ethiopian context. The proposed framework was adopted from Rogers (2003) with some modifications to accommodate the approach depict by the researcher. The study accommodates the original innovation diffusion model constructs Relative Advantage, Compatibility, Complexity and Trialability, in addition to the original constructs Customer Involvement and Awareness are added in the model by the researcher. Furthermore the researcher disregard Observability construct from the model as the research is conducted for financial sector industry not technology business organization, Observability is the key motivational factor in the adoption and diffusion of technology Parisot (1997).

Figure 2.1.7_5 Conceptual Framework of the study



Source: Adapted from Sani Yahya 2015 adding awareness and Customer Involvement constructs

N.B Items encircled with purple color and written on bold are the original constructs of IDT.

CHAPTER THREE

3. RESEARCH METHODOLOGY

This chapter presents the framework and the methodology used to gather the data to examine the hypotheses of the study. It describe about research approach used, research design, data source, population of the study, sampling procedure and technique, the sample size determination, measurement of constructs, validity and reliability of the instrument, methods of data analysis and ethical considerations.

3.1 Sources and Type of Data

Quantitative and qualitative approaches are the two basic approaches in conducting a research Kothari (2004). Quantitative approaches used a careful quantitative analysis and it is further classified into inferential, simulation and experimental approaches to research. The objective of inferential research approach is to infer characteristics or relationship of population from the sample population. By means of research conducted (observed or questioned) to a sample population, the result obtained then inferred to the general population which has the same characteristics. Keeping in view of the purpose of this study the researcher would be adopting both quantitative and qualitative approach. Using both research approaches should be used when the contingency suggest that it is likely to provide better answers to a research question or set of research questions in a series of study that investigate the same underlying phenomenon Colin et al. (2006) as cited in Debebe.

As the focus of the study is on Relative Advantage, Compatibility, Trialability, Complexity and Awareness, the study also includes Customer Involvement as a mediator factor. The significance of primary data cannot be exaggerated and therefore, this study has made use of primary data of both quantitative and qualitative nature that was obtained from commercial bank of Ethiopia IFB Customers'. First hand data, gathered in simple terms forms the foundation of explanations, simplification, conclusion and implication of the study for the undergoing research. Furthermore, secondary data was also collected and used to supplement the study. The secondary data was collected from bank reports, IFB Financing and CATS procedures of Commercial Bank of Ethiopia, National Bank of Ethiopia supervisory directives and training material of Commercial Bank of Ethiopia and other working documents. The questionnaires were based on determinants that basically affect the demands of IFB (Awareness, Relative Advantage, Compatibility, Complexity, Trialability and

Customer Involvement). The researcher mainly employed evaluative /descriptive measurements techniques and the Likert scale from 1 for "Strongly Disagree" up to 5 for "Strongly Agree".

3.2 Study Area

The research was conducted at Commercial Bank of Ethiopia (CBE) by focusing on IFB windows specifically to study the Determinates of Demand to Interest Free Banking products and services in the city of Addis Ababa. The selection of the participant of the study is obtained from IFB customer of Commercial Bank of Ethiopia, CBE, which is a government owned Bank was established in 1942, it is a well known in the industry and the largest bank in the country, as per the data obtained from (MIS) it scores a leading performance in the industry of interest free banking deposit services, it is also a high performing bank in the conventional banking industry. The branches network reached more than 1,400 throughout the country, that are organized in to 15 districts as of September 2019 (MIS report). It currently providing the financial service using the conventional and interest free banking system. It has been more than six years since the commencement of providing the IFB service using the window model. Currently the delivery of the service is conducted using its more than 1,400 branches network and manage to accommodate more than 2,188,000 customers' account scoring total deposit of Birr 25.24 Billion and exhibited a total finance (Loan) of Birr 1.09 Billion, that represent 4.32% of the total deposit amount as of September 30, 2019 (MIS Report).

3.3 Target Population

Population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate (Sekaran, 2006).

The aim of study is examine (asses) of demand of Interest Free Banking products and , the product is found at its infant stage in Ethiopian banking industry, exhibiting only 6 years of service. Customers of IFB in the respective branches of CBE are targeted to identify the level of Demand of Interest Free Banking products and services. The target population converges to a sampling frame made up of CBE Interest Free banking services by focusing on four districts offices found in Addis Ababa city, as it is difficult to administer the study considering the whole branches found in the whole country due to time and cost constraints. According to sample homogeneity the target population of each sampling frame of the study

grouped into four districts that are found in Addis Ababa districts. The information about the population is obtained from the secondary source of the target bank, which acknowledged their direct and indirect participation for providing the data.

The organizational structure of CBE reveals that, it has arranged using 15 district offices for managing and supporting the day to day activities of the respective branches under their area of influence throughout the country. The purpose of establishing the bank through district offices is to allow the bank intact control on its resources and get utmost efficient control and supporting those branches found on the respective area; District offices follow the same procedure while making supervision on branches and all the districts believed to serve the same type of customers using identical products and services, therefore no observed variation among district offices.

CBE's district structure comprises of two parts, Addis Ababa area and outlying area represented by four and eleven district offices respectively, these offices are responsible for controlling and supporting the respective branches day to day activities.

The study assumed branches in Addis Ababa city districts for conducting the study. According to data collected from CBE MIS there are a total of about 454 branches in Addis Ababa districts, from which 111 branches were dropped from the sample, due to the location of those branches are found out of Addis Ababa city town for the reason to be realistic and at the same time save time and cost to collect samples from those remote areas. Hence, The number of branches included in the survey are found to be 343 in the four districts found in Addis Ababa after deducting the above mentioned remote branches. Since this study aims to analyze the determinants that affect demand of Interest Free Banking the target population consists of the entire IFB customers that are found in Addis Ababa town or selected branches.

Given attention stated above, appropriate sample is collected from the four districts in Addis Ababa town, participants in the samples are from every sampled part of Addis Ababa town, covering the entire four districts; by which the researcher be able to reach respondents with different demographic characteristics, perceptions about the matter of this study which in turn enables to conclude or generalize the findings to the population of this study.

3.4 Sampling Methods and Sample Size Determination

3.4.1 Sampling Method

Probability and non-probability sampling are the two kinds of sampling techniques employed by the researcher to conduct the research. A probability sample is defined as a sample in which every element of the population has an equal chance of being selected (random selection). Whereas, Non-probability sampling is a sampling technique where the samples are gathered in a process that does not give all the individuals in the population equal chance of being selected, the quality of a non probability sample depends on the survey designer's knowledge, judgment, and expertise. In Probability sampling every member of the population has a known and equal chance of being selected and probability sample includes Simple Random, Systematic, Stratified, Cluster and Multistage sampling methods (Adams et al., 2007). In order to reach to specific respondents this study was employed multistage sampling (probability sampling) techniques and convenience sampling (Non probability sampling). As stated above, the districts are selected on a purposive base which we can consider them as strata. Accordingly, we have four strata.

3.4.2 Sample Size Determination

Sample size determination is the process of choosing the number of observations or reproduce in a statistical sample, sample size is crucial feature of any empirical study. Hence, determining sample size with due care is an essential issue because samples that are too large may waste time, resources and money, while samples that are too small may bring faulty conclusions. For the study sample size of branch among the districts and of respondents was determined using the under mentioned techniques.

3.4.2.1 Branch Sample Size

The bigger the sampling size of a research, the more precise the data generated. However, due to time and financial limitations and the nature of the population, sample size determination method developed by Carvalho (1984) was preferred to be used by researcher in determining sample size of the bank's branch. The study used CBE's MIS report of September, 2019, thus the total branches qualified in these districts that have IFB windows reached 343 branches.

Population size	Small	Medium	Large
51-90	5	13	20
91-150	8	20	32
151-280	13	32	50
281-500	20	50	80
501-1,200	32	80	125
1,201-3,200	50	125	200
3,201-10,000	80	200	315
10,001-35,000	125	315	500
35.001-150,000	200	500	800

Source: Carvalho (1984)

Hence, as per Carvalho (1984) sample size determination method the researcher has selected a medium sample size which is 50 branches of CBE with IFB windows in respective four Addis Ababa districts from the population of 343 branches in which the medium number is considered than the smaller to increase the accuracy of the data. Furthermore, medium number is employed as it is economical than the larger number samples, because it is helpful to properly utilize the time and cost of the researcher.

For the reason that the total number of branches found in each cluster are not the same, the researcher has proportionate the size of each cluster in order to determine the number of sample branches in the respective districts employing the proportionate percentage of each respective districts with that of the total number of branches found in Addis Ababa area districts. Hence, the study has determined the number of branches in each cluster in the following manner.

No.	Districts in Addis Ababa area	Number of Branches	Proportion (in %)	Number of sample branches in each district
1	North Addis	83	24%	12
2	South Addis	84	24%	12
3	East Addis	92	28%	14
4	West Addis	84	24%	12
Total		343	100%	50

Source: Own Computation from CBE- MIS data June 30/2018.

After the determination of the exact number of sample branches from respective district, simple random sampling method was used and 50 branches were selected to collect data from respondents from each branch. For instant, to select 12 branches from 84 branches of West Addis district, branches were arranged alphabetically and every 7th branch was selected until the full sample size of 12 branches are selected from the district, the same process will continue until we get the representative branches from the respective districts as a sample.

3.4.2.2 Customers' Sample Size

There are four sample size determination techniques according to Isreal (2009), the first approach is using a census for small size of population, second approach is copying from the sample size of other similar studies, the third one is using the published tables like the table of Krejcie and Morgan (1970), and the fourth one is employing the formula, For instance, Krejcie and Morgan (1970) as cited in Abraham (2017), by using a formula, they manage to launch list of table that is used for sample size determination of the given population size for a population greater than 1,000,000 and with a confidence level of 95%, the sample size should be 384. In another study conducted by Hair, Anderson, Tatham, and Black (1998) sample size between 200 and 400 is usually suitable as decisive sample size for attitude studies.

In order to determine number of sample from the population of customers, the formula from the book of Kothari (2004) will be used for finite population. This sampling method is also used by Debebe (2015). As per the formula, the minimum sample size is $n = Z^2 * p(1-p) * N / e^2 (N-1) + Z^2 * p(1-p)$ where n is sample size, N is total population size, p is estimated variability in the population, z is standard error associated with chosen level of confidence and e is the acceptable errors.

Accordingly in the study the sample size of IFB account-holder customers is determined in accordance with the following assumptions: probability (p) equals to 50%, this is the safest possible assumption, the confidence level of 95% which corresponds to Z -value of 1.96 and an error or precision (e) of 5% and N is 307,355 from 343 branches. Given the above assumption, the sample size is estimated as:

$$n = \frac{Z^2.p(1-p)* N}{e^{2.}(N-1)+Z^2*p(1-p)}$$

$$=\frac{1.96^2 \text{ X } (0.5)\ (1-0.5)\ (307355)}{((0.05)^2 *(307355-1)) + (1.962(0.5)*(1-0.5))}$$

= 295,183.74
768.8755

=384

Table 3.4.2.2_1 Sample size

No	Name of Addis Ababa Districts	Number of customers in each Districts	Proportion in %	Number of sample customers in each districts	Number of sample branches in each districts	Number of sample customer per branch
	North	46082	14%	54	7	8
	South	38159	13%	50	6	8
	East Addis	38818	13%	50	6	8
	West	184296	60%	230	31	7
		307,355	100%	384	50	

Source: Own Computation from CBE- MIS data September 30/2019.

Finally, convenience sampling method was used to assemble data from the sample of 384 customers/ respondents. Convenience sampling technique is a non-probability sampling technique in which a sample is drawn from that part of the population that is convenient to the researcher, or readily available. As a result, in the selected branches questionnaire was given to customers of the branch at the time of walking in to the branch to get the service of the bank after confirming the willingness of the customers to fill the questionnaire until the expected number of sample size assigned to the respective branch has been satisfied.

3.5 Data Collection Instruments

sampling unit	Sample Size Determination	Sampling Techniques
Commercial Bank of Ethiopia	-	Purposive
Addis Ababa Districts	-	Purposive
Number of Sample branches	Carvalho (1984)	-
Number of sample branches in each districts	-	Quota Sampling
Selection of branches from each districts	-	Simple Random Sampling
Number of sample customers	Kothari (2004)	-

Number of sample customers in each Districts	-	Quota Sampling
Selection of customers from sample branches	-	Convenience sampling

There are two types of data collection methods – primary and secondary. “Primary data collection methods include observation, experimentation, Surveys and interviews; on the other hand, Secondary data is data collected by someone else and are available in the form of books and the web” Adams et al. (2007).

The study used both primary and secondary sources to collect data. The primary data have been collected through standardized questionnaire through the use of the customers of respective branches. Secondary data was also collected from various sources of the bank’s units in the form of procedures, guidelines and reports. The researcher was collected primary data through administered questionnaire, which has involved both structured and unstructured questions to collect quantitative and qualitative data respectively from customers. The Questionnaire for customers was prepared in both Amharic and English languages.
As shown in Appendix A.1, and A.2, the questionnaire on determinants of demand on interest free banking products and services arranged in two sections: the first section addresses the demographic profile of the respective respondent and the second part of the questioner deals about the demand of interest free banking products and services of customers, assuming independent variables- Customer Involvement, Awareness, Relative Advantage, Compatibility, Complexity and Trialability. Five-point Likert scale was used for the statement of the second section of the questionnaires ranging from "strongly disagree" to “strongly agree".

Data for the survey were collected by means of a self administered survey using purposive sampling techniques on 384 respondents that are IFB customers in respective branches in Addis Ababa. However, 380 questionnaires returned out of which 360 questionnaires included in the analysis due to incomplete information provided by those customers in the questionnaire,

The primary data is collected, by making use of sampling method (Table No. 3.5_1), from customers’

Table 3.5_1: Source of Questionnaire Items for Demand of IFB services and products

Constructs	Number	Source of Questionnaire Items
Demand of IFB (DEM)	4	(Sani Yahaya1*, Ibrahim Abdul Hamid2, Ahmad Fauzi Bin Idris3, Yusuf Haji$_4$ 2015)
Awareness (AWA)	6	(Sani Yahaya1*, Ibrahim Abdul Hamid2, Ahmad Fauzi Bin Idris3, Yusuf Haji$_4$ 2015)
Compatibility (COP)	5	(Sani Yahaya1*, Ibrahim Abdul Hamid2, Ahmad Fauzi Bin Idris3, Yusuf Haji$_4$ 2015)
Relative Advantage (RAD)	5	(Sani Yahaya1*, Ibrahim Abdul Hamid2, Ahmad Fauzi Bin Idris3, Yusuf Haji$_4$ 2015)
Complexity (COX)	4	(Sani Yahaya1*, Ibrahim Abdul Hamid2, Ahmad Fauzi Bin Idris3, Yusuf Haji$_4$ 2015)
Customer Involvement (CUI)	7	(Sani Yahaya1*, Ibrahim Abdul Hamid2, Ahmad Fauzi Bin Idris3, Yusuf Haji$_4$ 2015)
Trialability (TRI)	5	(Am J Health Behav. 2007; 31(6):612-621)

3.6 Validity and Reliability of the Instrument

3.6.1 Pilot testing Procedures

Pilot testing is a testing of a research study, allowing testing research approach with a small number of test participants before conducting main study. According to Du (2011) pilot testing is essential to assess the reliability and validity of a questionnaire. During undertaking this study, before passing the next stage of the research work, the researcher took a sample of 38 CBE customers to verify the clearness of the question and accordingly run reliability analysis test using AMOS software. The Respondents, that are participated on the pilot testing, were given a chance to make their opinion and make suggestion on grammatical and clarity problems of the questionnaire.

3.6.2 Validity

Validity is the strength of conclusions, inferences or propositions. It involves the degree to which one is measuring what is supposed to be measured; more simply, validity is the accuracy of measurement (Adams et al., 2007).

There are four types of validity commonly examined in research undertakings and these are Internal, External, Construct and Conclusion Validity. Internal validity refers to the approximate truth about inferences regarding cause-effect or causal relationships Trochim (2000). In consequence, internal validity is only relevant in studies that try to establish a causal relationship. External validity refers to the ability to generalize the results of the study to other settings Adams et al. (2007). Conclusion Validity is a measure of how reasonable a

research or experimental conclusion is. The last validity is Construct validity, which refers to the degree to which inferences can legitimately be made from the Operationalizations in the study to the theoretical constructs on which those Operationalizations were based Trochim (2000).

In order to ensure the validity of this study and data collection instrument, the following actions are taken:

i. By applying Confirmatory Factor Analysis (CFA) the construct validity was assessed with due attention.

ii. A pilot survey was taken by the researcher on randomly selected 38 customers of sampled six branches found in West Addis district, Interest Free Banking by using the questionnaire developed for study to ensure that the questionnaire is relevant and statements are generally understandable.

iii. The questionnaire on determinants for Demand for interest free banking products and services was translated to Amharic by professional translator.

3.6.3 Scale Reliability

Reliability is the degree to which the measure of a construct is consistent or dependable. According to Sekaran (2006) the reliability of a measure indicates the extent to which it is without bias and hence ensures consistent measurement across time and across the various items in the instrument. As Trochim (2000) discussed it, there are four general classes of reliability estimates, each of which estimates reliability in a different way. These are: - Inter-Rater or Inter-Observer Reliability, Test-Retest Reliability, Parallel-Forms Reliability and Internal Consistency Reliability. According to Trochim (2000), among the four estimates of reliability, internal consistency reliability is the widely used one. Internal Consistency Reliability used to assess the consistency of results across items within a test. In internal consistency reliability estimation, single measurement instrument administered to a group of people on one occasion to estimate reliability. In effect the reliability of the instrument can be judged by estimating how well the items that reflect the same construct yield similar results Trochim (2000, “p. 97”). There are variety of internal consistency measures that can be used including average Inter-Item Correlation, Average Item Total Correlation, Split-Half Reliability and Cronbach's Alpha Trochim (2000). Cronbach's Alpha is the most common measure of internal consistency. It is most commonly used on multiple Likert-scale questions in a survey questionnaire to determine if the scale is reliable Lund Research Ltd. (2007). In

Interpreting Cronbach's Alpha, the closer the coefficient gets to 1.0, the better, whereas Coefficients less than 0.60 are considered poor and those in the 0.70 range, acceptable, and those over 0.80 good Sekaran (2006).

In this study reliability analysis is carried out on each item of the dependent and independent variables by making use of the 38 pilot survey samples. Accordingly, as presented on table 3.6.3_1, the overall scale reliability of this study is 0.872, which is greater than 0.700,that indicate individual constructs as well as overall scale reliability of the constructs is good.

Table 3.6.3_1: Reliability Analysis of Variables of Demand of IFB products and services

Variables	Number of Items	Cronbach's Alpha
Demand of IFB products and services	4	.784
Awareness	6	.709
Compatibility	5	.882
Relative Advantage	5	.792
Complexity	4	.655
Customer Involvement	7	.886
Trialability	5	.875
Overall scale Reliability	36	.872

3.7 Methods of Data Analysis

Data Analysis, particularly in case of survey, involves estimating the values of unknown parameters of the population and testing of hypotheses for drawing inference. Analysis can be divided in to two categories namely descriptive analysis and inferential analysis (statistical analysis). "Descriptive analysis is largely the study and description of one variable" Kothari (2004). Inferential analysis is used to analyze the relationship between two or more variables and to assess how the independent variables explain the dependent variable Bisrat (2015), as stated in Abraham (2017). Unlike descriptive analysis, with inferential statistics, conclusions to be reached extend beyond the immediate data alone Trochim (2000). To observe the relationship among respective variables the research utilizes the descriptive and inferential analysis.

3.7.1 Structural Equation Modeling (SEM)

Structural equation modeling is a multivariate statistical analysis technique that is used to analyze structural relationships. This technique is the combination of factor analysis and

multiple regression analysis, and it is used to analyze the structural relationship between measured variables and latent constructs. The conceptual framework for demand for interest free banking products and services was analyzed using SEM, which is a well-known method to study and examine a survey data. It is a statistical methodology that takes a confirmatory approach to the analysis of a structural theory bearing on some phenomenon Byrne (2010) and a comprehensive statistical approach to testing hypotheses about relations among observed and latent variables Hoyle (1996). At the present time, SEM is highly utilized by social, behavioral and educational scientist there are also other field of study like biologists, economists, marketing and medical researchers utilize the SEM.

In Structural Equation Modeling, Data analysis of the study involves some stages. Data screening is the primary stage which tests to satisfy multivariate assumption. In this stage the suitability of the data for the purpose of statistical analysis will be tested. Passing the first stage, the next step is to do exploratory factor analysis (EFA) to identify the underlying structure of the variables involved Hair et al. (2006). In the third stage, the data is run using structural equation model (SEM) software. The advantage of this approach is that it is able to estimate measurement model and structural model simultaneously. The measurement model is the part of the model that examines relationship between the latent variables and their measures and it is done using validity factor analysis in order to validate measurement scale of a construct Hair et al. (2006). Variables that pass this analysis test are then applied to structural model analysis, in order to examine the relationships between the endogenous variables and the exogenous variables of the study, as the structural **model** is the relationship between the latent variables.

3.8 Operationalization of the Study Variables

Table 3.8_1: Conceptual Definition and Operationalization of Demand of IFB Constructs

Constructs	Conceptual Definition	Nu mbe	Source of Questionnaire
Demand of IFB	Defined as how hard an individual is willing to try and how much effort he or she is planning to charge towards the		(Taib et al., 2008; Amin et al., 2011; Ali et al., 2015)

Awareness	Refers to the level of information on the usage of Islamic Banking products.		Researchers own definitions
Compatibility	Refers the degree to which an innovation is perceived as		(Sani Yahaya1*, Ibrahim Abdul Hamid2, Ahmad
Relative Advantage	Refers the degree to which consumers perceived using a new productor service as better than using its substitutes.		(Sani Yahaya1*, Ibrahim Abdul Hamid2, Ahmad Fauzi Bin Idris3, Yusuf
Complexity	According to Rogers (2003), "trialability is the degree to which an innovation may be		(Sani Yahaya1*, Ibrahim Abdul Hamid2, Ahmad Fauzi Bin Idris3, Yusuf
Customer Involvement	Refers to the level of customer involvement on the usage of Islamic Bank products and services.		(Sani Yahaya1*, Ibrahim Abdul Hamid2, Ahmad Fauzi Bin Idris3, Yusuf Haji$_4$ 2015).
Trialability	refers The degree to which an innovation may be experimented with on a limited bases		(Am J Health Behav. 2007; 31(6):612-621).

Source: Various authors and researcher's own definition

3.9 Ethical Considerations

As suggested by Trochim (2000); Sekaran (2006), the researcher has ensured the strict commitment to comply with the under stated ethical conducts:

- Respondents are voluntarily participate in the replying the questionnaires
- The aim of the study was clearly explained to respondents.
- Information provided by respondents was treated by giving a strong value to confidentiality and the researcher ensured that participants will remain anonymous throughout the study.
- There was no alteration of the actual data collected from respondents.

CHAPTER FOUR

RESULTS AND DISCUSSION.

4.1 Sample and Response Rate

Sample size measures the number of individuals measured or observations used in the survey. Though the sample size of the study was 384 individuals, for eventuality purpose 410 questionnaires were distributed to the customers of Commercial bank of Ethiopia in the respective branches and 380 questionnaires were returned. Following checking the returned questionnaires, 360 questionnaires, which are 93.75% of the sample size of the study, found to be suitable. Moreover, six questionnaire responses with critical values above 71.5 Mahalnobis Distance (MD) were considered as outliers and excluded from further analysis. Therefore, 354 questionnaires, which are 92.18% of the sample size, found to be valid for further statistical analysis.

4.2 Missing Data Management

According to Field (2009) it is common to have missing data for various reasons In this study, as a rule of thumb questionnaire is considered as incomplete and rejected from the analysis, if it has more than one missing value in the second part of the questionnaire with in an item, In this study, questionnaires that have more than one missing value, in the second part of the questionnaire, are 23.

Conversely, if the omission in the second part of the questionnaire is one item, the procedure adopted in the study was to replace missing values with mean of other valid responses within the item, Mean substitution is one way of replacing values if there are few missing values Pallant (2005).

4.3 Descriptive Analysis

The first Section of the questionnaire was designed to collect some essential demographic details of the respective respondents in the study and the second section of the questionnaire designed to obtain information about the determinants factors for demand of Interest Free Banking products and services from each individual respondent (see appendix a.1 and a.2).

4.4 Analysis of Customers' Profile

The summary result of the total respondent reveals the following demographic information, male customers constitute 199 (56.22%) of the respondents while female respondents constitute 155 (43.78%). Respondents below the age of 30-year and above the age of 18 accounts for 25.2% of the total respondents 48.1% of the respondent account for the age group 30-45, 19.7% of the respondent represent the age group of 41-50 and 6.4% of the respondent constitutes the age group of more than 50 years 0.6 % of the respondent did not mention the age among the valid respondent. The survey result shows that 30.1% of the respondents have first degree and 22% are has masters degree, 20.6% of the respondent diploma holder, 15.1% of the respondent secondary school, 7.5% primary and 4.7% constitute other. The study also shows that 31.8% of the respondents are employed at government sector and 26.7% are employed in the private sector and 20.6% constitute other sector, 20% of the respondents are self employed and .9% did not mention occupation. With regards to monthly income, 31.6% of the respondents are both within the income range of Birr 7,000 – Birr 10,000 and income range of above birr 10,000 individuals with monthly income below birr 5,000- 6,999 constitute 16.8%, individuals with income range of Birr 2,000 to 4,999 constitute of 12.5% of the total valid responses, individuals with income range of less than birr 2,000 constitute 7% of the total valid response, moreover .5% of the respondent did not mention income. Table 4.4_1 summarizes the profile of the respondents.

Table 4.4_1 Customer Profile

Questions	Response Alternative	Count	Percent
Sex of respondents	Male	199	56.22
	Female	155	43.78
Age of Respondent	Between 18 – 30	87	25.2
	Between 31-40	166	48.1
	Between 41-50	68	19.7
	Above the age of 50	22	6.4
	Missing	2	.60
Education Level	Primary	26	7.5
	Secondary	52	15.1
	Diploma	71	20.6
	First Degree	104	30.1
	Masters	76	22
	Others	16	4.7
	Missing	-	0
	Government	110	31.80
	Private	92	26.7

Questions	Response Alternative	Count	Percent
Occupation of respondent	Self Employed	69	20
	Others	71	20.6
	Missing	3	.90
Monthly income of respondent	Below 2,000	24	7
	2,000 - 4,999	43	12.5
	5,000 - 6,999	58	16.8
	7,000 - 10,000	109	31.6
	Above 10,000	109	31.6
	Missing	2	.50

Source: Survey Result (2019)

4.5 Descriptive Analysis of independent Variables

The mean scores have been computed for the six independent variables of this study. Respondents were asked to rate the data provided on a five-point Likert scale type ranging from strongly disagrees to strongly agree. The value represented by "1" as being strongly disagrees and "5" strongly agree. The average descriptive analysis result is tabulated on table 4.5_1 as follows.

Table 4.5_1 Mean score of items of Demand for Interest Free Banking products and services

Awareness	AWA1	AWA2	AWA3	AWA4	AWA5	AWA6	-
	3.53	3.71	3.78	3.73	3.81	3.66	-
Compatibility	COP1	COP2	COP3	COP4	COP5	-	-
	3.63	3.92	3.94	3.80	4.02	-	-
Relative Advantage	RAD1	RAD2	RAD3	RAD4	RAD5	-	-
	3.72	3.83	3.81	3.80	3.93	-	-
Complexity	COX1	COX2	COX3	COX4	-	-	-
	3.70	3.65	2.71	2.47	-	-	-
Customer Involvement	CUI1	CUI2	CUI3	CUI4	CUI5	CUI6	CUI7
	3.85	3.85	3.77	3.97	3.72	3.55	3.80
Trialability	TRI1	TRI2	TRI3	TRI4	TRI5	-	-
	3.12	2.82	2.93	3.06	3.06	-	-

Source: Survey Result (2019)

The mean score of the item under Customer Involvement ranges from 3.55 to 3.97 which indicates that the respondent are agreed that Customer Involvement determines on the decision of demand for interest free banking products and services.

The mean score of the item under Awareness ranges from 3.53 to 3.81 which indicates that the respondents are nearly agree on the Bank shall make an awareness so as to enable the customers decide on demand for interest free banking products and services.

The mean score of the item Compatibility ranges from 3.63 to 4.02 which indicate that respondents are agreed that Compatibility determines on the decision of demand for interest free banking products and service.

The mean score of the item Relative Advantage ranges from 3.72 to 3.93 which shows that the respondents are agree on demand of IFB products and services determined by relative advantage.

The mean score of the item Complexity ranges from 2.47 to 3.70 which shows that the respondents are neutrally think Complexity will determine demand for IFB products and services,

The mean score of the item Trialability ranges from 2.82 to 3.06 which indicates that, on average, customers are neutral on Trialability in determining the demand on IFB products and services.

4.6 Inferential analysis

Inferential analysis makes inferences and predictions about a population based on a sample of data taken from the population in question. Researchers in social science are usually interested in generalizing their findings outside of the sample. So in order to generalize the regression model of the sample is also working for regression model to be generalized one must make sure that the underlying assumptions have been satisfied.

4.6.1 Linearity

The assumption of linearity in a multiple regression, assumes that there is a linear relationship between any predictors and the outcome variable (Field, 2009). The scatter/dot plot of standardized residuals versus the fitted values (see Appendix D_01) for the regression models were visually inspected. The majority of the plot (as per Appendix D_01) have a linear relationship so we can conclude overall the plot have a linear relationship.

4.6.2 Multivariate Normality

Among the assumptions being used for inferential analysis, multivariate normality test is the one that says each variable and all linear combination of variables are normally distributed. It is critically an important assumption when conducting Structural Equation Modeling in general and using AMOS software for data analysis in particular is that data are multivariate normal Byren (2010) as cited in Abraham (2017). Hence, multivariate normality analysis was conducted, as described below and the software output attached in the Appendix D_02.

Table 4.6.2_1 Multivariate Normality test result

Constructs	N	Skewness		Kurtosis	
		Statistic	Std.	Statistic	Std.
Demand of IFB	354	-1.518	.131	3.31	.262
Awareness	354	-1.075	.131	.283	.262
Compatibility	354	-1.593	.131	2.684	.263
Relative Advantage	354	-1.-001	.132	1.286	.262
Complexity	354	-.272	.131	-.837	.262
Customer Involvement	354	-1.629	.131	2.742	.261
Trialabilty	354	.089	.132	-1.280	.263

Source: Survey Result (2018)

As per Field (2009), an absolute value greater than 1.96 is significant at $p < .05$, and above 2.58 is significant at $p < .01$ and absolute values above about 3.29 are significant at $p < .001$. when the sample size become large the standard it give large error become small and so when sample sizes are became very big, significant values arise from even small deviations from normality. In small samples it's acceptable to look for values above 1.96 (absolute value of +2 to -2 range); when sample size is very large due to the problem of small standard errors, no criterion should be applied. A large sample (200 or more) it is more important to look at the shape of the distribution visually and to look at the value of the skewness and kurtosis statistics rather than calculate their significance.

4.6.3 Independence of Errors

The assumption of Independence of errors refers to us that errors in regression are independent; this assumption is possibly to be met if the Durbin–Watson statistic is close to 2 and between 1 and 3 (Field, 2009). The Durbin–Watson statistic test for this study found to be 1.416 which indicates the assumption of independence of errors is satisfied (see Appendix D_03).

4.6.4 Multicollinearity

Multicollinearity assumption refers that construct should not be too highly correlated. According to Field (2009) the assumption of Multicollinearity can be checked with both Tolerance and VIF statistics. According to Landau and Everitt (2004), Variance Inflation Factors (VIFs) above 10 or Tolerances below 0.1 are assumed to be not in agreement to the assumptions of Multicollinearity test. In the study conducted Variance Inflation Factors (VIFs) are below 10 and Tolerances are greater than 0.1, the result from the study shows that Multicollinearity test is satisfied (Table 4.5.4_1, see appendix D_04 for the detail).

Table 4.6.4_1 Multicollinearity

Variable	Collinearity Statistics	
	Tolerance	VIF
Awareness	.559	1.790
Compatibility	.357	2.805
Relative Advantage	.419	2.388
Complexity	.957	1.045
Customer Involvement	.361	2.772
Trialability	.818	1.223

Source: Survey Result (2019)

4.6.5 Homoscedasticity

Homoscedasticity assumption is about verifying the variance of each error term (ui) is kept constant then it will have equal variance (Homoscedasticity), otherwise, it is classified as Hetroscedatic. The study addressed the issue by plotting ZRESID (residual value) on Y-axis and ZPRED (standardized predicted values) on X-axis, fitting Loess line on the graph of residuals of SPSS output then visually inspected, the researcher conclude that the study does not disregard the assumption of Homoscedasticity, as the Loess line exhibits no sharp angles when fitted on the graph of residuals (as shown in Appendix D_05).

According to Field (2009), the variance of any of the measured variables should not exceed more than 10 times of the variance of any other variable, this way we can check Homoscedasticity otherwise.

4.6.6 Positive Definiteness

The determinant for positive definiteness as per the factor analysis in the study shows 2.403E – 14 = (0.00000000000002403), which is very small number but different from zero, as per Kline (2011), "the data matrix entered for structural equation modeling (SEM) analysis should have the property of positive definite (PD)". Thus, the study satisfies the condition of positive definiteness (See Appendix D_06).

4.6.7 Kaiser–Meyer–Olkin (KMO) and Bartlett's tests of Sampling Adequacy

The Kaiser-Meyer-Olkin (KMO) the result from the study signifies the sampling adequacy of the data while it is also referred to as a measure of sampling adequacy (MSA). In the data set, KMO statistic shows the variables, correlation which has the ability to explain the other variables. The threshold values for sampling adequacy is; below 0.50 as "Unacceptable", 0.50 – 0.59 as "Miserable", 0.60 – 0.69 as "Acceptable", 0.70 – 0.79 as Good, 0.80 – 0.89 as "very good". In addition, Bartlett's test of Sphericity statistic is used to confirm the null hypothesis, whether the correlation matrix is a diagonal matrix or not.

In this sense, principal components analysis required higher correlations whereas a lower probability value (i.e. less than 5%) with higher test statistic value results the rejection of the null hypothesis. In this case, as per the information on Table D_07 (page 117), the value of KMO is 0.807, which is "Very Good" it further signifies that each factor contains sufficient items for making groups in factor analysis 0.80 or higher as "Very Good" Kaiser (1974)

4.6.8 Outliers

The outliers assumptions used to exclude the abnormal observations from the sample, as per Damodra Gujarati define "an outlier as an observation with a large residual (e_i)", large in comparison with the residuals of the rest of the observations. Hence the assumption stresses that there should be no outliers, highly influential points. As stated earlier, in this study, test for outliers was made by using critical values of Mahalnobis Distance (MD) and six responses with critical values above 71.5 MD were considered as outliers and excluded from further analysis.

4.6.9 Model Specification Complexity

The number of observations (360) must be greater than the number of parameters to be estimated, in other words the number of observations (360) must be greater than the number of independent variables (29). Since the study's number of observation by far greater than both the number of parameters and number of explanatory variables, therefore the model for the research is considered as over identified.

4.7 Exploratory Factor Analysis (Factor Analysis)

Factor analysis is a statistical technique which is used for data reduction. The reason to apply this test is to reduce a large number of items into smaller numbers."Factor analysis helps researchers to check the variables belongings in the sample data", Emory and Cooper (1991). In addition, principal component analysis is used to confirm the construct validity of the items which is also an important feature of factor analysis. Furthermore, this study uses Hair et al. (1998) guidelines to assist theoretical significance of factor loadings. They suggest that factor loading value of each factor is 0.392 to 0.946, which satisfy the minimum criteria and is appropriate for factor analysis.

Demand for IFB products and service originally has 35 questionnaire items, which was reduced to 33 items. These 33 items, were retained since they met essentially significant level of convergent validity. The methods used for assessing convergent validity were the Average Variance Extracted (AVE) test statistics and Composite Reliability (CR) estimates. "The AVE scores need to be greater than 0.5 and the CR should be greater than 0.7" Hair et al. (2010). On the basis of the analysis, the researcher then grouped the 33 items into seven factors, namely "Demand", "Awareness", "Compatibility", "Relative Advantage", "Trialability", "Complexity" and "Customer Involvement". For each factor, there exists some connotations, for instance, Compatibility has five items, leading to the use of factor analysis. This technique is argued to be consistent with that used by de Vaus (2002) who claimed that factors are not single measurable entities but are constructs of a number of other directly observable variables.

Thus, the results of factor analysis are reported in the following two tables (Table No. 4.7_1 and 4.7_2).

Table 4.7_1: Factor Analysis for Demand of Interest Free Banking products and services

Demand for Interest free Banking (Cronbach Alpha 0.895)	Factor Loading
I stick to Islamic banking products and services	.816
I am happy with using the Islamic banking products	.883
My usage of Islamic banking products and services is definite	.870
*I never think of switching off the Islamic banking usage	.552
Eigen value	2.436
Percentage variance	61

The Eigen value for the dependent variable is 2.436 and explains a total of 60.899 percent of the variance with factor loading between 0.552 and 0.883. In general, total variance explains the distributions of variance among the potential variables while the Eigen values measure the variance explain. For all factors, the Eigen values must be greater than 1.0 whereas less than 1.0 eigen values are insufficient for the variance explain (Table 4.7_1) above.

Furthermore, as seen in the following table (Table 4.7_2), the eigen value for all independent variable factors is greater than one and in aggregate explained a total of 68.812 percent of the variance with factor loading between .392 and .946 Further the reliability is assured since the Cronbach Alpha is greater than the minimum threshold 0.62. The Cronbach Alpha of the study lies in between 0.696 to .887.

Table 4.7_2: Rotated component Matrix of Independent variables

	AWA	COP	RAD	COX	TRL	CUI
Awareness (Cronbach Alpha 0.884)						
I have information about the depository, investment and financing products of IFB.	.769					
I have enough knowledge about IFB products.	.785					
I know that all IFB products are interest free.	.695					
I have enough knowledge about using IFB products.	.824					
I have enough knowledge about the benefit of IFB products.	.727					
* I never have any information about the products and services of IFB.	.605					
Compatibility(Cronbach Alpha 0.887)						

Interest Free Banking products and services fit with my banking needs.		.650				
Interest Free Banking products and services fit with my habit of using bank		.814				
Interest Free Banking products and services suite my religious belief		.823				
Interest Free Banking products and services are completely compatible with my current situation		.754				
Interest Free banking products and services are compatible with human justice		.711				
Relative Advantage (Cronbach Alpha 0.851)						
Using Interest Free Banking products and services improved the quality of my financial dealing.			.501			
Interest Free Banking products and services are reliable than interest Banking products and services.			.590			
Interest Free Banking products provide cheaper cost of fund than Interest Banking products.			.575			
I feel using Interest Free banking product will increase my revenue.			.392			
Interest Free Banking is a convenient way to manage my finance.			.523			
Complexity (Cronbach Alpha 0.696)						
Understanding Interest Free Banking products and services required more knowledge and Experience.				.945		
Interest Free Banking products and services are too difficult to understand.				.946		
Interest Free Banking products and services are complex to use.				.855		
It is simple to use Interest Free banking products and services.				.823		
Customer Involvement (Cronbach Alpha 0.817)						
I have Strong ties with Interest Free banking products and services.					.608	
My involvement with Interest Free banking is enduring.					.632	
I feel like my involvement with Interest Free banking will last for ever.					.614	
Interest Free Banking products and service are valuable to me.					.653	
Interest free banking product and service are quite involving to me.					.721	
My relationship with Interest Free bank is beyond that of creditor and debtor.					.679	
I feel my relationship with Interest Free banking is great.					.517	

Trialability (Cronbach Alpha 0.879)						
Interest Free Banking products and services may not meet my expectation.						.814
It is risky to use Interest Free Banking products and services.						.889
I fear of losing much money in case of Interest Free Banking business loss.						.891
The Interest Free Banking products and services outcome were difficult to predict.						.907
There is a chance that there would be something wrong with the choice of the Interest Free banking. products						.565
Eigen Value	10.753	4.176	2.452	1.808	1.574	1.254
Percentage variance	33.615	13.049	7.661	5.649	4.920	3.918
Cumulative variance	33.615	46.664	54.325	59.974	64.894	68.812

4.8 Goodness of Fit (GOF) Indices

Goodness of fit defined as how well the regression model actually fits the data, Goodness of Fit statistics compares the goodness of fit between theory and reality Hair et al. (2010). According to the same author there are four categories of model fit indices which are summarized in the following table 4.8_1.to have some measure of how well the regression model actually fits the data. In other words, it is desirable to have an answer to the question, how well does the model containing the explanatory.

Table 4.8_1: Categories of Model Fit indices

Category	Statistics	Definition
Chi-sqaure (X^2)	Degrees of freedom	Covariance in the observed matrix less the number of estimated coefficients
	Chi square	Difference between observed and estimated covariance matrices
	Probability statistic (p-value)	Probability that the observed and estimated covariance matrices are actually
	GFI Index	Measure indicating how well a model reproduces the variance/covariance matrices of the observed sample

Absolute fit measure	Root mean square error of approximation (RMSEA)	Badness-of-fit index measuring how well a model fits a population taking into account both model complexity and sample size
	Root mean square residual	represents the average residual value derived from the fitting of the variance covariance matrix for the hypothesized model
Incremental fit indices	Normed fit index (NFI)	Assesses how well a specified model fits relative to some alternative baseline model (often a null model that assumes all observed variables are uncorrelated)
	Comparative fit index (CFI)	
	Tucker-Lewis index (TLI)	

As per the suggestion made by (Hair et al., 2010; Abdul Razak and Abduh, 2012), appropriate fit measures were summarized below:

Category	Statistics	Definition	
	Chi-square (with df, p) (CMIN)	x2 (df, p)	p-value of greater than .05
	Normed chi-square	x2 /df	Value between 1and 5
Absolute fit measure	GFI Index	GFI	value >0.92
	Root mean square error of approximation (RMSEA)	RMSEA	Values < .08/.10
	Root mean square residual	RMR	Values < .90
Incremental fit indices	Normed fit index	NFI	Values >=.92
	Comparative Fit Index	CFI	
	Tucker-Lewis Index	TLI	

Besides, Abduh and AbdulRazak (2012), as cited in Abraham (2017), used the following cut-off values while undertaking their research.

Measurement	Acceptable Values of Goodness-of-fit
CMIN	P. value > .05
NFI, TLI, RFI	> .80
IFI, CFI	> .90
RMSEA	<.08

In addition to GOF indices, Standard Regression Weight (SRW) estimates of .5 (however value of SRW more than .7) and Squared Multiple Correlations (SMC) of .3 (preferably .5 and above) suggest construct validity and item reliability Hair et al. (2010).

Next to the verification of the model based on the above criteria, it is further assessed by examining the Average Variance Extracted (AVE) test statistics and Composite Reliability (CR) indexes are the measures of convergent validity Hair et al. (2010) as cited in Abraham (2017). The appropriate thresholds are 0.50 and 0.70 for AVE and CR respectively.

The statistical package of AMOS 23 produces a number of different goodness-of-fit measures and the choice to be used has been a matter of dispute among methodologists. Hair et al. (2010) argue that with large sample size, the chi-square values will be inflated and reports statistically significant, which in turn shows unprivileged data to model fit. Wheaton (1987) promotes not to use chi square as a model of fit. Consequently, he and other researchers recommend goodness-of-fit indexes are used as a substitutes to chi-square statistic to evaluate the model fit like baseline fit measures (like NFI, RFI, TLI, IFI and CFI) and RMSEA.

As shown in Tables 4.8.2_1, 4.8.3_1, 4.8.4_1 and many other tables, p-value for Chi-square (CMIN) is below 0.05, i.e., significant, which means reject null hypothesis. In other words, CMIN criteria reject the fit of the model. Baseline comparison tables, however, gives information about NFI, TLI, RFI, IFI and CFI measures confirmed that good data-to-model fit. Therefore, in this study, though reported in the table, chi-square values will not be used to assess the goodness of fit as advocated by Wheaton (1987).On the other hand, to check goodness-of-fit measurements like NFI, RFI, IFI, TLI, CFI, RAR and RMSEA values from the above three tables, as appropriate, were used to check fitness. On the next section each

variable under the study was assessed separately for measurement model Goodness-of-fit (GOF).

4.8.1 Demand of Interest Free products and services (DEM)

A Dependent variable Demand of interest free products and services (DEM) is supposed to be measured by four items per the instrument used. The following figure depicts the proposed measurement model for demand of interest free products and services (DEM).

Figure 4.8.1_1: The proposed unidimensional measurement model of DEM

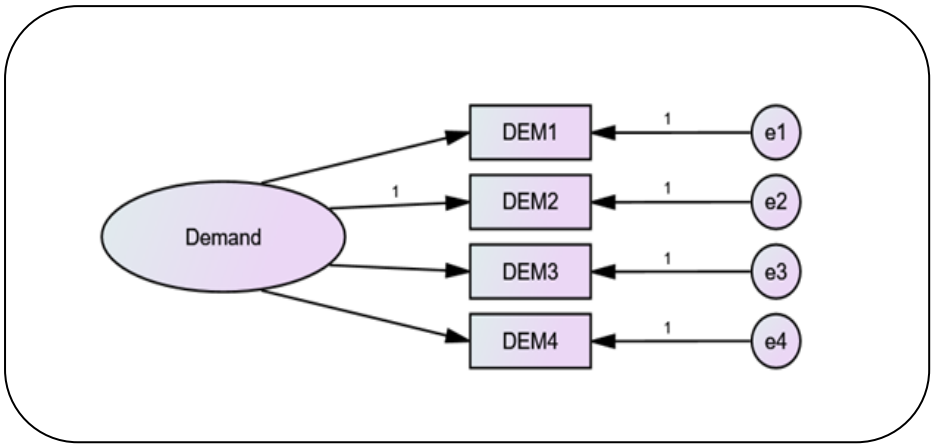


Table 4.8.1_1: GOF indices for the proposed unidimensional measurement model of DEM

Chi square		Absolute fit indices		Incremental Fit Indices		Goodness of fit (GFI)	Other indices	
X^2 (P	3.101			CFI	.998		All	>.3
DF	2	RMSEA	.034	NFI	.995	.996	SMC	
				IFI	.998		All	>.5
X^2/df	1.5505			TLI	.994		SRW	

*above the expected minimum value
Source: Survey result (2019)

From the above table it can be seen that absolute and incremental fit indices were best fit indices and found in acceptable level. Moreover, the model manages to satisfy all of the criteria of GOF. Further, all the items have a Standard Regression Weight Estimate (SRW) well above 0.5 (i.e. between 0.835 to 0.978) and squared Multiple Correlations (SMC) exceeds the threshold mark of 0.3 (between 0.361 and 0.796). Thus the construct is taken as it is for further analysis.

4.8.2 Awareness (AWA)

This construct is proposed to be indicted by 6 items as per the questionnaire, however, the model fails to meet the Squared Multiple Correlations (SMC) and Standard regression weight (SRW), hence the model is run again by eliminating the item AW6 , which has SRW and SMC below 0.5 (.437) and 0.3 (.191) respectively.

The corrected model of Awareness is depicted in figure 4.8.2_1, as seen below

Figure 4.8.2_1: The corrected uni dimensional measurement model of AWA

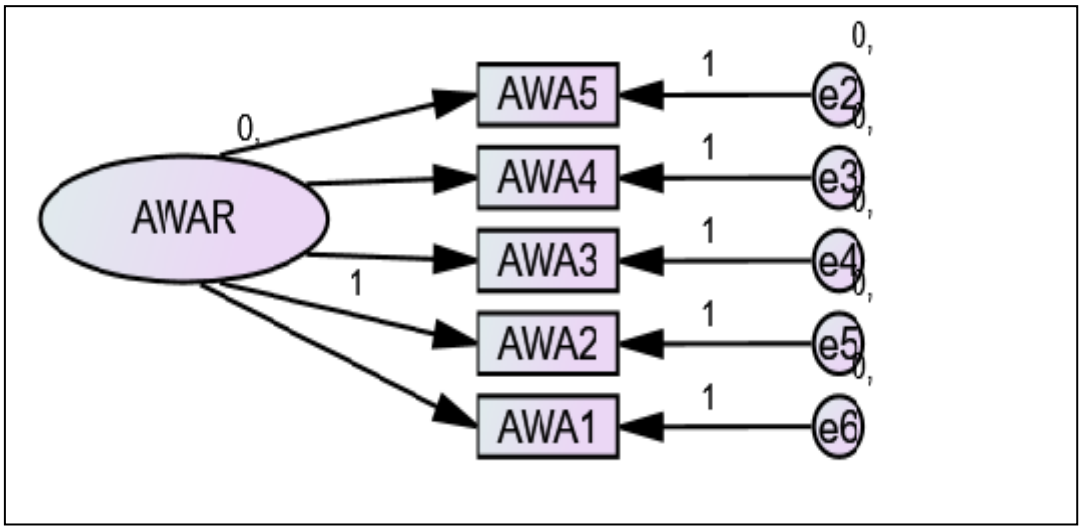


Table 4.8.2_1: GOF indices for the CORRECTED uni dimensional measurement model of AWA

Chi square		Absolute fit indices		Incremental Fit Indices		Goodness of fit (GFI)	Other indices	
X^2 (P	199.83			CFI	.863		All SMC	>.3
DF	5			NFI	.861			
X^2/df	39.96		.062	IFI	.864	.862	All SRW	>.5
				TLI	.910			

*above the expected minimum value

Source: Survey result (2019)

As per the above figure in the table, and according to Abduh and AbduRazak (2012), on which the researcher used the threshold value for NFI, TLI and RFI and > .80 and IFI and CFI > .90 and RMSEA < .08 is the best model fit the corrected measurement model of

Awareness and it satisfies almost all of the requirements for model. Further-, all the items have SRW above 0.5 (between 0.646 and 0.951) and SMC exceeds the threshold 0.3 (between 0.417 and 0.904).

4.8.3 Compatibility (COP)

Based on literature review, the instrument used for this study has five items that are taken as indicator for latent variable Compatibility (COP).From the following table it can be observed that the absolute and incremental fit indices were above the acceptable level. Further, all the items have SRW above 0.5 (between 0.678 and 0.875) and SMC exceeds the threshold 0.3 (between 0.459 and 0.766). Therefore, the original construct of COP was used in this analysis.

Figure 4.8.3_1: The proposed unidimensional measurement model of COP

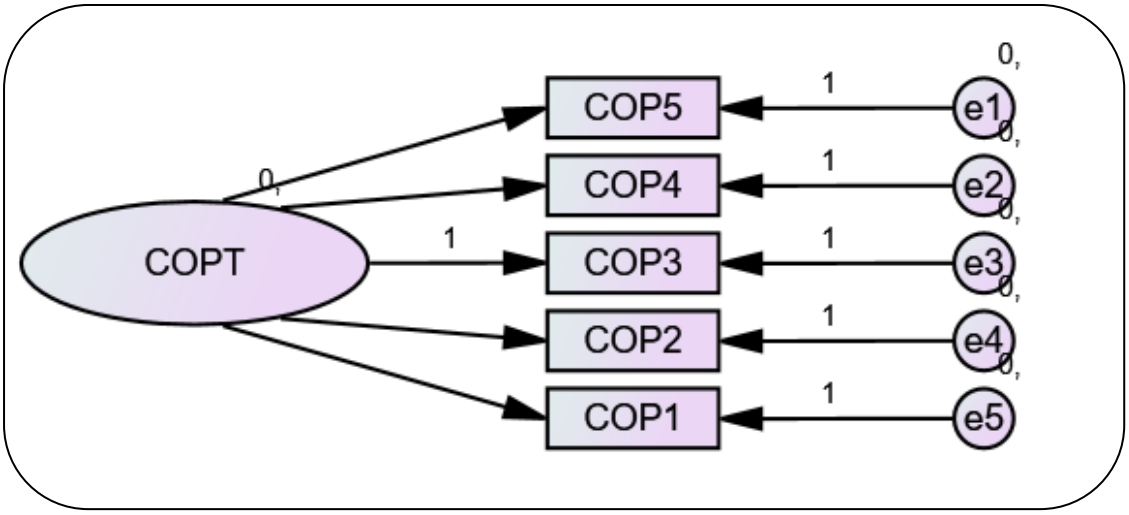


Table 4.8.3_1: The proposed uni dimensional measurement model of COP

Chi square		Absolute fit indices		Incremental Fit Indices		Goodness of fit (GFI)	Other indices	
X^2 (P	30.18			CFI	.975		All	>.3
DF	5	RMSEA	.118*	NFI	.970	.966	SMC	
X^2/df	6.036	RMR	.0353	IFI	.975		All	>.5
				TLI	.950		SRW	

*above the expected minimum value

Source: Survey result (2019)

4.8.4 Relative Advantage (RAD)

A latent variable for Relative Advantage is proposed to be measured by five items per the instrument used. The following figure represents the proposed measurement model for RAD.

Figure 4.8.4_1: The proposed unidimensional measurement model of RAD

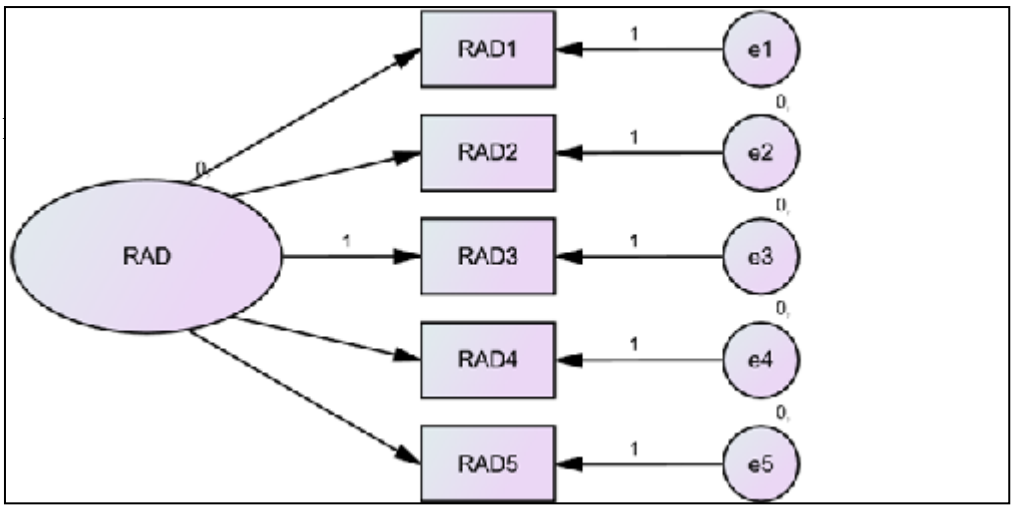


Table 4.8.4_2 The modified unidimentional measurement of RAD

Chi square		Absolute fit indices		Incremental Fit Indices		Goodness of fit (GFI)	Other indices	
X^2 (P	28.666			CFI	.969		All	>.3
DF	5	RMSEA	.115*	NFI	.963	.965	SMC	
X^2/df	5.733	RMR	.0353	IFI	.969		All	>.5
				TLI	.906		SRW	

*above the expected minimum value
Source: Survey result (2019)

Based on literature review, the instrument used for this study has five items that are taken as indicator for latent variable Relative Advantage (RAD).From the following table it can be observed that the absolute and incremental fit indices were above the acceptable level. Further, all the items have SRW above 0.5 (between 0.659 and 0.823) and SMC exceeds the threshold 0.3 (between 0.435 and 0.677). Therefore, the original construct of RAD was used in this analysis.

4.8.5 Complexity (COX)

A latent variable for Complexity is proposed to be measured by four items per the instrument used. The following figure represents the proposed measurement model for COX

Figure 4.8.5_1: The Proposed uni dimensional measurement model of COX

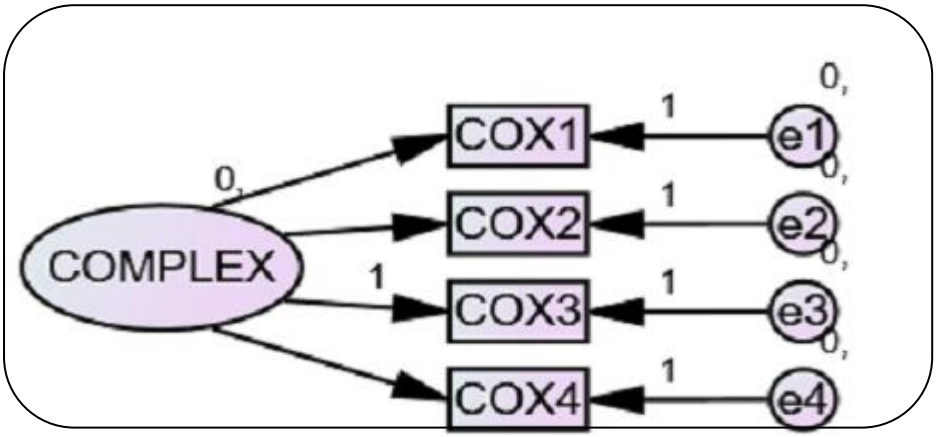


Table 4.8.5_1: The Corrected uni dimensional measurement model of COX

Chi square		Absolute fit indices		Incremental Fit Indices		Goodness of fit (GFI)	Other indices	
X^2 (P	28.242			CFI	.979		All	>.3
DF	2	RMSEA	.191	NFI	.977	.893	SMC	
				IFI	.979		All	>.5
X^2/df	14.121	RMR	.330*	TLI	.893		SRW	

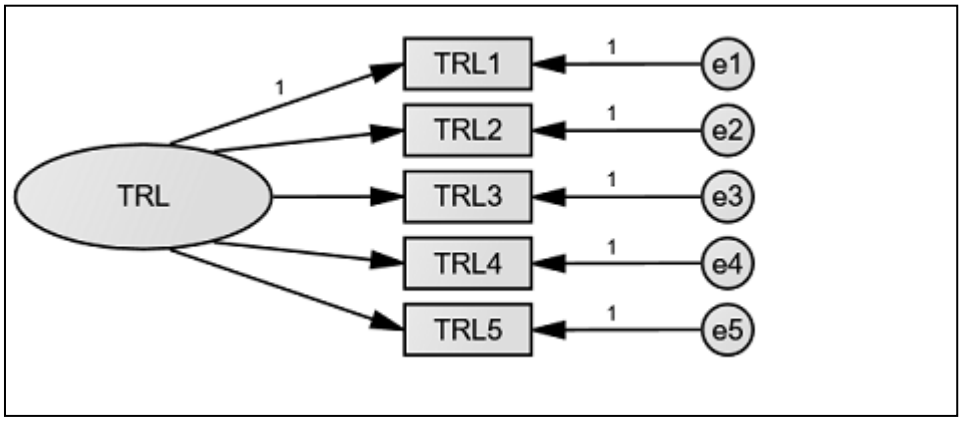
Source: Survey result (2019)

Based on literature review, the instrument used for this study has four items that are taken as indicator for latent variable complexity (COX). From the following table it can be observed that the absolute and incremental fit indices were above the acceptable level. Further, all the items have SRW above 0.5 (between 0.743 and 0.951) and SMC exceeds the threshold 0.3 (between 0.552 and 0.905). Therefore, the original construct of COX was used in this analysis.

4.8.6 Trialability (TRL)

A latent variable for Trialability is proposed to be measured by five items per the instrument used. The following figure represents the proposed measurement model for TRI.

Figure 4.8.6_1: The Proposed uni dimensional measurement model of TRI



Source: Survey result (2019)

Based on literature review, the instrument used for this study has five items that are taken as indicator for latent variable Trialability (TRI). However, while running the AMOS the result for TRL5 became very unacceptable SRW become .445 i.e. below the standard (0.50) and SMC .198 i.e. below the standard (.30) therefore the study re run by picking out the item TRL5 as per the AMOS indices suggestions. Then the result fall in the acceptable level i.e. all the items have SRW above 0.5 (between 0.743 and 0.951) and SMC exceeds the threshold 0.3 (between 0.552 and 0.905). Therefore, the modified construct of TRI (Trialability) was used in this analysis. The following figures show the corrected measurement model for Trialability (TRI).

Figure 4.8.6_2: The Corrected uni dimensional measurement model of TRI

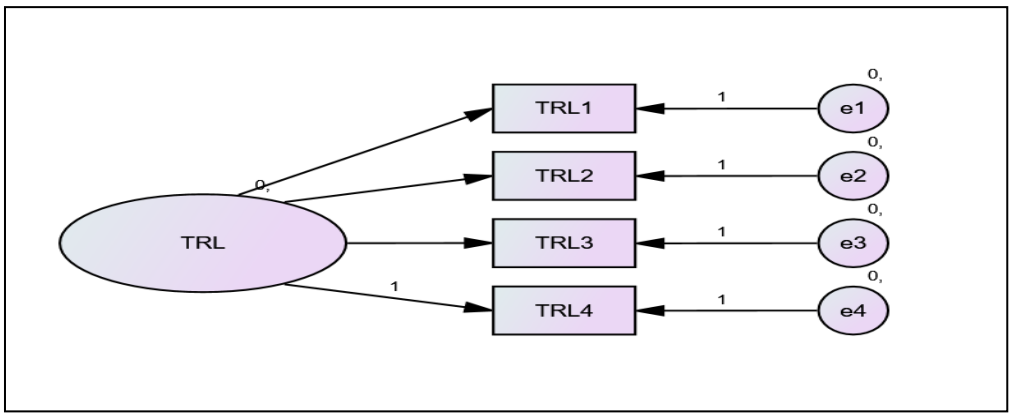


Table 4.8.6_2: The corrected uni dimensional measurement model of TRI

Chi square		Absolute fit indices		Incremental Fit Indices		Goodness of fit (GFI)	Other indices	
X^2 (P	28.242			CFI	.979		All	>.3
DF	2	RMSEA	.191*	NFI	.977	.895	SMC	
X^2/df	14.121	RMR	.320	IFI	.979		All	>.5
				TLI	.893		SRW	

*above the expected minimum value
Source: Survey result (2019)

4.8.7 Customer Involvement (CUI)

A latent variable for Customer Involvement is proposed to be measured by seven items per the instrument used. The following figure represents the proposed measurement model for CUI

Figure 4.8.7_1: The Proposed uni dimensional measurement model of CUI

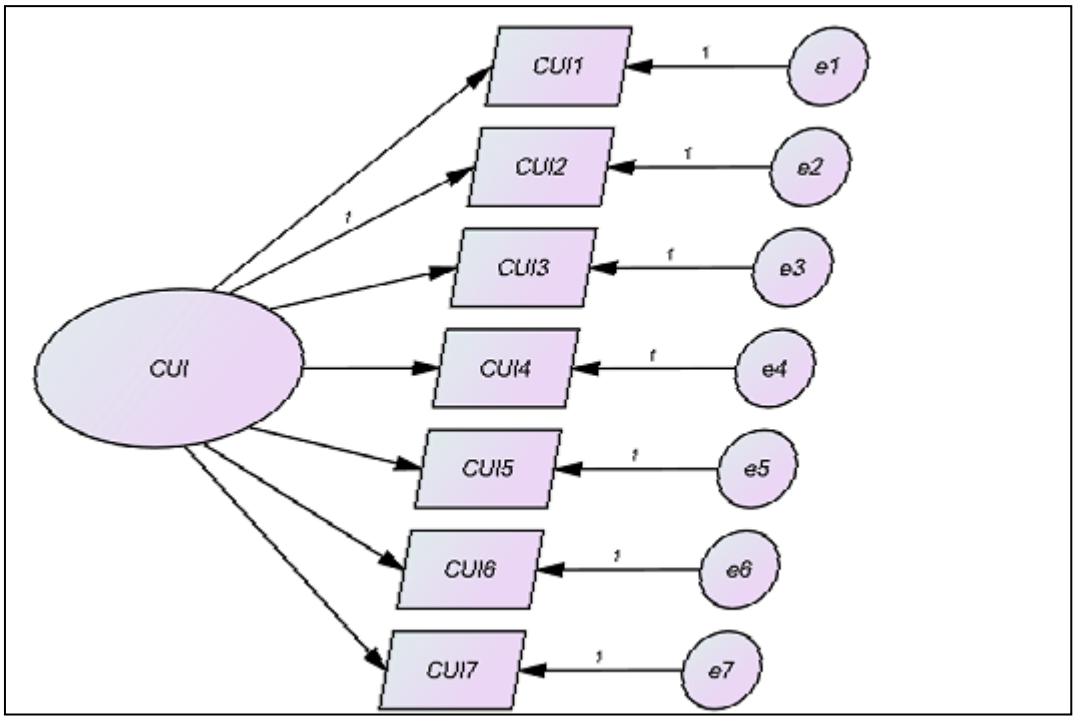


Table 4.8.7_1: The Proposed uni dimensional measurement model of CUI

		Absolute fit indices		Incremental Fit Indices		Goodness of fit (GFI)	Other indices	
X^2 (P	190.22			CFI	.886		All	>.3
DF	14	RMSEA	.187*	NFI	.878	.876	SMC	
X^2/df	13.58	RMR	.075	IFI	.886		All	>.5
				TLI	.829		SRW	

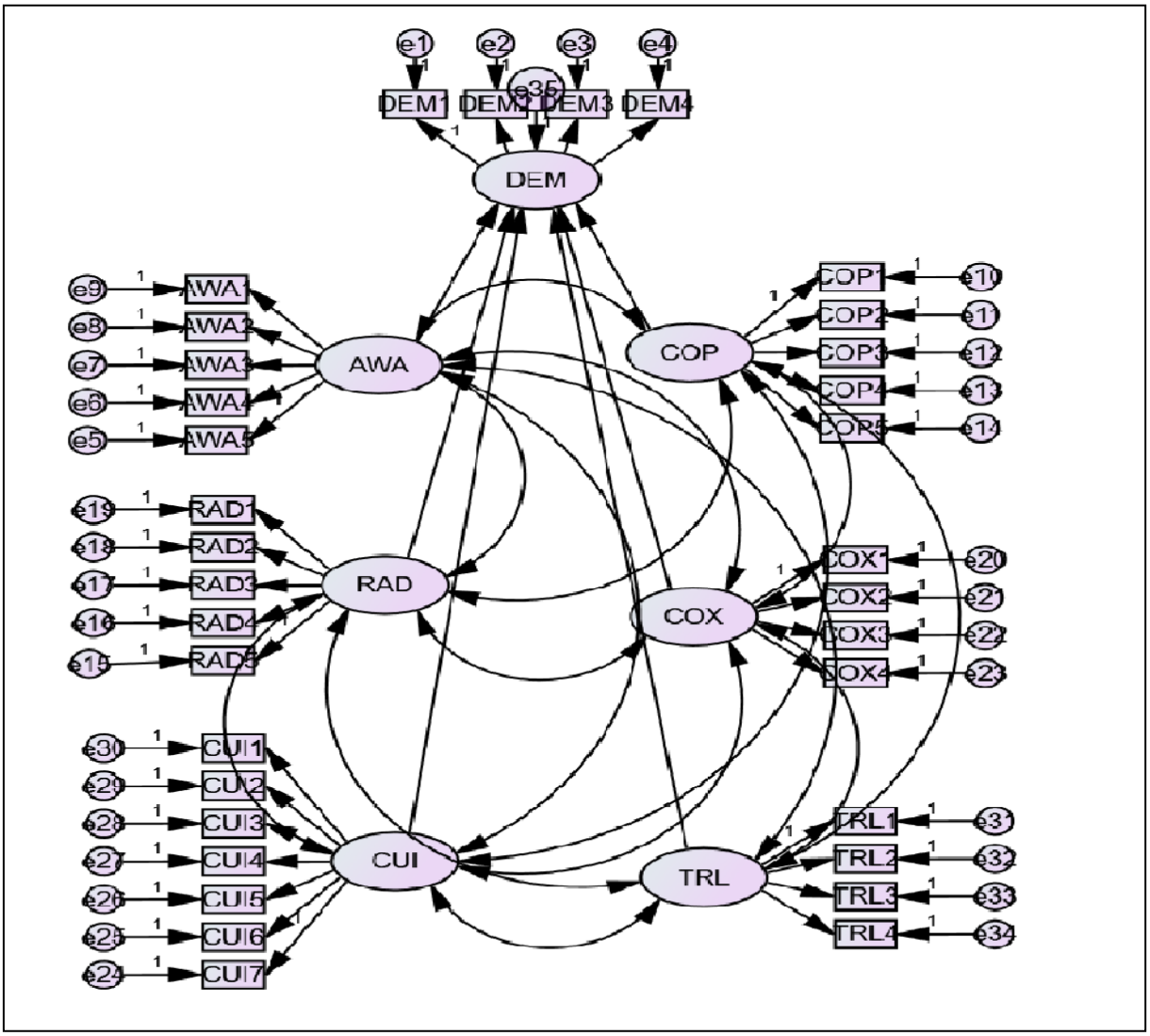
*above the expected minimum value
Source: Survey result (2019)

Based on literature review, the instrument used for this study has seven items that are taken as indicator for latent variable Customer Involvement (CUI). From the above table it can be observed that the absolute and incremental fit indices were above the acceptable level. Further, all the items have SRW above 0.5 (between 0.567 and 1) and SMC exceeds the threshold 0.3 (between 0.312 and 0.830). Therefore, the original construct of CUI was used in this analysis.

4.9 Unit Loading Identification (ULI)

Model fit assessment has two steps as per Hair et al. (2010), as it is done in the previous pages of the study first the individual constructs measurement model fit is assessed (i.e., uni dimensionality), the other one is testing the entire measurement model (i.e., Unit Loading Identification). The full measurement model consisting of all variables is depicted on figure 4.9_1.

Figure 4.9_1 full measurement model



Source: *Survey result* (2019)

The fit of the full measurement is also adequate, as shown in the following Table 4.9_1.

Table 4.9_1: GOF indices for the full measurement model

Chi Square		Absolute Fit Indices		Incremental fit Indices		Goodness of fit (GOF)
X^2 (P Value)	1965.778 (000)	RMSEA	.042*	CFI	6.362	.866
				NFI	.897	
dF	309			IFI	.869	
X^2/df	6.36			TLI	.786	

*above the expected minimum value
Source: Survey result (2019)

4.10 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis is a way of testing how well measured variables represent a smaller number of construct that they are intended to measure Hair et al. (2010).The CFA gives different statistics that show how well the theoretical specification of the factors matches the actual data used. The Confirmatory Factor Analysis used in this study is first analyzing the fit of the measurement model that assesses how fit are the indictor variables to measure the latent variable. This is generally termed as construct validity as it assesses the extent to which a set of measured items actually reflect the underlying factor model that those items are designed to measure Hair et al. (2010).Construct validity consists of Convergent validity, Discriminate validity and Nomological validity.

4.10.1 Convergent Validity

Convergent validity [1] assesses the extent to which items constituting a given construct converge or share a high proportion of variance in common Hair et al. (2010). Measures that are used for assessing convergent validity are the Average Variance Extracted (AVE) test statistics and Composite Reliability (CR) estimates. The AVE scores need to be greater than 0.5 and the CR should be greater than 0.7 Hair et al. (2010). Accordingly, the constructs of this research model exhibits convergent validity as depicted below.

Convergent Validity	Demand of IFB	Awareness	Compatibility	Relative Advanta	Trialability	Complexity	Customer Involvem
AVE=$\Sigma xi^2 \div N$	.664	.659	.623	.550	.531	.762	.667
CR=$\Sigma (xi^2) \div \Sigma$	.860	.904	.891	.859	.797	.927	.931
Convergent Validity	Ascertained	Ascertained	Ascertained	Ascertained	Ascertained	Ascertained	Ascertained

Source: *Survey result* (2019)

4.10.2 Discriminant Validity

Discriminant validity refers to the principle that the indicators for different constructs should not be so highly correlated as to lead one conclude that they measure the same thing. A

[1] AVE and CR scores could be done by hand using the formulas afore-depicted. However, the following online excel calculators could help to do the same more easily once we input the standardized regression weight (SRW) of the constructs. CR and AVE calculator1: http://www.watoowatoo.net/sem/sem.html CR and AVE

demonstration of Discriminant validity used in this study is provided through the comparison of the squared factor correlation outputs of Amos measurement model and AVE scores for each of the pair-wise constructs. Since the AVEs are greater than the values of the Squared Correlation (r^2), the model does not violate the assumption of Discriminant validity, as shown below in detail.

AVE_1<-->AVE_2	Factor Correlation (r)	Correlation squared (r^2)	AVEs should be > r^2		Discriminant Validity
			AVE_1	AVE_2	
AWA<-->RAD	.359	.128	.659	.550	Ascertained
AWA<-->TRI	.103	.010	.659	.531	Ascertained
CUI<-->AWA	.405	.164	.667	.659	Ascertained
AWA<-->COX	-.041	.001	.659	.762	Ascertained
AWA<-->COP	.343	.117	.659	.623	Ascertained
CUI<-->RAD	.435	.189	.667	.550	Ascertained
RAD<-->TRI	-.059	.003	.550	.531	Ascertained
COP<-->RAD	.403	.162	.623	.550	Ascertained
CUI<-->TRI	-.064	.004	.667	.531	Ascertained
COP<-->TRI	-.165	.027	.623	.531	Ascertained
CUI<-->COX	.027	.0007	.667	.762	Ascertained
CUI<-->COP	.571	.326	.667	.623	Ascertained
COP<-->COX	-.019	.0003	.623	.762	Ascertained
TRL <->COX	-.03	.009	.531	.762	Ascertained
RAD<->COX	.007	.000049	.550	.762	Ascertained
AWA<->DEM	.039	.0015	.659	.664	Ascertained
DEM<->COP	.238	.056	.664	.623	Ascertained
DEM<->COX	-.011	.0001	.664	.762	Ascertained
TRL<->DEM	-.121	.014	.531	.664	Ascertained
DEM<->CUI	.225	.0506	.664	.667	Ascertained
DEM<->RAD	.072	.005	.664	.550	Ascertained

Source: *Survey result* (2019)

4.10.3 Nomological Validity

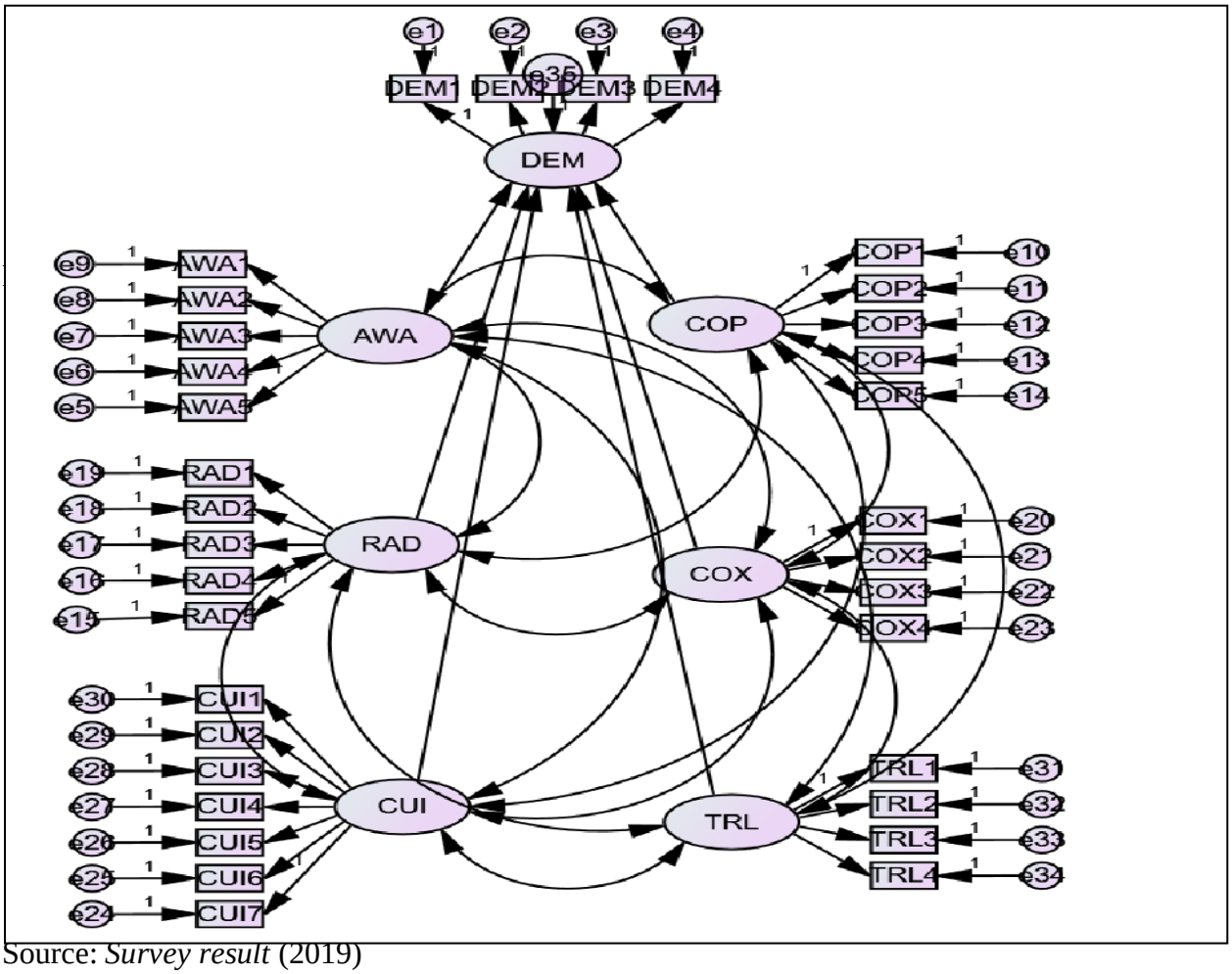
Nomological Validity is a form of construct validity which appraise the overall model validity. As both our convergent and discriminatory validity are established, for that reason, the researcher assumes that the model does not violate the stated validity.

4.11 The Structural Model and Hypotheses Testing

4.11.1 Non-mediated structural model

After measurement models are fitted, the structural model for the hypothesized research model is developed by incorporating each individual latent variable as structural model specifies the manner by which particular latent variables directly or indirectly influence (cause) changes in the values of certain other latent variables in the model Byrene (2010).

Figure 4.11.1_1 Non mediated structural model



Source: *Survey result* (2019)

Table 4.11.1_1: GOF indices for the full measurement model after mediating effect of CUI

Chi Square		Absolute Fit Indices		Incremental fit Indices		Goodness of fit (GOF)
X^2 (P Value)	1965.778 (000)			CFI	6.362	.866
				NFI	.897	
dF	309			IFI	.869	

X^2/df	6.36	RMSEA	.042*	TLI	.786	

*above the expected minimum value
Source: *Survey result* (2019)

As per the values on the above table, the final structural model exhibits fit on all indices. Upon the acceptance of IDT goodness-of-fit, the study proceeds to interpret the parameters estimated by SEM after checking the construct validity of the structural model itself.

4.11.2 Construct Validity of the Structural model

In order to test the structural model, first it should have adequate construct validity Hair et al. (2010).Testing the construct validity of the structural model can be done by examining GOF indices and comparing factor loadings of the structural model with that of the underlying measurement model and the difference should not be more than 0.05 Hair et al. (2010).

When we compare the standard estimate loading of the structural model with the full measurement model, the differences are below the threshold as tabulated here under.

Variables	Factor Loading of the full measurement model(A)	Factor Loading of the structural model (B)	The Difference should be below 0.05 (C)=/A-B/	Construct Validity of the Structural model
AWA1	.907	.909	0.002	Ascertained
AWA2	1	1	0.000	Ascertained
AWA3	.745	.747	0.002	Ascertained
AWA4	.924	.924	0.000	Ascertained
AWA5	.665	.665	0.000	Ascertained
COP1	.891	.913	0.022	Ascertained
COP2	.933	.916	0.017	Ascertained
COP3	1	1	0.000	Ascertained
COP4	.940	.965	0.025	Ascertained
COP5	.779	.817	0.038	Ascertained
RAD1	.839	.847	0.008	Ascertained
RAD2	.883	.883	0.000	Ascertained
RAD3	1	1	0.000	Ascertained
RAD4	.759	.731	0.028	Ascertained
RAD5	.802	.767	0.035	Ascertained
COX1	1	1	0.000	Ascertained
COX2	.887	.845	0.042	Ascertained
COX3	.471	.446	0.025	Ascertained
COX4	.157	.149	0.008	Ascertained

CUI1	.567	.575	0.008	Ascertained
CUI2	1	1	0.000	Ascertained
CUI3	.985	.987	0.002	Ascertained
CUI4	.811	.812	0.001	Ascertained
CUI5	.684	.691	0.007	Ascertained
CUI6	.677	.696	0.019	Ascertained
CUI7	.892	.921	0.029	Ascertained
TRI1	.705	.703	0.001	Ascertained
TRI2	.954	.956	0.002	Ascertained
TRI3	.965	.969	0.004	Ascertained
TRI4	1	1	0.000	Ascertained

Source: *Survey result* (2019)

4.11.3 Hypotheses Testing

The study of Demand for IFB products and services has six exogenous (AWA, COP, RAD, COX, TRI and CUI) and one endogenous (DEM) variables as proposed by the conceptual framework of the study. In total six hypotheses were formulated. On the final structural model one headed arrows between latent variables show the hypothesis of this study. As per the study result indicated in the table below Table 4.11.3_1.

Accordingly, the results of the parameter estimates revealed the following major findings:

- As Awareness increase, it will increase demand of IFB products and services by 0.157 number of customer.
- As Compatibility increases, it will increase demand of IFB products and service by 0.384 the number of customer.
- Relative Advantage increases, it will increase demand for IFB products and services by .202 the number of customer.
- Complexity does not have significant impact on demand for IFB products and services.
- Customer Involvement increases, it will increase demand for IFB products and services by .304 the number of customer.
- Trialability does not have significant impact on demand for IFB products and services.

The detail is presented in the following Amos output Table 4.11.3_1

Table 4.11.3_1 Regression Weights

			Estimate	S.E.	C.R.	P
DEM	<---	AWA	.157	.062	-2.510	.012
DEM	<---	COP	.384	.100	3.825	***
DEM	<---	RAD	.202	.099	-2.031	.042
DEM	<---	COX	-.029	.047	-.616	.538
DEM	<---	TRI	-.002	.037	-.057	.955
DEM	<---	CUI	.304	.097	3.119	.002
AW1	<---	AWA	.909	.030	30.590	***
AW2	<---	AWA	1.000			
AW3	<---	AWA	.748	.045	16.608	***
AW4	<---	AWA	.925	.040	23.399	***
AW5	<---	AWA	.665	.045	14.901	***
COP1	<---	COP	.910	.059	15.476	***
COP2	<---	COP	.912	.049	18.653	***
COP3	<---	COP	1.000			
COP4	<---	COP	.961	.052	18.323	***
COP5	<---	COP	.815	.056	14.479	***
RAD2	<---	RAD	.853	.067	12.782	***
RAD3	<---	RAD	1.000			
RAD4	<---	RAD	.728	.052	14.097	***
RAD5	<---	RAD	.723	.047	15.240	***
COX1	<---	COX	1.000			
COX2	<---	COX	.834	.077	10.809	***
COX3	<---	COX	.438	.082	5.341	***
COX4	<---	COX	.146	.077	1.902	.057
TRI1	<---	TRI	.703	.038	18.740	***
TRI2	<---	TRI	.957	.035	27.271	***
TRI3	<---	TRI	.970	.031	30.988	***
TRI4	<---	TRI	1.000			
DEM4	<---	DEM	.066	.081	.805	.421

			Estimate	S.E.	C.R.	P
DEM3	<---	DEM	.985	.052	19.002	***
DEM2	<---	DEM	1.000			
DEM1	<---	DEM	.851	.046	18.408	***
CUI7	<---	CUI	1.000			
CUI6	<---	CUI	.755	.063	11.902	***
CUI5	<---	CUI	.749	.060	12.476	***
-CUI4	<---	CUI	.882	.054	16.282	***
CUI3	<---	CUI	1.071	.058	18.622	***
CUI2	<---	CUI	1.086	.056	19.322	***
CUI1	<---	CUI	.624	.057	10.889	***

Note: A *p* value of below 1%, in Amos indicated by ***

Table 4.11.3_1 expresses the names of the independent variables, their (Beta) estimate (β), the standard errors of the estimates (S.E.), and the (C.R.) *t* statistic of each coefficient, which is simply the ratio of estimate divided by its standard error, and the *p* value, or the exact level of significance of the *t* statistic. For each estimate, the null hypothesis is that the population value of that estimate is zero, that is, the particular regressor has no influence on the regressand, by holding the other independent values constant. Furthermore, p value becomes smaller meanse the better the evidence against the null hypothesis. Now the study will test each of the hypotheses one by one.

- Hypothesis H_1 proposed that Awareness has a positive impact on Demand for Interest Free Banking products and services. As per the above table AWA (Awareness) and DEM (demand of IFB products and services) have beta estimate value of .157 and t-statistics -2.510 with a p value of .012 less than 5%. Thus null hypothesis i.e., Awareness does not have a positive impact on Demand of IFB product is rejected. The alternative hypothesis (H_1) is not rejected. In other words, AWA is an important determinant of Demand for IFB products and services.

- Hypothesis H_2 proposed that Relative Advantage has a positive impact on Demand for Interest Free Banking products and services. As per the above table RAD (Relative Advantage) and DEM (demand of IFB products and services) have beta estimate value of -.202 and t-statistics -2.031 with a p value of .042 less than 5%. Thus null hypothesis i.e.

Relative Advantage does not have a positive impact on Demand of IFB product is rejected. The alternative hypothesis (H_3) is not rejected. In other words, RAD is an important determinant of Demand for IFB products and services.

- Hypothesis H_3 proposed that Compatibility (COP) has a positive impact on Demand for Interest Free Banking products and services. As per the above table COP (Compatibility) and DEM (demand of IFB products and services) have beta estimate value of .384 and t-statistics 3.825 with a p value of less than 1%. Thus null hypothesis i.e. Compatibility does not have a positive impact on Demand of IFB product is rejected. The alternative hypothesis (H_2) is not rejected. In other words, COP is an important determinant of Demand for IFB products and services.

- Hypothesis H_4 proposed that Complexity (COX) has a negative impact on Demand for Interest Free Banking products and services. As per the above table Complexity and DEM (demand of IFB products and services) have beta estimate value of -.029 and t-statistics -.616 with a p value of more than 5% (53.8%). Thus null hypothesis is not rejected. The alternative hypothesis (H_4) is rejected. In other words, COX is not an important determinant of Demand for IFB products and services.

- Hypothesis H_5 proposed that Customer Involvement has a positive impact on Demand for Interest Free Banking products and services. As per the above table CUI (Customer Involvement) and DEM (demand of IFB products and services) have beta estimate value of .304 and t-statistics 3.119 with a p value of .002 less than 1%. Thus null hypothesis i.e. Customer Involvement does not have a positive impact on Demand of IFB product is rejected. The alternative hypothesis (H_5) is not rejected. In other words, CUI is an important determinant of Demand for IFB products and services.

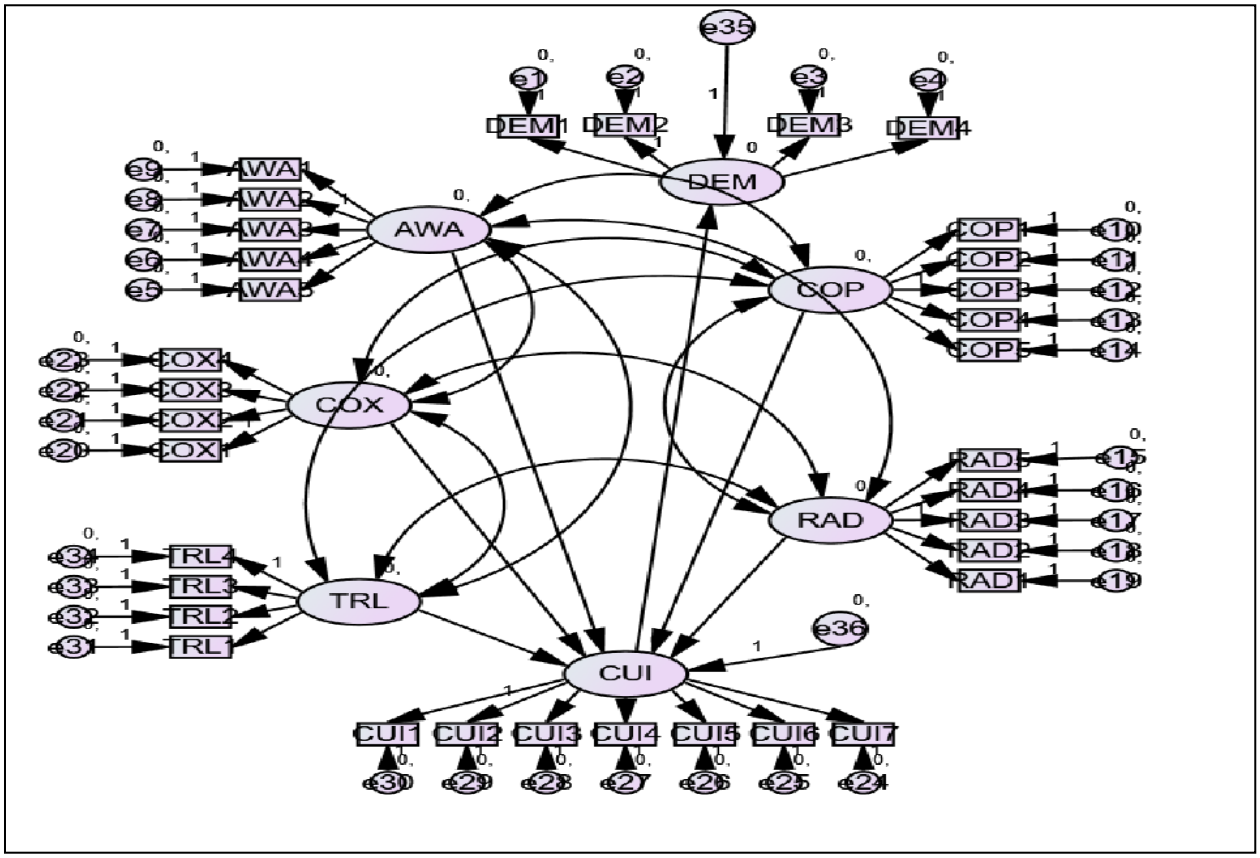
- Hypothesis H_6 proposed that Trialability has a positive impact on Demand for Interest Free Banking products and services. As per the above table Trialability (TRI) and DEM (demand of IFB products and services) have beta estimate value of -.002 and t-statistics -.057 with a p value 95.5%. Thus null hypothesis is not rejected. The alternative hypothesis (H_6) is rejected. In other words, TRI is not an important determinant of Demand for IFB products and services.

4.11.4 Testing the Mediation effect of Customer Involvement

Mediating analysis includes establishing the theoretical indirect relationship between dependent and each independent variable by employing Customer Involvement as a mediator. A mediator variable is the variable that causes mediation in the dependent and independent variables (Hair et al., 2011). In fact, the very principle of the mediating analysis was to create a theoretical indirect relationship between the paths and the constructs (Little et al. (2012); Rucker et al. (2012).

The research has five mediating hypothesis on mediation, as proposed on the conceptual framework, mediation analysis was performed on respective independent variables to know the mediating relationship with the dependent variable through Customer Involvement as a mediating variable. To test these hypotheses, the researcher used the method used by Wahyuni et al. (2013). First the Customer Involvement (CUI) variable will be added as a mediator for independent variables as shown in figure 4.11.4_1 and the resulting mediated model will be tested for validity based on GOF indices.

Figure 4.11.4_1 structural model of Mediating effect of CUI.



Source: *Survey result* (2019)

Table 4.11.4_1: GOF indices for mediated structural model

Chi Square		Absolute Fit Indices		Incremental fit Indices		Goodness of fit (GOF)
X^2 (P Value)	3,207(000)			CFI	.733	.736
				NFI	.700	
dF	511			IFI	.735	
X^2/df	6.277	RMSEA	.121	TLI	.843	

Source: Survey result (2019)

As indicated by Hair et al. (2014), to estimate the mediation between independent and dependent variables, the first criteria is the direct effect i.e., Independent variable and dependent variable should be significant if the mediator is not involved in the model. Hence as indicated in the table Table 4.11.4_2 each independent variable and dependent relationship need to be verified before testing for three essential assumptions.

Table 4.11.4_2 Direct effect of Dependent and Independent Before the mediator Variable (CUI) enter the model

Exogenous variable	**Endogenous variable**	**Beta Estimate**	**S.E.**	**C.R.**	**P Value**	**result**	**Violate 1st assumption**
DEM	AWA	-.158	.042	-3.724	***	Significant	not violate
DEM	COP	.296	.07	4.243	***	Significant	not violate
DEM	RAD	-.202	.099	-2.031	.042	Significant	not violate
DEM	COX	-.029	.047	-.616	.538	Not Significant	violate
DEM	TRI	-.002	.023	-.057	.955	Not Significant	Violate

(Source: researcher Amos output)

To observe mediating effect between independent variables (AWA, COP,RAD,COX AND TRI) and dependent variable DEM through CUI as a mediating variable the following three essential assumptions need to be tested and all must be met Wahyuni et al. (2013) ; Baron and Kenny (1986).

- Independent variable is significantly linked to mediator (CUI).
- Mediator variable (CUI) is significantly linked to dependent variable (DEM).
- The relationship of independent variable to (DEM) reduces when mediator (CUI) is in the model.

Based on the above assumption the mediating effect of Customer Involvement between the independent variable and dependent variable tested using Amos software and the result is summarized under the table 4.11.4_3 below.

Table 4.11.4_3: Summary of Customer Involvement Mediation estimates

Assumptions	**Exogenous variable**	**Mediator Variable**	**Endogenous variable**	**Beta Estimate**	**S.E.**	**C.R.**	**P Value**	**Remark**	**mediating hypotheses**
1st	AWA	CUI	__	.194	.030	6.466	***	Significant	Mediation
2nd	__	CUI	DEM	.347	.063	5.5079	***	Significant	
3rd	AWA	CUI	DEM	.157	.062	-2.510	.012	Significant	
1st	COP	CUI	__	.509	.047	10.82	***	Significant	Mediation
2nd	__	CUI	DEM	.347	.063	5.5079	***	Significant	
3rd	COP	CUI	DEM	.384	.100	3.825	***	Significant	
1st	RAD	CUI	__	.207	.039	5.255	***	Significant	Mediation
2nd	__	CUI	DEM	.314	.097	3.226	.001	Significant	
3rd	RAD	CUI	DEM	-.134	.054	-2.507	.012	Significant	
	N.B Before the mediator variable CUI enters in to the model, the relationship between independent variable (COX) and dependent variable (DEM) was statistically insignificant as stated Table 4.11.4_2, which violates the first assumption.								Non mediation
	N.B Before the mediator variable CUI enters in to the model, the relationship between independent variable (TRI) and dependent variable (DEM) was statistically insignificant as stated Table 4.11.4_2, which violates the first assumption								Non mediation

Source: *Survey result* (2019)

The result indicated in the survey showed five sub hypotheses under independent variable (AWA, COP, RAD,COX and TRI) that stated the mediating effect of CUI between those independent variables with that of dependent variable (DEM). As indicated by the results of SEM using Amos, COX and TRI are do not meet the condition (The independent variable should first significantly affect the dependent variable). However CUI has statistically

significant on AWA, COP and RAD. The standardized path coefficients are (β 0.157, p < 0.012; β -0.384, p < 0.001, and β -0.134, p < 0.012) respectively. As per the mediation criteria forwarded by Zhao et al. (2010), CUI is a mediator between AWA & DEM, COP and DEM and RAD & DEM implying that the mediator identified is consistent with the hypothesized theoretical framework, Hence, H7, H8 and H9 are accepted.

Based on the result obtained the researcher concluded the following hypothesis result

- H_7 : by fulfilling all of the three assumptions set above, Awareness has statistically significant direct effect on Demand for IFB products and services and also has statistically significant indirect effect on Demand for IFB products and services through mediating variable Customer Involvement. Thus the alternative hypothesis H7 is not rejected, whereas the null hypothesis is rejected.

- H_8: by fulfilling all of the three assumptions set above, Relative Advantage has statistically significant direct effect on Demand for IFB products and services and also has statistically significant indirect effect on Demand for IFB products and services through mediating variable Customer Involvement. Thus the alternative hypothesis H9 is not rejected, whereas the null hypothesis is rejected.

- H_9: by fulfilling all of the three assumptions set above, Compatibility has statistically significant direct effect on Demand for IFB products and services and also has statistically significant indirect effect on Demand for IFB products and services through mediating variable Customer Involvement. Thus the alternative hypothesis H8 is not rejected, whereas the null hypothesis is rejected.

- H_{10}: Before the mediator variable CUI enters the model, COX was statistically insignificant as stated above, which violates the first assumption. Thus we can conclude that the alternative hypothesis (H10), which hypothesized that Customer Involvement mediate the relationship between Complexity and Demand for IFB products and services is rejected, but the null hypothesis which proposes that Customer Involvement does not mediate the relationship between Complexity and Demand for IFB products and services is not rejected.

- H_{11}: Before the mediator variable CUI enters the model, TRI was statistically insignificant as stated above, which violates the first assumption. Thus we can conclude that the alternative hypothesis (H11), which hypothesized that Customer Involvement

mediate the relationship between Trialability and Demand for IFB products and services is rejected, but the null hypothesis which proposes that Customer Involvement does not mediate the relationship between Trialability and Demand for IFB products and services is not rejected.

4.12 Discussion of Results of Demand for IFB products and services

The results of $H_{3,}$ construct, Compatibility is found to be positively related with the Demand for IFB products and Services. Compatibility is positively related with Demand for IFB products and services at less than one percent significance level (p-value = 0.000, t =3.825), this finding is consistent with Tornatzky & Klein (1982). Similarly $H_{1,}$ $H_{2,}$ and H_5 Awareness, Relative Advantage and Customer Involvement respectively are also positively related to Demand for IFB products and services but at five percent significance level (p-value= .012, .042 and .002 with t = -2.510, -2.031 and 3.119 respectively for $H_{1,}$ $H_{2,}$ and H_5). These findings are consistent with previous studies Wahyuni (2012) for Awareness, Hoffman et al. (2012) for Relative Advantage and Howcroft et al. (2007) for Customer Involvement. Thus, the more positive is the Awareness, the more likely that Demand for IFB products and services by bank customers. These findings provide evidence for the appropriateness of the original constructs of IDT in the context of Demand for Interest Free Banking products and services. Hence, the results confirmed that the model of demand for IFB products and services can be approached by the IDT framework. Compatibility ($\beta = 0.509$) is found to be a stronger predictor than Customer involvement ($\beta = 0.314$) and Relative Advantage ($\beta = .203$), indicating that bank customer has made a firm decision after the evaluation of the outcome of engaging in demand for IFB products rather than motivation to comply with expectations of others.

Moreover, the results on table 4.11.3_1, the result indicates that Complexity and Trialability (H_4 and H_6) have a negative effect on the Demand for IFB products and services. The result of analysis specifies that customers attach more importance to Awareness, Compatibility, Relative Advantage and Customer Involvement. Thus, the management of Bank should take lesson on the matter.

Furthermore H_7, H_8, H_9 hypothesized Customer Involvement mediate the relationship between Awareness, Compatibility, Relative Advantage with Demand for IFB products and services, are not rejected.

However, H_{10} and H_{11} that hypothesized Customer Involvement mediate the relationship between Complexity and Trialability with Demand for IFB products and services, both are rejected.

CHAPTER FIVE

5. SUMMARY, CONCLUSIONS AND IMPLICATION OF THE STUDY

In this final chapter the Summary of major findings discussed as per the result obtained in the study, the conclusion part of the study also discussed on this chapter, in addition the implication of the study i.e. the contribution of this study were suggested for the Commercial Bank Ethiopia, Interest Free Banking division in particular any related business industry in general, furthermore limitations of the study will be included in this chapter, and finally suggestions for future research was presented and discussed.

5.1 Summary of Major Findings

This study analyzes the factors of Demand for interest free banking products and services using Commercial Bank of Ethiopia as case Company. The study employed descriptive and inferential analysis. The main findings of the study are summarized as follows:

Descriptive analysis on demand of IFB products and services showed that customers generally agreed or perceived that their Demand for IFB products and services decision are influenced by their level of Awareness (Mean score 3.70). In addition, Customer Involvement has positive influence for determining the demand for IFB products and service (Mean score 3.79). Further, customers have perceived or agreed that their Demand for IFB products and services Decision is influenced by Compatibility of product (Mean score 3.86). On the other hand, the mean scores of items under Complexity and Trialability shows that (3.12 and 3.00) respectively, which indicate that, on average, customers neither perceive nor agreed both Complexity and Trialability will influence the demand of IFB products and services. Lastly the mean score of Relative Advantage is (3.81), which shows on average customers perceived that they will get a comparative Advantage if they are using the products and services of IFB.

Except for Complexity and Trialability, other variables like, Awareness, Compatibility, Relative Advantage and Customer Involvement have statistically significant effect on Demand of IFB products and services of CBE's customers in Addis Ababa.

The statistical significance of Awareness, Compatibility, Relative Advantage, and Customer Involvement give evidence for the appropriateness of the original constructs of Innovation Diffusion theory (IDT) in the context of Demand for IFB products and services.

Finally, the results of the parameter estimate of Demand for IFB products and services revealed the following major findings:

- ✓ The major demographic results were 56.3% of the respondents were Male and 43.7% were female, 48.1% of respondent categorized as the age of between 31 and 40, 31.6 % of the respondent constitutes both monthly income level of between birr 7,000 to birr 10,000 and monthly income of more than birr 10,000; 31.8% of the respondents were individuals having occupation of Government sector employees; and 30.1% of the respondents are having educational qualification of first Degree.
- ✓ From the model, four factors were statistically significant in determining the factors determining the Demand of Interest Free Banking products and services. Namely: Awareness; Compatibility, Relative Advantage and Customer Involvement. As per the result obtained from the model, the most significant predictor was Compatibility (β=0.38), followed Customer Involvement (β=0.30), Relative Advantage (β=0.20) and awareness (β=0.16). Both Complexity and Trialability have negative influence on Demand of Interest Free Banking services.
- ✓ The other area need to give emphasis in the study were, the mediation role of Customer Involvement, as per the result obtained from the analysis part of the study Customer Involvement mediate the relationship between the three constructs of Awareness , Compatibility and Relative advantage in determining the factors for Demand of Interest Free Banking services.
- ✓ Furthermore, in addition to the inferential and descriptive findings some of the respondent wrote a comment on the last part of the questionnaire paper, and summarized as follows
    - Some of the respondent claim that they are using the IFB products and services because the Bank provide the service only using the Window model system, and they are left with no other alternative banking options like (Subsidiary or Fully Fledged) model. The participants further demanded that they need the better service that is in consistent with their religious belief using other model rather than Window model.

- A few of the respondent also claim and suspect that their money collected using the IFB window may be utilized and channeled to conventional bank.
- The other portion of the respondent demand to have a deposit product that will benefit them in the profit distribution besides the currently offered "IFB products. The existing requirement i.e. to be eligible for the profit distribution the customer should deposit more than 1M birr in "Mudaraba" deposit intended for very few portion of the society and ignores the majority by excluding them from the benefit package that could be derived from usage of Interest Free Banking.

5.2 Conclusion

The objective of this study was to analyze the determinants for demand of interest free banking products and services. Accordingly, the study analyzed the effect of Awareness, Compatibility, Relative Advantage, Complexity, Customer Involvement and Trialability on Demand of Interest Free Banking products and services.

The study concludes that except Complexity and Trialability, all other constructs have significant effect on the determination of Demand of IFB products and services on CBE's customers in the city of -Addis Ababa.

From the parameter estimates it can be concluded as follows:

From the study Demand of Interest Free Banking products and services, Awareness, Compatibility, Relative Advantage and Customer Involvement are found to be statistically significant.

5.3 Recommendation

The important part of the study presented here under as a conclusion remark and analysis of the result will show the new insights derived from the study and critical literature review reflections are presented as follows:

To increase the Demand on Interest Free Banking Products and services:

In order to increase customer Awareness and stimulate IFB products demand,

- The Bank should Conducting customer Awareness session program throughout the country in all its districts by giving emphasis on the number and potential of target population;
- Make use of the mouth of highly respected and knowledgeable religious leaders through conducting workshop programs to disseminate information on the matter how the interest free banking products and services are delivered and the level of its compliance with the respective Sharia' rulings;
- Reach to various groups like women association, youth association and educational institutions to create Awareness in IFB products and services ;
- Use various medium of communication channels, like print, electronic, internet and social media to reach to its target market;
- Arrange discussion panels with respected scholars and other stakeholders on the significance of the Interest Free Banking;
- Sponsor social events like religious programs, charitable organizations related with the target population;
- Obtain certificate of "Sharia" compatibility for its procedures, guideline and contracts from pertinent organ locally or foreign trusted organs. This process will shorten the awareness creation program of the bank by far and will create the suitable environment for IFB team to focus and limit its activities to day to day matter;
- Brand its IFB products by assigning a special name & color in order to fix it in customers mind and stimulate usage of its products;
- Organize a Question and Answer (Q & A) sessions on IFB products and services especially on Islamic holidays through TV and radio stations in the country;
- Apply exclusive prize linked platform for the products of Interest Free Banking; and
- Apply promotional mechanisms like discounted award system for Selam visa card users (visa card of IFB), while customers' effect payment using it in the market place in collaboration with known business entities.

In order to assure the Compatibility of products and services in line with the customers' value system and religious belief, the bank should

- The appointed Sheria' Supervisory Board (SSB) among others should inspect the day to day activities of Interest Free Banking and report same to the public, whether the Bank is doing in accordance with Sharia' or not;
- Obtain a Sheria' compliant certification for its products and services using the pertinent authorities found locally or internationally; and
- The division need to be transparent in producing a published report that will be available to the public at large showing the information about the amount and type of its deposit and financing products, and to which sectors are the financing were extended and from which source the deposits were attracted.

In order to show the Relative Advantage of IFB and to stimulate demand the Bank should

- Notify the customer about the benefit that he/she/it will get by using CBE IFB products and services by compare and contrast the cost of financing of IFB with other IFB offering private Banks;
- Arrange its products and services in such a manner consistent with the his/her religious beliefs/ Sheria', the Sheria' board of the bank shall make a periodic review and report it to the general public at large.
- The customer need to have sufficient information about the nature and type of the IFB products, the distinguishing feature of the IFB products from the conventional counterpart products has to be informed before opening an account;
- Boost the confidence of its customers by informing the where about of their money they place at IFB window.

In order to increase Customer Involvement and stimulate the demand, the bank should

- Engage its customers on Interest Free Banking products development stage, on product identification stage, to get feedback before launching the products; and
- Notify Investment account /Profit and loss Sharing Depositors about the total amount of profit the Bank made during the period, the amount of the profit share and to which sector the Bank extend the financing during the period on the convenient way possible.

Furthermore,

- ✓ NBE should also establish a supervisory Sharia' board, which will inspect those commercial banks whether or not Sharia' compliance is maintained in respective banks; and

- ✓ Unlike conventional Bank the Bank should attract financing customers by allowing the procedures of IFB financing to be revised rapidly, to allow performers give a chance to accommodate the issue in their procedure to ease the financing process of IFB.

5.4 Limitation and suggestion for further research

The findings of this study are based totally upon the research conducted in the Addis Ababa city and for this reason may not be applicable to other areas and regions for the reason of contextual factors. This study employed cross-sectional data and it is difficult to determine the time series link among variables. As a result, the research may result different findings if it is conducted in another time.

Therefore, the researcher recommends the following for future researches:

The variables and dimensions used in the current study are not exhaustive, thus future studies have interest in including other variables and dimensions in order to obtain more comprehensive findings;

Comparative study may to be conducted by including more banks with regards to IFB products and services.

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A p p e n d i c e s

Appendix A.1: Customers Questionnaire English

ADDIS ABABA UNIVERSITY

Department of Accounting and Finance

Questionnaires: - prepared for customers of Commercial Bank of Ethiopia IFB service

Dear Sir/Madam,

This questionnaire is part of a research project that I am carrying out in partial fulfillment for Master Degree in Accounting and Finance at Addis Ababa University on the topic. "Determinants of demand for interest free banking products and services: an application of innovation diffusion theory (idt) the case of Commercial Bank of Ethiopia". You are among those who have been chosen in the group of customers of Commercial Bank of Ethiopia.

I would be grateful if you would answer all the questions included in the questionnaire and write any comment and suggestions you think relevant on the last page.

All information you provide will be strictly confidential.

Notice:-

No need to mention your name

Your honest response is expected

Should you have any enquiry, please feel free to contact me at my address below

Finally, please accept in advance my sincere thanks and admiration for your assistance and cooperation

Yours faithfully

Mohammed Nasser

Email: - mn623142@gmail.com

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Personal background

1. Gender i.Male ☐ ☐ Female

2. Age category i. 18-30 ☐ ii. 31-40 ☐

iii. 41-50 ☐ iv.Above 50 ☐

3. Educational level

i. Primary ☐ ii. Secondary ☐ iii. Diploma or equivalent ☐ Bachelor degree ☐ iv. Masters Degree ☐ v.Other ☐

4. Occupation

i. Governmental ☐ ii. private ☐ iii. personal ☐ iv. other ☐

5. Monthly income

i. Under 2,000 ☐ ii. 2,000-4,999 ☐ iii. 5,000-6,999 ☐ iv. 7,000-10,000 ☐ v.above 10,000 ☐

Research related questions

Section one: Demand of interest free banking determinants

The following table is consisted of statements which describes demand of Interest Free Banking (dependent variable). Please circle on your degree of strength of agreement/disagreement on the numbers following the respective statements.

DEPENDENT VARIABLE						
DEMAND OF IFB						
NO.	**Statement**	**Strongly Disagree (1)**	**Disagree (2)**	**Neutral (3)**	**Agree (4)**	**Strongly Agree (5)**
1	I stick to Islamic banking products and services	1	2	3	4	5
2	I am happy with using the Islamic banking products	1	2	3	4	5

3	My usage of Islamic banking products and services is definite	1	2	3	4	5
4	I never think of switching off the Islamic banking usage	1	2	3	4	5

INDEPENDENT VARIABLES

1.CUSTOMER INVOLVMENT (CI)

S. NO.	Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
CUI1	I have Strong ties with Interest Free banking products and services	1	2	3	4	5
CUI2	My involvment with Interest Free banking is enduring	1	2	3	4	5
CUI3	I feel like my involvement with Interest Free banking will last for ever	1	2	3	4	5
CUI4	Interest Free Banking products and service are valuable to me	1	2	3	4	5
CUI5	Interest free banking product and service are quite involving to me	1	2	3	4	5

CUI6	My relationship with Interest Free bank is beyond that of creditor and debtor	1	2	3	4	5
CUI7	I feel my relationship with Interest Free banking is great	1	2	3	4	5
AWARENESS (AWA)						
AWA1	I have information about the depository, investment and financing products of IFB	1	2	3	4	5
AWA2	I have enough knowledge about IFB products	1	2	3	4	5
AWA3	I know that all IFB products are interest free	1	2	3	4	5
AWA4	I have enough knowledge about using IFB products.	1	2	3	4	5
AWA5	I have enough knowledge about the benefit of IFB products	1	2	3	4	5
AWA6	I never have any information about the products and services of IFB.	1	2	3	4	5
COMPATIBILITY (COP)						

COP1	Interest Free Banking products and services fit with my banking needs	1	2	3	4	5
COP2	Interest Free Banking products and services fit with my habit of using bank	1	2	3	4	5
COP3	Interest Free Banking products and services suite my religious belief	1	2	3	4	5
COP4	Interest Free Banking products and services are completely compatible with my current situation	1	2	3	4	5
COP5	Interest Free banking products and services are compatible with human justice	1	2	3	4	5
RELATIVE ADVANTAGE (RAD)						
RAD1	Using Interest Free Banking products and services improved the quality of my financial dealing	1	2	3	4	5
RAD2	Interest Free Banking products and services are reliable than interest Banking products and services	1	2	3	4	5
RAD3	Interest Free Banking products provide cheaper cost of fund than Interest	1	2	3	4	5

	Banking products					
RAD4	I feel using Interest Free banking product will increase my revenue	1	2	3	4	5
RAD5	Interest Free Banking is a convenient way to manage my finance	1	2	3	4	5
COMPLEXITY (COX)						
COX1	Understanding Interest Free Banking products and services required more knowledge and Experience	1	2	3	4	5
COX2	Interest Free Banking products and services are too difficult to understand	1	2	3	4	5
COX3	Interest Free Banking products and services are complex to use	1	2	3	4	5
COX4	It is simple to use Interest Free banking products and services	1	2	3	4	5
TRIALABILITY (TRL)						
TRL1	Being able to try out first thru collogues about Interest Free Banking products and services were important in my deciding whether or not to use it.	1	2	3	4	5
TRL2	Being able to try out Interest Free Banking products and services was important in my decision	1	2	3	4	5

	to use it					
TRL3	I am more likely to want to use Interest Free Banking products and services because of being part of this pilot test.	1	2	3	4	5
TRL4	I really won't lose much by trying Interest Free Banking products and services, even if I don't like it.	1	2	3	4	5
TRL5	I like being able to try out Interest Free Banking products and services before deciding whether I like it or not	1	2	3	4	5

Comments_____

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Sugestions_____

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Thanks in advance to your genuine cooperation

Appendix A.2 Customers Questionnaire Amharic

አዲስ አበባ ዩኒቨርሲቲ

ቢዝነስ እና ፋይናንስ ፋክልቲ

ለኢትዮጲያ ንግድ ባንክ ከወለድ ነፃ ባንክ አገልግሎት ደንበኞች የተዘጋጀ መጠይቅ

ክቡራትና ክቡራን

ይህ መጠይቅ በአዲስ አበባ ዩኒቨርሲቲ አካውንቲንግ እና ፋይናንስ የድህረ ምረቃ መርሃ ግብር; "Determinants of demand for interest free banking products and services: an application of innovation diffusion theory (idt) the case of Commercial Bank of Ethiopia" **በሚል ለመመረቂያ ዕሁፍ ማሟያነት በኢትዮጲያ ንግድ ባንክ ስለሚሰጠው ከወለድ ነፃ የባንክ አገልግሎትን መረጃ ለመሰብሰብ የተዘጋጀ ነው:: ከተመረጡ የኢትዮጲያ ንግድ ባንክ ከወለድ ነፃ ባንክ አገልግሎት ደንበኞች አንዱ በመሆኖት በመጠይቁ ላይ የሚያስቀምጡት ምላሽ ለጥናቱ በጣም ጠቃሚ ነው::**

ለሚሰጡት የተሟላ ምላሽ እንዲሁም ሃሳብ እና አስተያየት በቅድሚያ ላመሰግን እወዳለሁ::

የሚሰጡት እያንዳንዱ መረጃ ሚስጥራዊ መሆኑ የተረጋገጠ ነው ::

ማስታወሻ:-

ስም መፃፍ አያስፈልግም

የእርስዎ ግልፅ መልስ ይጠበቃል

ለስራችን ይረዳን ዘንድ መጠይቁን ሞልተው ከጨረሱ በኋላ በተገቢው ሰአት ቢመልሱልን የሚበረታታ ይሆናል

በመጠይቁ ላይ ለሚኖሮት ማንኛውም ጥያቄም ሆነ አስተያየት ከታች በተገለፁት አደራሻዎቸ ሊያገኙኝ ይችላሉ

ከምስጋና ጋር

መሐመድ ናስር

ኢሜይል: *mn623142@gmail.com*

ስልክ ቁጥር: - +251-911-623142

የግል መረጃ

1. **ፆታ** **ወንድ** ☐ ☐ **ሴት**

2. **ዕድሜ** 18-30☐ 31-☐

41-5☐ **ከ** 5☐ **በላይ**

3. **የትምህርት ደረጃ**

የመጀመሪያ ደረጃ ☐ **ሁለተኛ ደረጃ** ☐ **ዲፕሎማ ወይም ተመሳሳይ** ☐

ዲግሪ ☐ **ማስተርስ** ☐ **ሌላ** ☐

4. **ስራ**

i. **የመንግስት ሰራተኛ** ☐ ii. **የግል ተቀጣሪ** ☐ iii. **የግል ስራ** ☐ iv. **ሌላ** ☐

5. **ወርሃዊ ጥቅል ገቢ (በብር)**

i. **ከ**2,000 **በታች** ☐ ii.**ከ**2,000-4,999 ☐ iii.**ከ** 5,000-6,999 ☐ iv.**ከ**7,000-10,000 ☐
v. **ከ**10,000**በላይ** ☐

ጥናቱን የተመለከቱ ጥያቄዎች

ክፍል አንድ:

ከስር የተቀመጠው ሠንጠረዥ ከወለድ ነፃ የባንክ አገልግሎት ፍላጎትን ሊገልፁ በሚችሉ ዐረፍተ ነገሮች የተዋቀረ ነው:: ከእነዚህ ዐረፍተ ነገሮች ጋር ያልዎትን የመስማማት መጠን ይገልፃል የሚሉትን ቁጥር በማክበብ ምላሾችን ያስቀምጡ::

ከወለድ ነፃ የባንክ አገልግሎት የደንበኞች ፍላጎት						
ተራ ቁ	**ገላጭ ዐረፍተ ነገር**	**በፍፁም አልስማማም** (1)	**አልስማማም** (2)	**ገለልተኛ** (3)	**እስማማለሁ** (4)	**በጣም እስማማለሁ** (5)

1	ከወለድ ነፃ የባንክ አገልግሎቶች ጋር ተላምጃለሁ	1	2	3	4	5
2.	ከወለድ ነፃ የባንክ አገልግሎት በመጠቀሜ ደስተኛ ነኝ	1	2	3	4	5
3.	ከወለድ ነፃ የባንክ አገልግሎት አገልግሎቶቹ አጠቃቀሜ እርግጥ ነው	1	2	3	4	5
4.	ከወለድ ነፃ የባንክ አገልግሎት በፍፁም የመቀየር ሃሳብ የለኝም	1	2	3	4	5

1. የደንበኞች ተሳትፎ

ተራ ቁ	ገላጭ ዐረፍተ ነገር	በፍፁም አልስማማም (1)	አልስማማም (2)	ገለልተኛ (3)	እስማማለሁ (4)	በጣም እስማማለሁ (5)
1	ከወለድ ነፃ የባንክ አገልግሎቶች ጋር ጠንካራ ትስስር አለኝ	1	2	3	4	5
2	ከወለድ ነፃ የባንክ አገልግሎት ውስጥ ያለኝ ተሳትፎ ቀጣይነት ያለው ነው::	1	2	3	4	5
3	ከወለድ ነፃ የባንክ አገልግሎት ጋር ያለኝ ቁርኝት እስከመጨረሻው	1	2	3	4	5

	እንደሚቀጥል ይሰማኛል					
4	ከወለድ ነፃ የባንክ አገልግሎት ለሚሰጡ አገልግሎቶች ዋጋ እሰጣለሁ	1	2	3	4	5
5	ከወለድ ነፃ የባንክ አገልግሎቶች በጣም አሳታፊ ሆነው አግኝቻለሁ	1	2	3	4	5
6	ከወለድ ነፃ የባንክ አገልግሎት ጋር ያለኝ ግንኙነት ከተበዳሪ እና አበዳሪ ያለፈ ነው	1	2	3	4	5
7	ከወለድ ነፃ የባንክ አገልግሎት ጋር ያለኝ ግንኙነት ትልቅ እንደሆነ ይሰማኛል	1	2	3	4	5
2. ግንዛቤ						
ተራ ቁ	ገላጭ ዐረፍተ ነገር	በፍፁም አልስማማም (1)	አልስማማም (2)	ገለልተኛ (3)	እስማማለሁ (4)	በጣም እስማማለሁ (5)
1	ከወለድ ነፃ የባንክ አገልግሎት ለሚሰጣቸው አገልግሎቶች ማለትም የተቀማጭ የኢንቨስትመንት እና ፋይናንስ አገልግሎቶች	1	2	3	4	5

	መረጃው አለኝ					
2	ስለ ከወለድ ነፃ የባንክ አገልግሎት በቂ እውቀት አለኝ	1	2	3	4	5
3	ከወለድ ነፃ የባንክ አገልግሎት ሁሉም አገልገሎቶች ከወለድ ነፃ መሆናቸውን አውቃለሁ	1	2	3	4	5
4	ከወለድ ነፃ የባንክ አገልግሎት እንዴት መጠቀም እንደምችል በቂ እውቀት አለኝ	1	2	3	4	5
5	ከወለድ ነፃ የባንክ አገልግሎት ስለሚሰጠው ጥቅም በቂ እውቀት እለኝ	1	2	3	4	5
6	ከወለድ ነፃ የባንክ አገልግሎት ስለሚሰጠው አገልግሎቶች ምንም መረጃ የለኝም	1	2	3	4	5
3.ተስማሚነት						
ተራ ቁ	ገላጭ ዐረፍተ ነገር	በፍፁም አልስማማም (1)	አልስማማም (2)	ገለልተኛ (3)	እስማማለሁ (4)	በጣም እስማማለሁ (5)
1	ከወለድ ነፃ የባንክ አገልግሎት የባንክ ፍላጎቴን ያሟላል	1	2	3	4	5

2	ከወለድ ነፃ የባንክ አገልግሎት ከባንክ አጠቃቀም ልማዴ ጋር ተጣጥሟል	1	2	3	4	5
3	ከወለድ ነፃ የባንክ አገልግሎት ከእምነቴ ጋር ሙሉ ለሙሉ ይጣጣማል	1	2	3	4	5
4	ከወለድ ነፃ የባንክ አገልግሎት ሙሉ ለሙሉ አሁን ካለው ሁኔታዬ ጋር ተስማሚ ነው	1	2	3	4	5
5	ከወለድ ነፃ የባንክ አገልግሎት ከፍትሃዊነት ጋር ይሰማማል	1	2	3	4	5
4. አንፃራዊ ጥቅም						
ተራ ቁ	ገላጭ ዐረፍተ ነገር	በፍፁም አልስማማም (1)	አልስማማም (2)	ገለልተኛ (3)	እስማማለሁ (4)	በጣም እስማማለሁ (5)
1	ከወለድ ነፃ የባንክ አገልግሎት በመጠቀሜ የሰራ ሁኔታዬ ተሻሽሏል	1	2	3	4	5
2.	ከወለድ ነፃ የባንክ አገልግሎት ከመደበኛው	1	2	3	4	5

	አገልግሎት በበለጠ እተማመንበታለሁ					
3.	ከመደበኛው ባነሰ ዋጋ ከወለድ ነፃ የባንክ አገልግሎትን ማግኘት ችያለው	1	2	3	4	5
4.	ከወለድ ነፃ የባንክ አገልግሎት ገቢዬን ጨምሮልኛል	1	2	3	4	5
5.	ከወለድ ነፃ የባንክ አገልግሎት ስራዬን ለማስተዳደር ተስማሚ ሆኖ አግኝቼዋለሁ	1	2	3	4	5
5.ውስብስብነት						
ተራ ቁ	ገላጭ ዐረፍተ ነገር	በፍፁም አልስማማም (1)	አልስማማም (2)	ገለልተኛ (3)	እስማማለሁ (4)	በጣም እስማማለሁ (5)
1	ከወለድ ነፃ የባንክ አገልግሎትን ለመረዳት የተሻለ እውቀትና ልምድ ይጠይቃል	1	2	3	4	5
2	ከወለድ ነፃ የባንክ አገልግሎት ለመረዳት ከባድ ናቸው	1	2	3	4	5
3	ከወለድ ነፃ የባንክ አገልግሎቶች ለመጠቀም ውስብስብ	1	2	3	4	5

	ናቸው					
4	ከወለድ ነፃ የባንክ አገልግሎቶች ለመጠቀም ቀላል ናቸው	1	2	3	4	5
6. ተሞካሪነት						
ተራ ቁ	ገላጭ ዐረፍተ ነገር	በፍፁም አልስማማም (1)	አልስማማም (2)	ገለልተኛ (3)	እስማማለሁ (4)	በጣም እስማማለሁ (5)
1	በሌሎች ሰዎች አማካይነት ከወለድ ነፃን አገልግሎት ማየቴ የባንኩን አገልግሎት እንድጠቀም ለውሳኔ ይጠቅመኛል፡፡	1	2	3	4	5
2	ከወለድ ነፃ የባንክ አገልግሎትን በሙከራ ደረጃ መጠቀሜ የባንኩን አገልግሎት ለማግኘት ለውሳኔ ያገለግለኛል፡፡	1	2	3	4	5
3	ከወለድ ነፃ የባንክ አገልግሎት የምጠቀመው ራሴን በሙከራው ተሳታፊ ለማድረግ ነው፡፡	1	2	3	4	5
4	ከወለድ ነፃ የባንክ አገልግሎትን በመሞከር	1	2	3	4	5

	መጎዳት አልፈልግም፤ ምንም እንኳን አገልግሎቱን ብፈልገውም፡፡					
5	ከወለድ ነፃ የባንክ አገልግሎትን መፈለግ አለመፈለጌን ከመወሰኔ በፊት አገልግሎቱን መሞከር አለብኝ፡፡	1	2	3	4	5

ተጨማሪ ሃሳብ እና አስተያየት ካለዎት:

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ለትብብርዎ በቅድሚያ እናመሰግናለን

Appendix D: Outputs of Multiple Regression Assumption Tests

Table D_01 Linearity Test

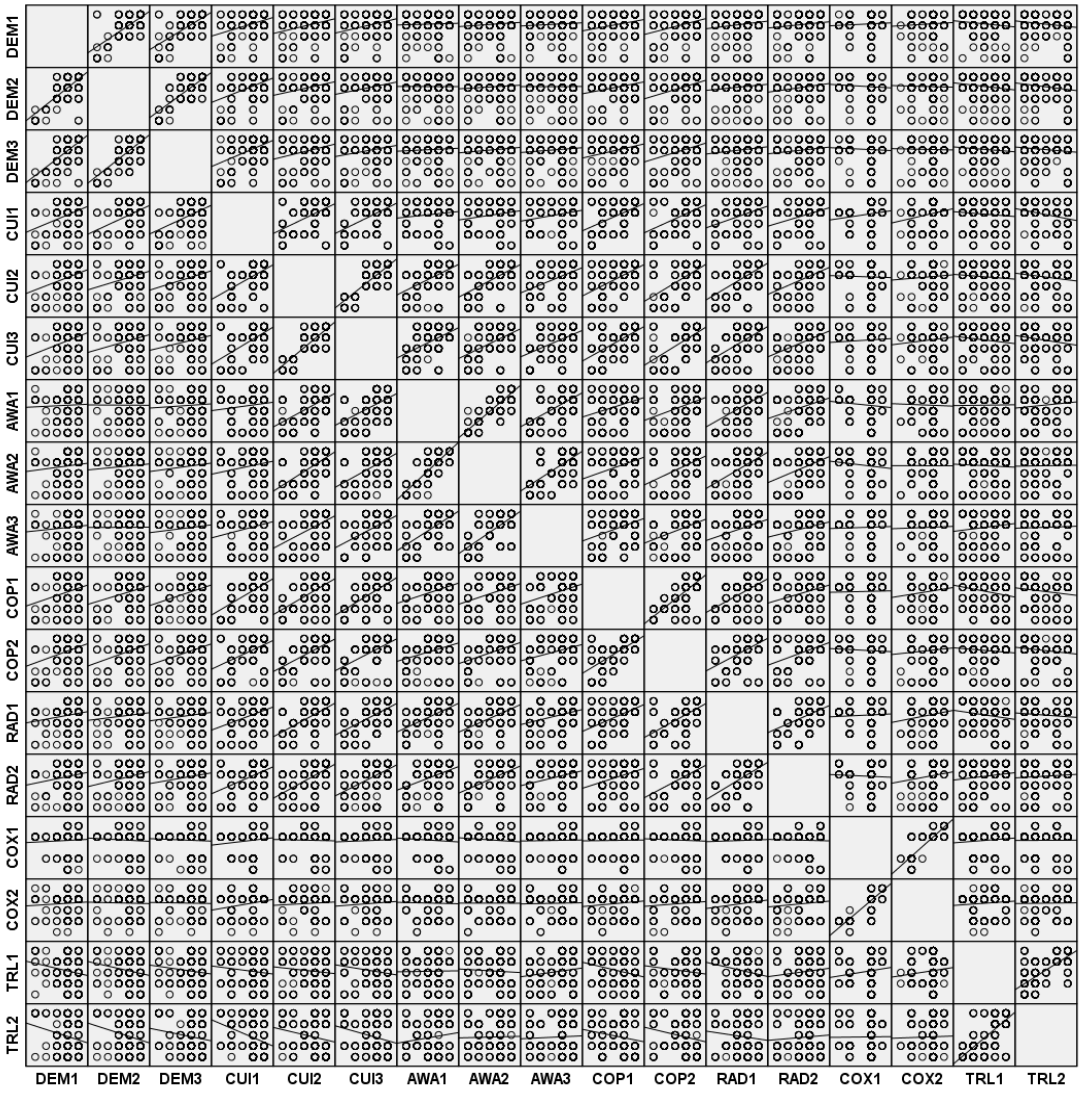

Table D_02 Table for Skewness and Kurtosis

	N	Minimum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CUITOT	346	1.00	26.4364	5.80981	-1.629	.131	2.742	.261
DEMTOT	345	4.00	14.3536	3.02069	-1.518	.131	3.865	.262
AWATOT	345	10.00	20.9101	4.48324	-1.075	.131	.283	.262
COPTOT	345	5.00	19.3623	4.33271	-1.593	.131	2.684	.262
RADTOT	341	7.00	19.1437	4.00439	-1.001	.132	1.286	.263
COXTOT	345	6.00	12.4667	3.02791	-.272	.131	-.837	.262

TRITOT	341	5.00	14.8622	5.88830	.089	.132	-1.280	.263
Valid N	337							

Table D_03 Test for Independence of Errors Durbin–Watson Statistic for Independences of Errors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.558[a]	.312	.299	2.54901	1.416

a. Predictors: (Constant), PRTOT, COXTOT, CITOT, AWTOT, RATOT, COPTOT

b. Dependent Variable: DEMTOT

Source: Survey Result (2018)

Table D_04 Test for Multicolinarity Test Coefficients[a]

Model		Unstandardized		Standardized	t	Sig.	Collinearity	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	188.355	44.976		4.188	.000		
	DEM1	4.511	11.282	.036	.400	.690	.368	2.715
	DEM2	-13.379	11.396	-.115	-1.174	.241	.306	3.270
	DEM3	3.762	10.437	.034	.360	.719	.338	2.957
	DEM4	9.742	5.227	.109	1.864	.063	.869	1.151
	CUI1	2.770	8.881	.026	.312	.755	.426	2.348
	CUI2	-1.374	12.040	-.014	-.114	.909	.201	4.979
	CUI3	2.639	12.568	.027	.210	.834	.176	5.691
	CUI4	4.928	10.689	.046	.461	.645	.291	3.433
	CUI5	3.613	8.755	.036	.413	.680	.386	2.594
	CUI6	2.134	8.092	.022	.264	.792	.409	2.443
	CUI7	-5.312	9.935	-.058	-.535	.593	.254	3.931
	AWA1	-3.122	12.116	-.033	-.258	.797	.180	5.560
	AWA2	9.914	13.402	.111	.740	.460	.132	7.557
	AWA3	-4.200	8.021	-.048	-.524	.601	.349	2.869
	AWA4	3.585	11.282	.043	.318	.751	.164	6.112
	AWA5	-8.637	10.308	-.094	-.838	.403	.234	4.271
	AWA6	-1.492	6.395	-.018	-.233	.816	.511	1.958
	COP1	5.660	8.902	.061	.636	.525	.320	3.122
	COP2	3.702	12.223	.035	.303	.762	.222	4.503
	COP3	-8.048	9.349	-.087	-.861	.390	.291	3.439

	COP4	-2.542	10.673	-.026	-.238	.812	.256	3.907
	COP5	-1.753	9.333	-.018	-.188	.851	.327	3.057
	RAD1	.962	8.504	.009	.113	.910	.440	2.271
	RAD2	1.018	7.664	.012	.133	.894	.395	2.534
	RAD3	-9.378	8.891	-.104	-1.055	.292	.302	3.311

a. Dependent Variable: ID of respondent

Table D_05 Test for homoscedasticity

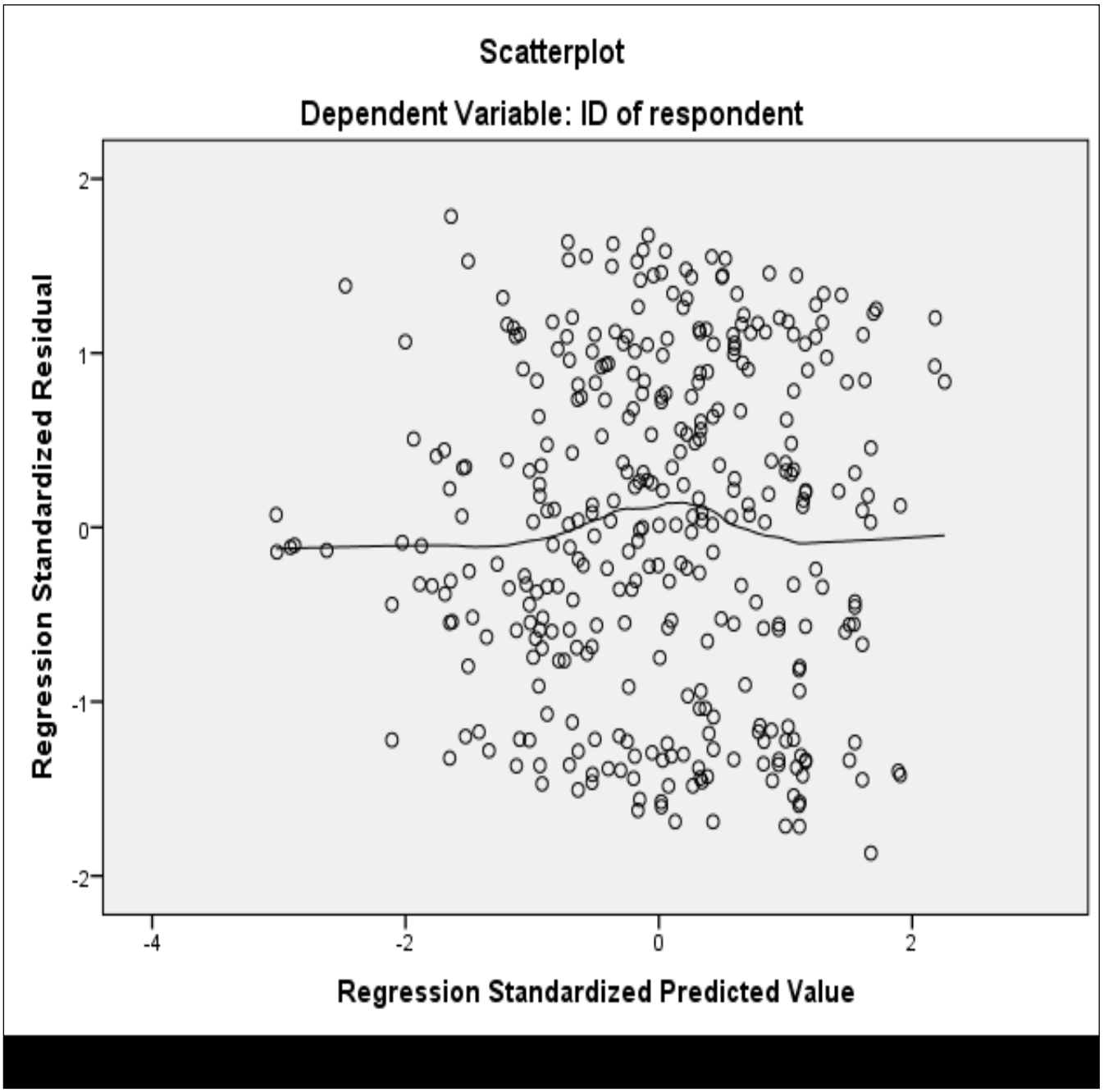

Table D_06 Positive definiteness Correlation Matrix

a. Determinant = 2.403E - 14

Table D_07 KMO and Bartlett's Test[a]

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.807
Bartlett's Test of Sphericity	Approx. Chi-Square	10573.395
	df	630
	Sig.	.000

a. Based on correlations

Table D_08 Factor loading-Rotated Component Matrix[a]

	Component						
	1	2	3	4	5	6	7
CUI1	.476			.474			
CUI2	.753						
CUI3	.746						
CUI4	.607			.306			
CUI5	.698						-.310
CUI6	.676						
CUI7	.743		.300				
AWA1	.474		.695				
AWA2	.499		.720				
AWA3			.672				
AWA4	.353		.794				
AWA5			.727				
AWA6			.652				
COP1	.670						
COP2	.572			.332			.314
COP3	.517						.533

COP4	.589		.332				.426
COP5	.440			.338			.522
RAD1	.743						
RAD2	.568						.368
RAD3	.728	.333					
RAD4	.575						
RAD5	.715						
COX1					.924		
COX2					.949		
COX3						.856	
COX4						.841	
TRI1		.799					
TRI2		.898					
TRI3		.894					
TRI4		.914					
TRI5		.566					
DEM1							.816
DEM2							.883
DEM3							.870
DEM4							.552

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10.75	33.615	33.615	10.75	33.615	33.615	4.24	13.276	13.276
2	4.176	13.049	46.664	4.176	13.049	46.664	4.05	12.673	25.949
3	2.452	7.661	54.325	2.452	7.661	54.325	3.93	12.287	38.235
4	1.808	5.649	59.974	1.808	5.649	59.974	3.75	11.725	49.961
5	1.574	4.920	64.894	1.574	4.920	64.894	3.10	9.710	59.671
6	1.254	3.918	68.812	1.254	3.918	68.812	1.98	6.201	65.872
7	1.139	3.561	72.372	1.139	3.561	72.372	1.87	5.852	71.724
8	1.011	3.158	75.530	1.011	3.158	75.530	1.21	3.806	75.530
9	.965	3.015	78.545						
10	.810	2.532	81.078						
11	.715	2.233	83.311						
12	.638	1.994	85.305						
13	.566	1.768	87.074						

14	.481	1.502	88.576						
15	.453	1.416	89.992						
16	.358	1.120	91.111						
17	.335	1.046	92.157						
18	.322	1.006	93.163						
19	.288	.899	94.062						
20	.268	.838	94.901						
21	.268	.836	95.737						
22	.239	.748	96.484						
23	.200	.624	97.108						
24	.185	.578	97.687						
25	.156	.487	98.174						
26	.125	.391	98.566						
27	.102	.319	98.885						
28	.097	.302	99.186						
29	.089	.280	99.466						
30	.067	.208	99.674						
31	.062	.194	99.868						
32	.042	.132	100.000						

Extraction Method: Principal Component Analysis.

Appendix E: Compiled Reports of the Commercial Bank of Ethiopia, as at September 30/2018

1. Total Financing /Loan amount % of IFB Share 0.55%

Total outstanding IFB Financing as of Sep. 30/2019	1,099,486,870.66
Total outstanding Conventional Loan as of Nov. 30/2018	199,319,735,759.00

2. Total Deposit Amount % of IFB Share 4.69%

Total IFB Deposits of as at Sep. 30/2019	25,244,706,067.78
Total conventional deposit as at Nov. 30/2018	537,524,338,000.13

3. Total No. of Accounts % of IFB Share

Total No. of IFB Accounts as at Sep. 30/2019	2,188,344.00	9.8%
Total No. of Conventional deposit accounts as at Sep.. 30/2019	22,344,269.00	

The End!!!