ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

DEPARTMENT OF BUSINESS LEADERSHIP

Factors Affecting Consumers' Adoption of Virtual Banking (In case of bank of Abyssinia)

Department Of Business Leadership In Partial Fulfillment Of The Requirements For The Master Of Art Degree In Business Leadership

June, 2025

Addis Ababa

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STATEMENT OF DECLARATION

I, Abel Kefale Tadesse, hereby declare that the research work entitled “factors affecting consumers‘ adoption of virtual banking: the case of bank of Abyssinia in Addis Submitted to Addis Ababa University School of School Of Commerce in artial Fulfillment of the requirement for the degree of Master of Art in Business Leadership. The thesis is an original work and it has not been submitted or published elsewhere. All the sources of information, data, and materials used in the preparation of this research have been duly acknowledged and referenced. I affirm this research has been conducted in compliance with the ethical standards and the guidelines prescribed by the college.

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Date _____

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Factors Affecting Consumers‘ Adoption of Virtual Banking Technologies: In the Case of Bank of Abyssinia In Addis Ababa

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Contents

ACRONYMS

ATM- Automated teller machine

BoA- Bank of Abyssinia

EE- Effort Expectancy

FC- Facilitating Conditions

FCY- Foreign Currency

HB- Habit

HM- Hedonic Motivation

ITM- Interactive teller machine

PE- Performance Expectancy

PEOU- Perceived Ease of Use

PU - Perceived usefulness

PV- Price Value

SI- Social Influence

TAM- Technology Acceptance Model

UTAUT- Unified Theory of Acceptance and Use of Technology

VB- Virtual Banking

VTM- Virtual teller machine

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Abstract

This study sought to investigate the factors influencing consumer adoption of virtual banking. Quantitative research approach was utilized, which included surveys and data analysis. To attain representativeness by non-random sampling, a convenience sampling approach was employed with a sample size of 384 individuals. Data was gathered via an online survey questionnaire delivered via Google Forms and dispatching questionnaire via paper. A model based unified theory on acceptance and use of technology was developed to link the key variables. Multiple regression analysis was used to test the hypotheses. This study identified Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Habit (HB) as critical factors that significantly influence customer adoption of virtual banking. The study also identified facilitating conditions, hedonic motivation and price value have no a significant impact on the adoption of virtual banking. These research findings could be useful for virtual banking service providers, legislators, researchers, technology developers, and financial institutions alike. Understanding the individual elements that drive consumer adoption of virtual banking can help lead the creation of effective tactics to promote its use and expedite the wider adoption of virtual banking technology.

Keywords: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), Hedonic motivation (HM), Price Value (PV), Habit (HB), UTAUT, Virtual Banking (VB), Interactive teller machine (ITM)

CHAPTER ONE

1. INTRODUCTION

1.1 Introduction

This chapter consists of background of the study, statement of the problem, research question, and objective of the study, significant of the study, scope of the study, limitation of the study, organization of the study and definition of key terms.

1.2 Background of the study

Now a day, financial institutions are deploying various types of digital service channels aiming to minimize operating costs and maximize customers' experiences. Digital banking commonly referred to as electronic banking, uses electronic and telecommunications networks to provide a wide range of value-added products and services to a bank's customers. In the contemporary landscape of technological innovation, the banking sector aligns itself with evolving technologies to provide enhanced products and services to its customers by consistently maintaining a leading position in the integration of technological advancements (Ahmed & Sur, 2021).

Digital banking integrates digitization and digital technology into all banking sectors (Vial, 2019). The development of new digital ecosystems allows banks to reposition themselves in the banking value chain and other value chains and develop new business models. For instance, it can be the collaborations with other innovative service providers, such as investment platforms, or the development of Fintech services (Stoeckli et al., 2018). Digital banking allows the use of technology to conduct banking transactions in a smooth manner (Alkhowaiter, 2020).

The integration of technology, finance and services is rapidly changing the banking landscape, as big techs, fintech firms; non-bank financial institutions as well as incumbent banks take up stakes in virtual banking. New technology-driven models exploit the expanding data footprints of individuals and firms to generate information capital and reduce the reliance on collateral when offering loans and other financial services (Sally C.etal, 2022). Technology now plays a crucial role in our daily lives, particularly in the banking industry. Banks, as major financial institutions, continuously seek innovative ways to enhance customer experience and convenience through technology (Hew, 2022). In order to gain customers loyalty and satisfaction, competing companies have been continuously providing higher-quality services in light of the fierce competition (Dam, 2021).

The services offered by the financial institutions also continue to challenge and cater to the attitudes of consumers who are accepting of new technology products to gain market opportunities (Chong et al., 2019). To predict consumer behavior, some authors propose an integrated conceptual model that includes factors influencing the decision to use e-banking, such as perceived usefulness, ease of use, trust and level of awareness of e-banking services (Nguyen, 2020).

Financial institutions must keep pace with digital changes to maintain consumer satisfaction and build long-term relationships with them. Digital technologies influence consumer behavior, and ignoring this fact increases the risk of business failure. Considering the above, studying the features of the use of digital technologies in the modern banking industry is a pressing issue.

In relation to a given technology, intentions are defined as an individual's probability to perform a given behavior. Attitudes are defined as the user's assessment of the benefice of using the system. The theory of planned behavior shows that attitudes determine the intention to use or not

a financial product (Ajzen, 1991). Lai and Li (2005) showed that customers' positive attitudes explain a positive intention to use internet technology. The study of Cheng *et al.* (2006) proved that positive attitudes toward digital banking have a direct impact on the intention to use internet banking.

A virtual bank is the provider of banking services through electronic media such as ATM, telephone, personal computers and/or Internet. VB is an innovative and highly secure solution for bank service automation which uses video conference technology to incorporate the advantages of self-service attendance associated to the traditional service of a bank branch, offering a complete bank experience in lesser physical space (Newnote, 2020).

The virtual teller machine is more commonly known as the interactive teller machine. It is a hybrid device that combines remote banking services with traditional automated teller machines, that allow customers to perform a variety of financial activities such as fund transfers and account inquiries, encashing cheques, make deposits and withdrawals in coordination with a remotely located tellers via video conferencing. Virtual teller machines can provide personalized interactive banking experiences and are often equipped with interactive touchscreens, document scanning, and biometric authentication to add security features (Market & data, 2023).

Even though, there are enormous digital channels adopted in banking sector, they have their own limitations which rise up customers not to be satisfied and loss their interests to use digital products and service such as late to respond, insecurity, not easy to access, unreliable, mistrust and late on dispute management. Hence, this finding focuses on assessing factors influencing consumers' adoption of virtual banking by using ITM technology in case of bank of Abyssinia.

Therefore, this research is needed to close the research gap and gather relevant data to help digital banking players in working towards the development of digital banking service that would satisfy and draw in more potential users by taking theoretical perspectives of Unified Theory of acceptance and use of technology model(UTAUT2).

1.3 Statement Of The Problem

Technology adoption is driving the social and economic interconnection in the world and it has become a significant factor of human progress (Patwardhan, 2017). Virtual banking is a means of serving customer digitally to maximize their loyalty and satisfaction that is worthy for the success and sustainability of a bank. As virtual banks can't put up with the cost of branch opening, they offer the savings obtained from the costing to their customers as high saving interest (Muhammet, et.al, 2013).

Consumer behavior is the study of how individual customers, groups or organizations select, buy, use, and dispose of ideas, goods, and services to satisfy their needs and wants for the price they paid. Consumer behavior differs when it comes to the product, price, features, quality, packaging, status, generation, age of the customer etc. The changing preferences of the present day consumer affect the buying pattern because they mostly follow the cadence of fashion and taste according to the changing time. The study reveals that most of the youngsters of the present generation have access to the digital access but they lack the awareness about its optimum utilization. Digital innovations are a major influence on the way customers interact with brands and request services. More customers interact through multiple channels and irrespective of time, place, and device they expect consistency. Digitalization is the integration of digital technologies into everyday life by the digitization of everything that can be digitized (Murugan, 2021). The banking structure, regulations, consumer preferences are different among the countries despite

the link between Fintechs around the world (London et al., 2018). The area of financial technology is changing very fast, and this change is reshaping the financial industry and the way financial services are provided (Xiao, 2018)

Even though there are enormous studies conducted on customers' attitude towards digital banking services, there is no finding in case of virtual banking services in Ethiopia which is serving customers in banking sectors especially in BOA. Virtual banking service is a new digital service in Ethiopia by the help of interactive teller machine (ITM) and the effectiveness of its leadership and productivity, and its limitations are not studied. Inadequate facilitating conditions such as weak internet connection, voice disturbances, misbehaviors of tellers, late dispute management, and late to respond were challenges in the adoption of VB from the bank side. In addition to this, consumers' resistance of adoption of technology (VB), lack of awareness about the usefulness of accessing VB service, lack of trust, limited knowledge on technology were the other challenges from consumers perspectives.

So that, the researcher is initiated to evaluate consumers' adoption of VB services and factors that would affect customers' intention to use virtual banking service. By using theoretical perspectives of Unified Theory of acceptance and use of technology model(UTAUT2), seven independent variables (performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value and habit) and one dependent variable (Consumers' adoption of virtual banking) are deployed to evaluate the service being given in virtual centers in BOA.

1.4 Research questions of the Study

1. What is the impact of performance in consumers' adoption of virtual banking?
2. What is the impact of effort expectancy in consumers' adoption of virtual banking?
3. What is the effect of social influence in consumers' adoption of virtual banking?
4. What is the effect of facilitating conditions in consumers' adoption of virtual banking?
5. What is the effect of hedonic motivation in consumers' adoption of virtual banking?
6. What is the effect of price value in consumers' adoption of virtual banking?
7. What is the effect of habit in consumers' adoption of virtual banking?

1.5 Objectives of the Study

1.5.1 General Objective

The general objective of the study was to assess factors affecting customers' adoption of virtual banking in the case of Bank of Abyssinia.

1.5.2 Specific Objectives

Specific objectives of the study are:

- ✓ To examine the effect of performance expectancy on customers' adoption of virtual banking service.
- ✓ To examine the effect of effort expectancy on customers' adoption of virtual banking service.
- ✓ To examine the effect of social influence on consumers' adoption of virtual banking.
- ✓ To examine the effect of facilitating conditions on consumers' adoption of virtual banking.
- ✓ To examine the effect of hedonic motivation on consumers' adoption of virtual banking.
- ✓ To examine the effect of price value on consumers' adoption of virtual banking.

- ✓ To examine the effect of habit on consumers' adoption of virtual banking.

1.6 The Significance Of The Study

This study focused on evaluating customers' adoption of virtual banking by using ITM technology. Hence, the study would have the following significances.

Financial institutions specifically banks would be benefited to understand the perception of customers' to use virtual services and to improve the service they are providing. This study is also helpful for policy maker and regulatory bodies to build legal and leadership standards that will maximize and secure service quality. Additionally, the study is important for economic growth by improving services that would lead businesses to be profitable. Technology and innovation stakeholders can utilize this study result to add value on existing technological products that would ensure customer satisfaction. Moreover, researchers, scholars, and academicians could use the finding for further scientific work as a reference.

The findings of this research may help both the bank managers to formulate their marketing strategies, to promote virtual banking and the researchers do well in virtual banking studies and virtual organizations in general.

1.7 Scope Of The Study

The scope of this study was organized as:

Geographical scope: this study would be limited at bank of Abyssinia virtual banking terminals deployed at Addis Ababa city where most of virtual centers are found.

Methodological scope: quantitative research approaches was used to gather data. The primary data collection tools was Structured questionnaires. Statistical analysis methods will be used to analyze collected data.

Conceptual scope: the study encompasses on the relationship between independent variables (performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value and habit) and one dependent variable (consumers' adoption of virtual banking service).

Target population scope: the study was limited on virtual banking users at bank of Abyssinia in Addis Ababa BOA virtual terminals.

1.8 Definitions of Terminologies

Her listed below are important terminologies helpful to understand consumers' adoption of virtual banking service.

Virtual banking: can be defined as a digital bank which offers its services by means of interactive teller machine or electronic tools, ATM and telephone. It provides a digital platform for customers to perform banking activities such as opening accounts, making transactions, and accessing various financial products.

Interactive Teller Machine (ITM): is known as a "branch in a box" system that uses a combination of touch screens and video technology to offer a virtual version of the in-person banking experience.

Performance expectancy: the degree to which using a technology will provide benefits to consumers in performing certain activities

Effort Expectancy: the degree of easy/benefit associated with consumers' use of technology.

Social Influence: The consumers perceive that important others (friends, families, etc) believe that they should use a particular technology.

Facilitating conditions: is the degree to which consumers' perception of resources and supports and availability to perform a behavior.

Hedonic Motivation: The pleasure or enjoyment derived from using technology.

Price Value: consumers' cognitive trade-off between the perceived benefits of the applications and the monetary cost of using them.

Habit: The extent to which people tend to perform behaviors automatically because of learning.

1.9 Limitation Of The Study

This study was limited at BOA Virtual centers located at Addis Ababa by which the result might not represent all banking sectors and all virtual centers deployed as a country. Additionally, the research was limited only on the relationship of a specific independent variable (performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value and habit) and dependent variable (consumers' adoption of virtual banking service).

1.10 Organization of The Study

The study was organized under five chapters. The first chapter covered the introduction part which contains introduction, statement of the problem, objective, scope and limitation of the study. The second chapter included theoretical, empirical reviews and the conceptual framework of the study. The third chapter contained methodologies and model specification of the study. The fourth chapter contains data analysis. The final chapter, Chapter five provided conclusion and recommendation based on the result obtained from data analysis.

Chapter Two

2. Literature Review

2.1. Theoretical review

2.1.1. Digital Banking

Today's customers stay connected through a range of digital platforms like Internet, social media and mobile devices. These evolving customer requirements are gradually changing the dynamics of the market and disturbing exiting models forcing companies to re-think and re-invent their traditional business strategies and stay relevant in the marketplace (Madhava et al. 2017).

In the digital economy, most traditional banks offer digital services, and the government encourages people to use cashless payments in their daily lives. According to Suvarchala & Narasimha (2018), financial institutions differentiate themselves by the effectiveness of their strategic decisions. Fundamental differentiators are powerful and difficult for competitors to compete against. Customer experiences are important differentiators in banking sector as the success of the Banks highly depends on the potential and number of customers they have. Hence, customer experience is the total impact of everything you do, or fail to do, that underpins ongoing interaction with a customer or potential customer. There is a growing trend in the development of digital-only banks, which are fully virtual banks with no individual physical branches and conduct all banking activities through mobile applications. Fully virtual operations alter how people interact with services and, as a result, their consumption and financial habits (Almunawar et al., 2022). Digital Banking is the application of technology to ensure seamless end-to-end processing of banking transactions/operations; initiated by the client, ensuring

maximum utility; to the client in terms of availability, usefulness and cost; to the bank in terms of reduced operating costs, zero errors and enhanced service (Kaynak & Harcar, 2005).

Digital banking enables the utilization of technology to carry out banking transactions with enhanced efficiency (Alkhowaiter, 2020). Internet banking, e-commerce through banks application or from other financial institutions, digital wallets, and ATM services are the different forms of digital banking services. Digital banking allows the customers to enjoy the services of accessing and performing all traditional banking activities online at their convenience and comfort (Ahmed & Sur, 2021). Digital banking is a contemporary banking operational framework that functions through the complete digitization of all banking operations and functions (Leong et al., 2020).

The dynamic advancement of digital technology and changes in consumer behavior, whereby customers have become more dependent on using online platforms in their daily lives, are both essential factors driving the global financial sector to create financial innovation and adjust their service systems to maintain pace with such changes (Namahoot, 2021).

The success of technology adoption largely depends on the attitude consumers have about it, which is further dependent on the ease or difficulty faced by a user while using the technology (Davis, 1989). Adoption of technology related products such as the internet and mobile phones is said to be highly influenced by customer attitude (Mort & Drennan, 2005).Attitude can be characterized as an individual's favorable and unfavorable emotions concerning the execution of the intended behavior (Ajzen et al., 1980). The attitude theory suggests that a customer's intention to use or purchase a brand depends on whether they are positive or negative towards that brand.

2.1.2. Fintech

The term “FinTech” denotes companies or representatives of companies that combine financial services with modern, innovative technologies (Dorfleitner, Hornuf, & M., 2017). It refers to digital technologies that have the potential to transform the provision of financial services spurring the development of new – or modify existing – business models, applications, processes, and products. In practice, the term “fintech” is also broadly used to denote the ongoing wave of new DFS. Examples of these technologies include web, mobile, cloud services, machine learning, digital ID, and application programming interfaces (Erik Feyen et.al. 2021). Fintech companies are rapidly attracting a large number of customers, especially millennial and the unbanked, with their flexible business models and user-friendly services (Tarabay R. and Abou-Zeid M., 2019). Technology-enabled innovation in financial services are reshaping financial products, payments, business models, market players, market structure, and even money itself. This is a global phenomenon, especially in the realm of payments, according to the global patterns examined in the Fintech Activity Note developed for this publication (Didier et al. 2022).

Fintech-enabled business models and products can support economies to become more resilient and promote an equitable recovery from the pandemic (World Bank 2022). The use of innovative technologies, especially mobile phones, a computer or digital tablet connected to the internet or any other communication network in order to offer the end customer products and services that are richer and/or less expensive than those of other operators by creating an appropriate regulatory and legal environment: good partnership and relationship with banks (Kelvin & Anna, 2018).Virtual banking is a fintech model used to provide financial services by using technological product called virtual machine/ interactive teller machine.

2.1.3. Virtual Banking

Virtual banking is currently the most extensive and newest form of banking services, offering a wide range of services to customers. A virtual bank is an online banking service that provides all types of services offered by a traditional bank, the only difference being that all services are served exclusively through the Internet (Sha et al., 2017). Virtual teller machine (VTM) market providers offer solutions that allow banks and financial institutions to offer cost-effective and secure solutions such as online banking, cash withdraws, payment of bills, setting up deposits, making transfers from the account, as well as setting up new accounts fueling market growth in this space. Moreover, banks and financial institutions are prioritizing improving their customer experience to stay ahead of the competition in the market. Virtual teller machine (VTM) solutions offer personalized, seamless experiences to customers, propelling demand for these solutions (Allied Market Research, 2023).

Virtual banks represent a new generation of banks that, by utilizing the latest advancements in information and communication technology, offer a wide range of banking services and products to the public without the need for wider physical branches (Faruque et al., 2016). The adoption of virtual banking leads to significant economic benefits, such as reducing costs, increasing the profitability of banks, improving the quality of services provided to customers, overcoming time and place limitations, and expanding the scope of organizational activities (Rezvani et al., 2021). Virtual banking is a type of online banking in which their products and services can be performed through the electronic distribution channels from anywhere. These types of banks with cost reduction and banking efficient services that benefited from indirect costs are usually pays the higher saving rate than the national average benefits paid to the customers(Malakooti et al.,2014). Virtual Banking (V-banking) is the new technology in a banking environment that

permits bank customers to do banking exercises whenever and from wherever by using ITM, mobiles and banks' websites (Shifa, 2020).

Interactive teller machine (ITM) or Video teller machine (VTM) is an electronic banking outlet that allows customers to complete basic transactions, request banking services or receive immediate assistance with the help of live video conferencing consultation with a remote bank teller. The virtual teller machine (VTM) has proven to be an innovative solution to integrate branch counter, ATM, internet banking, mobile banking, and call banking. Moreover, different modules are built into one machine to achieve cash deposit and withdrawal, check deposit, card issuing, investment product purchase, financial consulting, and payment services (Allied Market Research, 2023). VB platform is a smart banking terminal designed to ensure the easy and continuous migration of the traditional countertop environment to a self-service system where the customer can directly carry out numerous operations with the possibility of using a videoconference system to support the operation involving bank product specialists. The VTM enables the migration of complex countertop services and personalized financial consulting services to self-service terminals, increasing the operational efficiency of the bank branch, optimizing the user's experience and reducing operating costs (Newnote, 2020).

A VTM is a 24/7 electronic banking outlet adopted in the banking sector recently. It can allow customers to complete basic transactions and provide them with different banking services and immediate assistance through live video conferencing with remote bank tellers. VTM services deployed in the Vietnamese market combine the characteristics of traditional ATM transactions and digitalized customer services based on innovative technology features. A VTM is generally designed to be wider than traditional ATMs, including large-screen interfaces with diverse functions. Virtual banking incorporates cameras and biometric identification systems that allow

customers to use their fingerprints and faces to perform transactions and services. In addition, through the interface of the transaction machine, customers can interact with bank staff if they require further assistance. The ability to support customers to perform complicated transactions with high-security requirements and unrestricted time has demonstrated the great potential for VTM services to become an innovative solution in the future advancement of e-banking services (Nguyen Hoang Viet et al. 2022).

2.1.3.1. Features Of Virtual Banking In Ethiopia

Virtual banking is conducting through the use of an Interactive Teller Machine (ITM) that creates the hybrid experience of using an Automated Teller Machine (ATM) and working with a live teller. They add a human element to the transaction through digital communication tools that connect with a remote, live person within the bank. Similar to using Skype on a personal computer, ITM allows voice communication (over a speaker or a private handset), video conferencing, and chat. It is useful to cash deposit to local currency account, foreign currency cash, deposit to foreign currency account, purchase of FCY cash notes, collection of cheque and banker's cheque, cash payment from saving account, cash payment from local currency or foreign currency current accounts and bankers cheque, payment for local money transfer, fund transfer within boa or any other bank and request digital products and account opening (BOA, 2021). Virtual banking by ITM generally resembles ATMs but allow customers to interact with live remote tellers to complete a variety of banking transactions. The ITM is an automated, unstaffed banking facility owned or operated by, or operated exclusively for, the bank, which is equipped to enable existing customers to initiate an interactive session with remotely located bank personnel. Bank personnel have the ability to remotely assist the customer with the operation of the ITM to perform core banking functions (BOA, 2021).

VB is easy to implement at the bank branch and can be fully available 24h x 7 as an effective way of extending the bank service channels beyond the traditional opening hours of a bank branch. With the capacity to incorporate countertop services, ATM, internet banking, mobile banking and bank services by telephone, this is a truly multichannel platform offering potential for the creation of more transaction and service options.

Figure 1: BOA ITM

2.1.3 The Technology Acceptance Model (TAM)

The Theory of Acceptance proposes that a person's decision to accept or reject an item of technology is based on two key factors: perceived ease of use and perceived usefulness (Qingxiong et al., 2005). To predict consumer behavior, some authors propose an integrated conceptual model that includes factors influencing the decision to use e-banking, such as perceived usefulness, ease of use, trust and level of awareness of e-banking services (Nguyen, 2020).

Perceived usefulness (PU): PU is characterized as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis et al., 1989). The

perception of a technology being user-friendly increases the likelihood of its acceptance and adoption. Perceived Usefulness (PU) plays a crucial role, as users are more inclined to adopt digital banking if they believe it enhances efficiency and convenience (Tobbin, 2010). According to Davis F. D. (1989), perceived usefulness is defined as pertains to the belief that employing a specific technology will boost performance or increase productivity in a given task or setting. When individuals view a technology as beneficial, they are inclined to embrace and utilize it. Perceived ease of use signifies the level at which individuals find a technology simple to operate, requiring little mental or physical exertion.

Perceived ease of use (PEOU): PEOU refers to "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989). It occur when a person believes they can use a system without expending too much energy and effort, accordingly, the most prominent theoretical model explains the relationship between consumer beliefs, attitudes, and intentions (Ly & Ly, 2022).

TAM is not a descriptive model and does not have the ability for finding flaws in the implementation of technology and hence, there is a need to expand the model to find the reasons for technology resistance (Siegel et al., 2017).

2.1.4 Diffusion of innovation theory

Innovation diffusion theory explains that the characteristics of innovation are the nature of the diffusion of innovation, where the characteristics of innovation are one that determines the successful use of technology. All products do not have the same possibilities for consumer acceptance, some products can become popular in just one night while others require a very long time to receive or even never be widely accepted by consumers. Innovation Characteristics

determine the speed of innovation adoption process at customers' level as technology users (Shobha, 2019).

According to Rogers, (1962) there are five characteristics of these innovations that can be used as indicators in measuring perceptions, among others: relative advantages, compatibility, complexity, trialability and observability.

Relative advantages: it is the degree to which an idea is considered a better than the ideas that exist before, and is economically profitable.

Compatibility: it is the extent to which the past of an innovation is considered consistent with existing values, past experiences, and needs of the adopter. Therefore, innovations that are not compatible with prominent social system features will not be adopted as quickly as compatible ideas.

Complexity: it is a level where an innovation is considered relatively difficult to understand and use. Difficulty to understand and use will be an obstacle to the process of speed adoption of innovation.

Trial ability: it is a level where an innovation on a small scale. New ideas that can be tried on a small scale are usually adopted more quickly than innovations that cannot be tried first.

Observability: it is a level of results an innovation can be easily seen as an economic technical advantage, thus accelerating the adoption process. Other prospective adopters no longer have to undergo a trial phase; can continue to the adoption stage.

2.1.5 Unified Theory of Acceptance and Use of Technology (UTAUT)

According to the Unified Theory of Acceptance and Use of Technology (UTAUT), there are four key constructs naming expectation of performance, expectation of effort, social influence and facilitating conditions (Venkatesh et al. 2003).

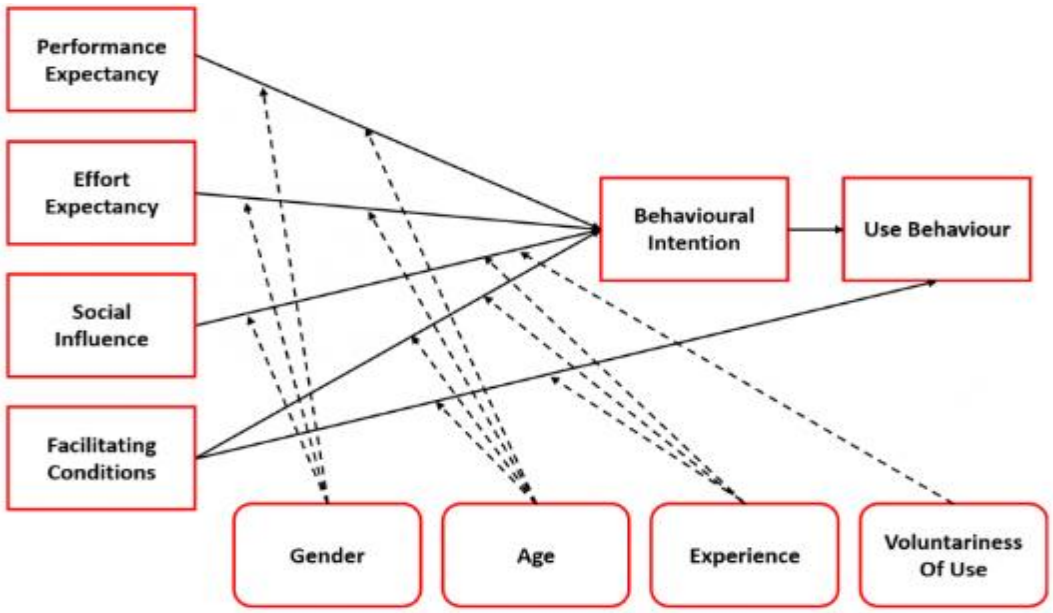

Figure 2: UTUAT Model (Venkatesh et al., 2003)

Venkatesh et.al. (2012) extracted factors of the original UTAUT model for the consumer context and extended it by incorporating the following three factors (hedonic motivation, price value, habit) which improved the prediction of behavioral intention and use behavior.

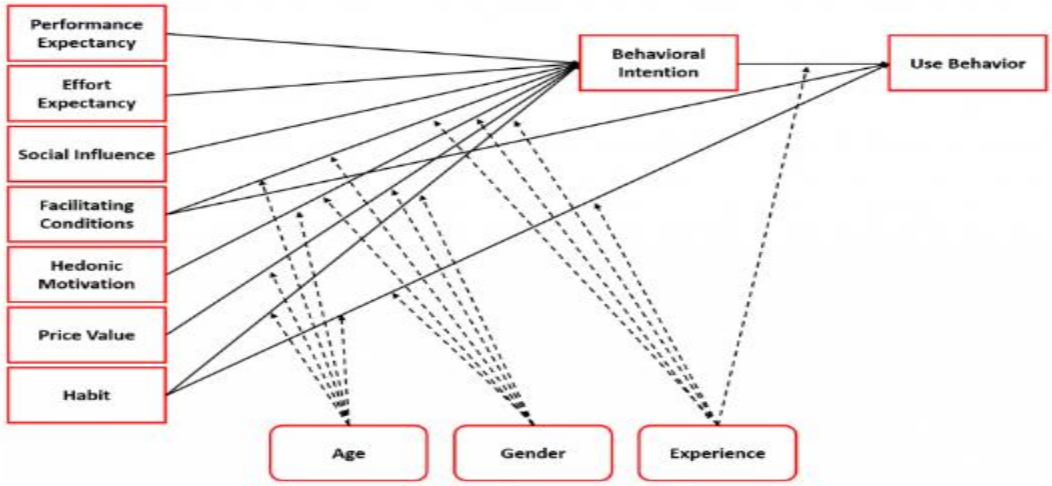

Figure 3. UTUAT$_2$ Model (Venkatesh et al., 2012)

Performance expectancy: Performance expectancy refers to the level at which individuals expect the implementation of technological solutions will improve their business results (Tomic N. et al., 2023).

Effort expectancy: it is the extent to which the user is comfortable to use and does not need much effort while using virtual banking.

Social influence: the degrees to which individuals believe those in their social environment expect them to use an innovative technological solution.

Facilitating conditions: relates to the existence of organizational and technical infrastructure to facilitate the use of new technology (Venkatesh, 2003).

Hedonic Motivation: refers pleasure or fun with technology use (Venkatesh, 2005).

Price Value: Cost savings expected when adopting the technology / the degree to which innovation is perceived as better than its predecessor

Habit: is the extent to which an individual believes the behavior to be automatic (because of learning), and it is a predictor of both intention and technology use.

2.2. Empirical Literature Review

2.2.1. Performance expectancy

Performance expectancy refers to an individual's subjective perception of the usefulness and benefit of a new technology in improving their performance at work; this determines whether the users perceive new technology as helpful in enabling them to achieve their goals (Joshi & Bhatt, 2021). According to Sharma et al. (2020), PE was positively associated with the behavioral intentions of bank customers. Performance expectancy is a strong predictor of behavioral intention in both voluntary and mandatory settings in information technology context (Ling et al., 2020; Venkatesh et al., 2003). Due to the expected increase in job performance, users are expected to have a stronger tendency to adopt such technology, where past studies have also supported the role of performance expectancy is related to various contexts such as mobile payment system (Alalwan, 2020). Accordance with the UTAUT2 studies, it is expected that if the users think that VB service is useful and will add value to their user's experience then they are more expected to adopt the system. Customers tend to have a positive attitude towards digital banking when they perceive the service to be useful (Fortes & Rita, 2016). Consumers' attitude toward a new technology is directly influenced by the perceived usefulness of the technology (Gokmenoglu & Kaakeh, 2022; Moturi & Wairimu, 2022; Altalhi & Basiouni, 2022; Belsoka et al., 2022) Thus, this leads to the following hypothesis:

H1. Performance expectancy will positively influence attitude towards virtual banking.

2.2.2 Effort expectancy

Effort expectancy means that users will be having some level of knowledge and skill which will further enable the users to use technologies and this will further lead towards putting some effort to gain more knowledge (Alalwan et al., 2017). Many previous studies in the area of digital banking system acceptance have found effort expectancy as significant predictor of intention to use mobile payment system (Islam et al., 2019; Gharaibeh and Arshad, 2018; Rita et al., 2018; Acheampong et al., 2018). Nguyen (2020) suggests that digital banking services make it easier for customers to access and use banking services than traditional banking. Based on the above studies:

H2. Effort expectancy will positively affect attitude towards virtual banking.

2.2.3 Social Influence

Social Influence is the degree to which an individual perceives the importance of others to believe that he or she should use the new system (Venkatesh et al., (2003. In a related context, social factors construct is a good predictor of use of information technology (Venkatesh et al., 2003). A number of previous studies in the area of mobile payment system acceptance and information system have found social influence is a major predictor of the intention to use continuance usage of mobile payment system (Islam et al., 2019; Gharaibeh and Arshad, 2018; Gupta et al., 2018; Acheampong et al., 2018). Based on empirical studies:

H3: social influence will positively affect attitude towards virtual banking.

2.2.4 Facilitating Conditions

Facilitating Conditions is the degree to which an individual believes that an organizational and technical infrastructure exists and will help him/her to use of the system (Venkatesh et al., 2003). Facilitating conditions construct is a significant predictor of the use of information technology (Venkatesh et al., 2003). Previous studies in the field have found facilitating conditions are a

significant predictor of the intention to use new technology adoption. In addition, they will have a stronger tendency to adopt mobile payment system (Islam et al., 2019; Gharaibeh and Arshad, 2018; Rita et al., 2018; Acheampong et al., 2018). To access virtual banking, there should to have powerful internet resources, the right software, and programming skills (Tarhini et al., 2016). Accordingly, this leads to the following hypothesis:

H4. Facilitating conditions will positively influence attitude towards virtual banking.

2.2.5 Hedonic motivation

According to UTAUT2 model, hedonic motivation is defined as the fun or pleasure derived from using a technology (Venkatesh et al., 2012). Hedonic motivation was found to be a significant factor predicting the intention to adopt mobile payment systems (Alalwan, 2020; Alalwan et al., 2016, 2017, 2018; Gharaibeh and Arshad, 2018; Makanyeza and Mutambayashata, 2018). In this study, it is expected that employees who perceive using a VB system as being fun are intrinsically interested in their financial activities, they are more probable to use the system. Its significance is particularly pronounced in consumer contexts (Salloum et al., 2019), where perceived enjoyment directly influences user acceptance of e-learning systems (Salloum et al., 2019). This aspect's predictive power drives users' willingness to embrace new technology, mirroring their pursuit of joy and pleasure in life. When technology aligns with these desires, adoption becomes not just likely but sustained over time. Thus, this leads to the following hypothesis:

H5. Hedonic motivation will influence attitude towards virtual banking.

2.2.6 Price value

Price is thought to be "the consumer's intellectual trade between the perceived benefits of the app and the financial costs of using it" (Venkatesh et al., 2012). According to Talib and Rahman's (2020) investigation on SMS technology in China underscored this, revealing consumer preference for SMS due to its cost-effectiveness compared to other communication modalities. Price value essentially represents the mental balance between a technology's benefits and its financial outlay. When the perceived benefits outweigh the monetary investment, price value positively influences consumer intent.

H6. Price value will significantly influence attitude towards virtual banking.

2.2.7 Habit

Habit (HT) is measured as the extent to which an individual believes the behavior to be automatic (because of learning), and it is a predictor of both intention and technology use (Venkatesh et al, 2012).

H7. *Habit will significantly influence attitude towards virtual banking.*

2.3 Conceptual Framework

According to Adom (2018) conceptual framework visually represents the relationships between variables or study constructs. Based on a thorough analysis of theoretical and empirical literature on technology acceptance and adoption of innovations, the following factors have been identified that impact the adoption of virtual banking services.

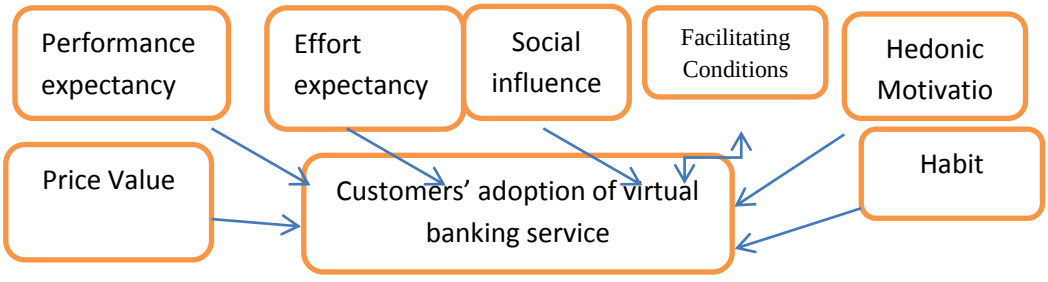

Figure 4: Conceptual Framework (Venkatesh et al, 2012).

Chapter-3

Research Methodology

3.1 Introduction

In this chapter, description of the study area, the research approach, design, population, sampling, data sources, collection procedure, ethical considerations, and data analysis tools for the study are outlined. The study aims to analyze the factors that influence consumer adoption of virtual banking at BOA. To achieve this, a quantitative research approach was employed. This approach was chosen to ensure a thorough and comprehensive understanding of the topic.

3.2 Description of the Study Area

The study was done in Bank of Abyssinia S.C, one of the prominent bank service providers in Ethiopia. Modern banking in Ethiopia was first introduced in 1906 when the Bank of Abyssinia was established based on the agreement being reached between the Ethiopian government and the British owned National Bank of Egypt. Bank Abyssinia was inaugurated by Emperor Menelik II on February 16, 1906.

Figure 5. The first BOA Head Office (1906)

Through its 928 branches in the country, BoA serves over 13 million customers. BoA's well-structured financial service system is connected through the T-24 core banking system. This coupled with the 1429 ATM machines, 33 virtual banking centers, and more than 2994 POS placed in different locations to afford customers to access their accounts from anywhere at any time. BoA also increased its capital from ETB 50 million to ETB 20,419,148,035. The total assets of Bank of Abyssinia have reached ETB 218,513,875,231.

Figure 6. Future BOA Head Office

3.3 Research Approach

According to Creswell (2003), determination of a research approach should be done based on the objective to be achieved in the study. In case, if the problem identified factors affecting the outcome having numeric value, it is quantitative approach.This study employed a quantitative research method. The application of this approach is essential for addressing the research questions related to factors affecting consumers' attitude towards adopting virtual banking by

using ITM. Quantitative research provides a structured and systematic way to collect and analyze numerical data, making it well-suited for evaluating relationships among variables. This type of data collection allows for the acquisition of quantitative data, which is crucial for statistically analyzing factors effecting consumers' intention to use VB.

3.4 Research Design

Research design is a master plan specifying the methods and procedures for collecting and analyzing the required data. The choice of research design depends on objectives that the researchers want to achieve (John, 2007).

As noted by Kothari (2004), explanatory research design examines the cause and effect relationships between dependent variables and independent variables. Therefore, the study is mainly designed to investigate factors affecting consumers' attitude towards adopting virtual banking by using ITM in BoA. To this effect, this study used an explanatory research design because it is suitable for investigating the cause-and-effect relationships between variables and it is best to collect data at a specific time. Moreover, this design helps to gather data which is easy to generalize by using the appropriate statistical tools. To support this kohlbacher (2006) stated that the design is important to make empirical enquiry which can investigate a contemporary phenomenon within its real life situation and in which multiple sources of evidence were used.

3.5 Target Population and Sample

The sample design to conduct the intended research was a convenience sampling technique which is a non-probability sampling in which member of the population were selected based on their availability, accessibility and willingness to participat. The rationale behind to select convenience sampling techniques than others is, it is simple and speedy because data collection is straight forward and based on the availability of participants, it is cost effective and time

saving.The target population of the study was all BoA s.c virtual banking customers across the country, with a focus on virtual banking centers in Addis Ababa.

However, the number of customers that get virtual banking service within a given period is unknown. Thus by presuming the nature of the universe to be infinitive, the study used Cochran's sample size formula stated by Kothari (2004).

$$\mathbf{n= z^2 p q/e^2}$$

Where,

n=sample size,

z = confidence interval (with 95% level of certainty)

p = proportion (0.50)

q= 1-p (q= 0.5)

e = margin of error 95 % (0.05)

Thus the total number of the sample size is presented as follows.

$n=3.8416*0.5*0.5/e^2$

n=0.9604/e2 (e=0.05)

=0.9604/0.0025

n=384.16

n = 384

3.6 Data source and Types

In this study, both primary and secondary sources of data were used. The primary data source included questionnaires that contains relevant variables which contain close ended questions developed by the researcher. The secondary data sources included the documents obtained

mainly from publications, previous studies, books and websites which enable the researcher to gather information.

3.7 Data Analysis

The data analysis was performed using SPSS. The data was coded and encoded with Statistical Package for Social Studies (SPSS). To analyze the collected data, quantitative analysis methods was employed. The quantitative data collected from key respondents through questionnaire was analyzed through descriptive and regression analysis. Descriptive statistics were utilized to characterize the respondents' demographic characteristics as well as the response distribution for each variable. Furthermore, various diagnostic tests such as Normality, Heteroscedasticity and Multicollinearity test were conducted to decide whether the model used in the study is appropriate and to fulfill the assumption of classical linear regression model. Finally, Regression analysis was carried out to determine the relationship between the independent variables and the dependent variable.

3.8 Validity and Reliability

3.8.1 Validity

The data collection instruments are adopted from established scales (UTAUT2 model by Venkatesh et al. (2012). These instruments have strong construct and content validity, and it is confirmed by previous studies. A pilot test was conducted by using 60 respondents to ensure clarity and relevance within this study context. Various relevant literatures and past research questionnaires were adopted to ensure the validity of the research instrument. As it was adopted from various surveys regarding the adoption of virtual banking

3.8.2. Reliability

To ensure the internal consistency of the items, reliability testing was conducted after collecting pilot data. The reliability of the data collection instruments was evaluated by using Cronbach's

alpha which is a statistical measure that evaluates the internal consistency of the measuring scale items. It was used to compute the reliability of each dimension of the UTAUT2 model (performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value and habit), as well as consumers adoption of virtual banking . By validating the instruments, the study ensures both the validity and reliability of the data collection process. Based on reliability statistics analysis, Cronbach's Alpha value of each variable is above 0.7 which shows that there is a strong internal consistence among questions.

Table 1: Reliability Test

Reliability Statistics

No.	Cronbach's Alpha	No. of Items
PE	.941	4
EE	.913	4
SI	.708	4
FC	.833	4
HM	.898	3
PV	.937	4
HB	.948	4
CAVB	.908	4

Source: SPSS output (2025)

3.9. Ethical Consideration

This study was established ethical guidelines to ensure the research process is conducted with respect for participants' rights. Before their involvement all participants were informed about the purpose of the study and the information collected from participants would be strictly confidentiality. Personal identifiers were not be disclosed, the researcher was honest and transparent throughout all process of his research and misrepresentation or manipulation of data was strictly avoided.

CHAPTER 4

Result and Discussion

4.1. Introduction

The previous chapters presented the introduction, literature review and the research Methodology to be followed. This chapter presents results relating to the factors affecting consumers' adoptions in virtual banking at bank of Abyssinia west Addis district. The chapter presents the descriptive statistics results of the study variables. In addition, the chapter presents different diagnostics test results. Then, the chapter presents results of the correlation and regression analysis and discusses the results.

4.2. Response Rate

The researcher distributed questionnaires for a total of 384 BOA virtual banking users. Out of the total respondents, 11 respondents were not returned and 373 useable respondents were obtained to enable a meaningful analysis of the data with response rate of 97.14.

Table 2. Total Number of questionnaires distributed and returned

Questionnaires	Number	Percentage
Returned	373	97.14
Unreturned	11	2.86
Total	384	100

Source survey of the researcher (2025)

4.3 Respondents' Demographic Profiles

4.3.1 Sex of respondents

The table illustrates the distribution of virtual banking users in both sexes. From a total of 373 respondents, 214(57.4%) are males whereas 159(42.6%) are females.

Table 3: Sex of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	214	57.4	57.4	57.4
	female	159	42.6	42.6	100.0
	Total	373	100.0	100.0	

Source: survey 2025

4.3.2 Age of respondents

The table illustrates the distribution of virtual banking users across different age groups. Out of 373 respondents, 138 (37%) are 18 to 30 years old; 118 (31.6%) are 31 to 40 years old; 104 (27.9%) are 41 to 50 years and 13 (3.5%) respondents are above 50 years old.

Table 4: Age of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30	138	37.0	37.0	37.0
	31 - 40	118	31.6	31.6	68.6
	41-50	104	27.9	27.9	96.5
	above 51	13	3.5	3.5	100.0
	Total	373	100.0	100.0	

Source: Survey 2025

4.3.3 Education level of respondents

Among 373 respondents, 26(7%) have education level below grade 12, 52(13.9%) completed diploma, 177(47.5%) are degree holders, 116 (31.1%) and 2 (0.5%) are masters and PhD holders respectively. Among various groups of education levels, most of virtual users are degree and masters holders.

Table 5. Education level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than or equal to 12 grade	26	7.0	7.0	7.0
	diploma	52	13.9	13.9	20.9
	Degree	177	47.5	47.5	68.4
	Masters	116	31.1	31.1	99.5
	PhD	2	.5	.5	100.0
	Total	373	100.0	100.0	

Source: SPSS Output (2025)

4.3.4 Time length being BOA customer

The graph shows the distribution of virtual banking users across various experiences being served by Bank of Abyssinia. Among 373 respondents, 11 (2.9%) are being served for less than one year; 185 (49.6%) respondents are served from one to five years; 166 (44.5%) and 11 (2.9) respondents are served from 6-10 and above 10 years respectively. From this analysis, majority of respondents are being customers of BOA from 1 to 5 years and 6 to 10 years respectively.

Table6: Time length being BOA customer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1year	11	2.9	2.9	2.9

	1-5 years	185	49.6	49.6	52.5
	6-10 years	166	44.5	44.5	97.1
	above 10 years	11	2.9	2.9	100.0
	Total	373	100.0	100.0	

Source: SPSS Output (2025)

4.4 Likert Scale Values and Analysis of Aggregated Responses

Table 7. Performance Expectancy

	N	Mean	Std. Deviation
I get the service useful for daily life.	373	3.88	1.100
Using VB helps me to do things quickly	373	4.02	1.077
Using VB increases my productivity.	373	4.06	.957
Using VB increases my chances of achieving things that are important to me.	373	3.67	1.115
Valid N (listwise)	373		

Source: Survey 2025

Table8: Effort Expectancy

	N	Mean	Std. Deviation
Learning how to use the ITM is easy for me.	373	3.48	1.096
My interaction with the service is clear and understandable	373	3.65	1.193
I find the ITM easy to use.	373	3.81	1.067
It is easy for me to become skillful at using the VB.	373	3.77	.955
Valid N (listwise)	373		

Source: Survey 2025

Table 9: Table: Social Influence

	N	Mean	Std. Deviation
People who are important to me think that I should use VB.	373	3.57	1.094
People who influence my behavior think that I should use VB.	373	3.76	.724
People whose opinions that I value prefer that I use VB.	373	3.87	.795
Most people around me are using VB.	373	4.22	.694
Valid N (listwise)	373		

Source: Survey 2025

Table 10: Facilitating Conditions

	N	Mean	Std. Deviation
I have the resources necessary to use VB.	373	4.05	.751
I have the knowledge necessary to use VB	373	3.99	.877
The ITM is compatible with other technologies I use.	373	3.66	1.133

I can get help from others when I have difficulties using VB.	373	3.72	1.017
Valid N (listwise)	373		

Source: Survey 2025

Table 11: Hedonic motivation

	N	Mean	Std. Deviation
Using VB is fun.	373	3.69	1.036
Using the ITM is enjoyable.	373	4.00	.940
Using the ITM is very entertaining	373	3.78	1.117
Valid N (listwise)	373		

Source: Survey 2025

Table 12: Price Value

	N	Mean	Std. Deviation
VB service is reasonably priced	373	3.78	1.063
VB is a good value for the money	373	4.00	.933
At the current price, VB provides a good value	373	3.90	1.064
When I use VB services, I can save money.	373	3.71	1.054
Valid N (listwise)	373		

Source: Survey 2025

Table 13: Habit

	N	Mean	Std. Deviation
The use of VB has become a habit for me.	373	3.83	.957
I am addicted to using VB services.	373	3.60	1.067
I must use VB services.	373	3.73	1.058
Using VB has become natural to me.	373	3.74	1.040
Valid N (listwise)	373		

Source: Survey 2025

Table 14: Consumers' Adoption on Virtual Banking

	N	Mean	Std. Deviation
I intend to continue using virtual banking,	373	3.25	1.072
I will keep using virtual banking as regularly as I do now.	373	3.64	1.037
My intention is to continue using virtual banking than use any alternative means.	373	3.71	1.022
I will strongly recommend others to use virtual banking.	373	3.91	.981
Valid N (listwise)	373		

Source: Survey 2025

4.5. Summary of Cumulative Responses to Items on the Likert Scale

Table 15: Summary of Cumulative Responses to Items on the Likert Scale

	N	Mean	Std. Deviation
PE	373	3.9088	.98138
EE	373	3.6769	.96313
SI	373	3.8546	.61494
FC	373	3.8572	.78023
HM	373	3.8239	.94264
PV	373	3.8458	.94508
HB	373	3.7245	.95884
CAVB	373	3.6273	.91085
Valid N (listwise)	373		

Source: SPSS Output (2025)

The cumulative descriptive analyses were summarized to provide a visual representation of distribution of responses. The analysis presents the most and least agreed-upon statements. Performance expectancy has 3.90 mean value with 0.98 standard deviation, effort expectancy with a mean of 3.67 and 0.96 standard deviation, social influence with a mean of 3.85 and 0.61 standard deviation, facilitating conditions with a mean of 3.85 and 0.78 SD, hedonistic motivation with a mean of 3.82 and 0.94 SD, price value with a mean of 3.84 and 0.94 SD, habit with a mean of 3.72 and 0.95 SD, and consumers' adoption in virtual banking with a mean of

3.62 and 0.91 standard deviation. Thus, PE and FC have highest mean value of 3.90 and 3.85 respectively. However, EE has lowest mean value of 3.67.

4.5 Correlation Analysis

Correlation, as defined by Schober (2018), is a statistical metric that quantifies the extent to which two variables are linearly connected. This connection is represented by the correlation coefficient, which fluctuates between -1 and +1. A correlation coefficient of +1 denotes a flawless positive correlation, where both variables simultaneously increase or decrease. On the flip side, a coefficient of -1 represents a perfect negative correlation, with one variable rising as the other falls. A coefficient of 0 signifies the absence of correlation, indicating no linear association between the variables. The Pearson product-moment correlation coefficient was used to determine the strength and direction of the associations.

Table. Example of a Conventional Approach to Interpreting a Correlation Coefficient

Absolute Magnitude of the Observed Correlation Coefficient	Interpretation
0.00–0.10	Negligible correlation
0.10–0.39	Weak correlation
0.40–0.69	Moderate correlation
0.70–0.89	Strong correlation
0.90–1.00	Very strong correlation

Figure 7: Correlation Coefficients: Appropriate Use and Interpretation (Schober, 2018)

Based on Schober (2018), the result showed that there is a positive correlation between the independent variables and dependent variable (CAVB).Habit had very strong correlation with consumers' adoption towards the use of VB (r=0.925). Price value had very strong correlation with habit and effort expectance (r=0.909; r=0.908) respectively. SI and FC have moderate correlations with PE (r=0.655; r=0.670) respectively. The entire rest variables have strong correlation with one another at different correlation coefficient value. These correlations

provided insights for enhancing the overall customer experience with virtual banking services and highlight the significance of these factors in influencing consumers' adoption.

Table 16. Correlation Analysis

Correlations									
		PE	EE	SI	FC	HM	PV	HB	CAVB
PE	Pearson Correlation	1							
	Sig. (2-tailed)								
	N	373							
EE	Pearson Correlation	.863**	1						
	Sig. (2-tailed)	.000							
	N	373	373						
SI	Pearson Correlation	.655**	.763**	1					
	Sig. (2-tailed)	.000	.000						
	N	373	373	373					
FC	Pearson Correlation	.670**	.783**	.846**	1				
	Sig. (2-tailed)	.000	.000	.000					
	N	373	373	373	373				
HM	Pearson Correlation	.846**	.868**	.818**	.853**	1			
	Sig. (2-tailed)	.000	.000	.000	.000				
	N	373	373	373	373	373			
PV	Pearson Correlation	.868**	.908**	.761**	.776**	.872**	1		
	Sig. (2-tailed)	.000	.000	.000	.000	.000			
	N	373	373	373	373	373	373		
HB	Pearson Correlation	.835**	.888**	.754**	.771**	.845**	.909**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.00		

							0		
	N	373	373	373	373	373	373	373	
CA VB	Pearson Correlation	.870**	.855**	.771**	.755**	.855**	.880**	.925**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	373	373	373	373	373	373	373	
**. Correlation is significant at the 0.01 level (2-tailed).									

4.6. Regression Analysis

According to Albaum (1997), regression is a statistical tool used to predict the value of a dependent variable using one or more independent variables. It quantifies the strength and direction of these relationships, allowing predictions based on the values of the independent variables (Sarstedt, 2014). Multiple linear regressions, the regression employed in this study, is a statistical technique which analyses the linear relationships between a dependent variable and multiple independent variables by estimating coefficients for the equation for a straight line (Hair et al., 2004). Before conducting a multiple regression, the relationship between the independent variables must be tested for issues such as normality, multicollinearity, and homoscedasticity.

4.6.1. Normality Test

Normality assumption assesses whether the data follows a normal distribution. When assessing normality, one commonly used method is the P-P (Probability-Probability) plot. A P-P plot compares the observed cumulative distribution function (CDF) of the data against the expected CDF of a normal distribution. According to Chambers (1983) the plot displays the observed cumulative probabilities on the y-axis and the expected cumulative probabilities on the x-axis and if the data points closely follow a straight line from the lower-left corner to the upper-right corner, it suggests that the data is approximately normally distributed. Based on the preceding table analysis, the data points are highly closed to the straight diagonal line; so that the data are normally distributed.

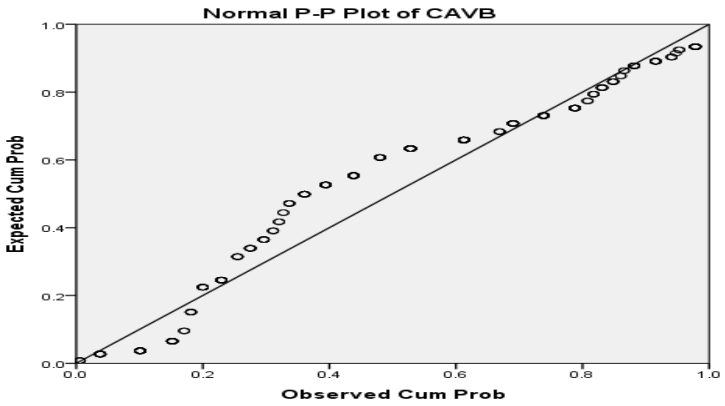

Figure 8: Normality test Source: SPSS Output (2025)

4.6.2 Multi-collinearity Test

Multicollinearity is a phenomenon in multiple regression analysis where two or more predictor variables are highly correlated. To test for Multicollinearity, all variance inflation factor (VIF) values were evaluated and found to be less than 10. As shown in the preceding table, indicates that there were no multicollinearity issues that affected the analysis of the findings.

Table 17: Multicollinearity test

Model		Unstandardized Coefficients		Collinearity Statistics
		B	Std. Error	VIF
1	(Constant)	-.340	.107	
	PE	.315	.037	5.864
	EE	-.119	.044	7.892
	SI	.251	.050	4.180
	FC	-.027	.044	5.207
	HM	.053	.046	8.301
	PV	-.010	.049	9.247
	HB	.577	.042	6.959

a. Dependent Variable: CAVB

4.6.3. Heteroskedasticity Test

Heteroskedasticity occurs when the variability of errors or residuals in a regression model does not remain constant across different levels of independent variables. In other words, the spread or dispersion of residuals varies with the values of the predictors (Kim, 2019).Scatter plot test is used to test heteroskedasticity. The table below presents that the errors are distributed randomly even though there is somehow gathered errors.

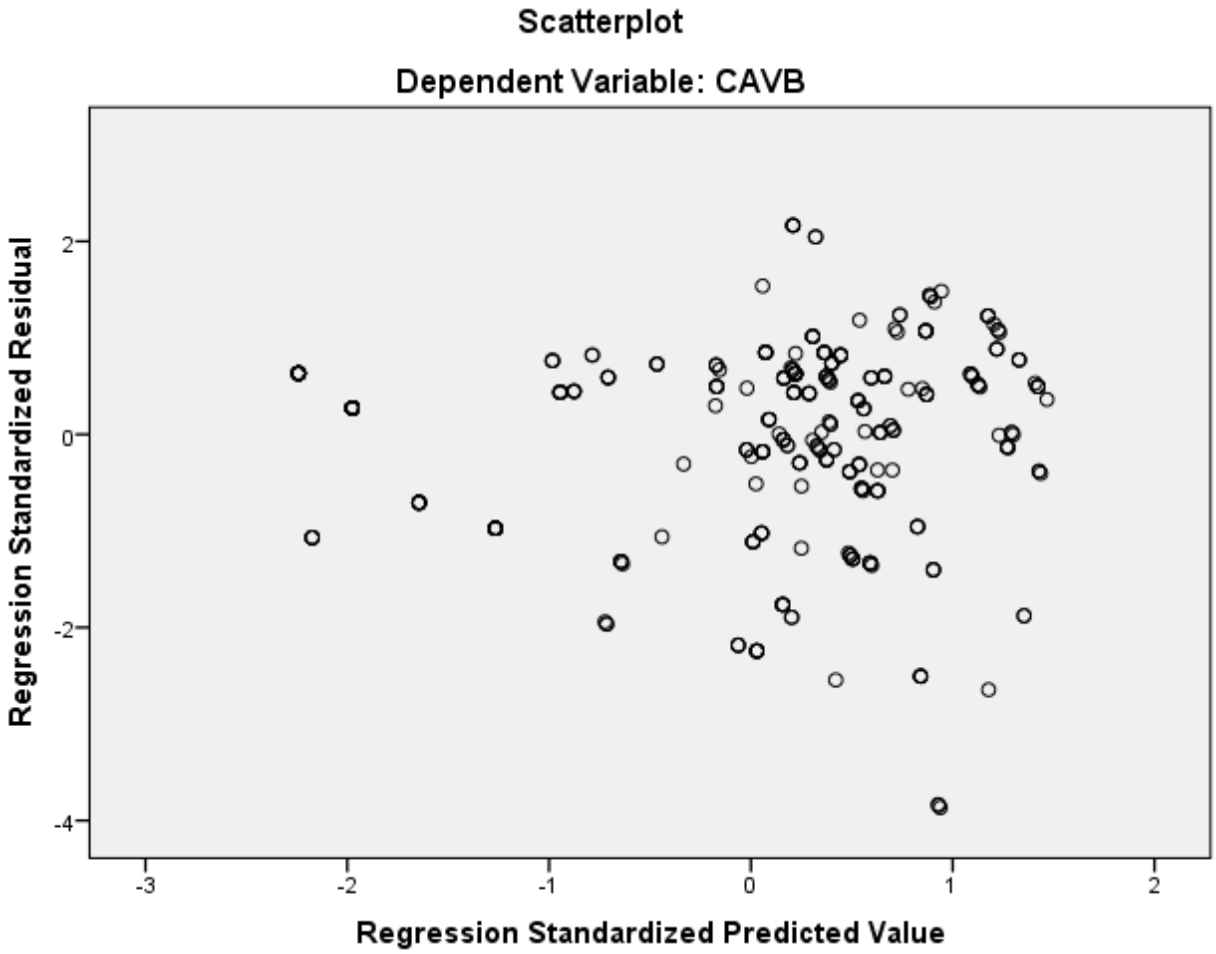

Figure 9: Heteroskedasticity Test **Source: SPSS Output (2025)**

4.6.4. Determinants of Consumers' adoption towards the use of virtual banking

The objective of the study was to assess factors influencing consumers' adoption towards the use of virtual banking. The intention to use virtual banking was measured by using seven independent variables namely; performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivations, price value and habit.

Table18: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.949[a]	.900	.898	.29113

a. Predictors: (Constant), HB, SI, PE, FC, EE, HM, PV

b. Dependent Variable: CAVB

Source: SPSS output (2025)

The proportion of the total variation in the dependent variable that can be explained by the independent variable is shown by the R square value, which is 0.90. This means that the dependent variable (consumers' adoption towards the use of VB) is explained by the combined effects of the predictor variables about 90%.

Table 19:ANOVA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	277.695	7	39.671	468.066	.000[b]
	Residual	30.935	365	.085		
	Total	308.631	372			

a. Dependent Variable: CAVB

b. Predictors: (Constant), HB, SI, PE, FC, EE, HM, PV

ANOVA basically shows whether the independent variables entered in the model have a joint influence on the dependent variable or not. The above ANOVA table shows a significant value (p-value < 0.05) which implies the entire model has acceptable goodness-of-fit. Analysis of Variance (ANOVA) focused to test if there are significant differences on the grouping factors.

Table 20: Coefficient Table

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.340	.107		-3.189	.002
	PE	.315	.037	.339	8.457	.000
	EE	-.119	.044	-.126	-2.710	.007
	SI	.251	.050	.170	5.008	.000
	FC	-.027	.044	-.023	-.621	.535
	HM	.053	.046	.055	1.147	.252
	PV	-.010	.049	-.010	-.207	.836
	HB	.577	.042	.607	13.885	.000

a. Dependent Variable: CAVB

CAVB=- .340+0.315PE -.119EE+.251SI- .027FC+.053HM-.010PV+.577HB+ e

The beta (b) value indicates the contribution of each predictor to the model and positive value shows the existence of positive relationship between the predictors and the outcome, whereas negative value shows negative relationship (Feild, 2009). The table above shows beta value of PE (b=.315), EE (b= -.119), SI (b=.251), *FC (b*=-.027), HM (b=.053), *PV* (b=-.010) and *HB* (b=.577). Based on beta value; performance expectancy, social influence, hedonic motivation and habit have a positive relationship with consumers' intention to use virtual banking. However, effort expectancy, facilitating conditions and price value have a negative relationship with consumers' intention to use virtual banking.

The relationship between effort expectancy, facilitating conditions and price value and consumer intention to use virtual banking is not statistically significant at 5% significance level or 95% confidence interval. There could be several potential reasons for the lack of a statistically significant relationship between effort expectancy, facilitating conditions and price value and consumer intention to use virtual banking based on the analysis, despite the existing literature suggesting a significant relationship. Here are some possible explanations:

Sample Characteristics: The participants in this survey might have different demographic or behavioral characteristics compared to the populations studied in previous literature. This variation in sample composition could influence the relationship between effort expectancy, facilitating conditions and price value and consumer intention to use virtual banking.

Measurement Differences: Differences in how effort expectancy, facilitating conditions and price value and consumer intention to use virtual banking were measured in this study compared to previous research could contribute to the disparity in findings. Variances in survey questions,

scales, or metrics used to assess these constructs might affect the statistical significance of their relationship.

Contextual Factors: The specific context in which this study was conducted might introduce unique factors that moderate the relationship between effort expectancy, facilitating conditions and price value and consumer intention to use virtual banking. Factors such as cultural differences, market conditions, or specific features of virtual banking might influence the perceived importance of effort expectancy, facilitating conditions and price value in the adoption decision.

According to (Gujarati, 2004) in statistics, the p-value to reject the null hypothesis should be less than 0.05, and possible to conclude that our finding is statistically significant. On the other hand, if the p-value is greater than 0.05, we do not reject the null hypothesis; we say that our finding is not statistically significant. From the above table; PE, EE, SI and HB are significant at 5% level with p-value of 0.00, 0.07, 0.00 and 0.00 respectively. Consequently, the null hypothesis is rejected. The other variables facilitating conditions, hedonic motivation and price value have a p-value of greater than 0.05 and they are insignificant so that the null hypothesis not rejected.

4.7. Hypothesis Test

Table 20: Hypothesis Test

No.	Hypothesis	Result
1	Performance expectancy has a positive influence on VB adoption.	Yes
2	Effort Expectancy has a positive influence on VB adoption.	Yes
3	Social influence has a positive influence on VB adoption.	Yes
4	Facilitating condition has a positive influence on VB adoption.	No
5	Hedonic motivation has a positive influence on VB adoption.	No
6	Price value has a positive influence on VB adoption.	No
7	Habit has a positive influence on VB adoption.	Yes

Chapter Five

5. Summary of Major Findings, conclusion and Recommendation

5.1. Introduction

The main objective of this research was to identify the factors influencing consumers' adoption towards the use of virtual banking in the case of Bank of Abyssinia. Based on the data analysis and interpretation, the finding, the conclusion and the recommendations of the study are summarized as follows.

5.2. Major Findings

The finding of the study provides valuable insights into determinants of virtual banking adoption revealing that multiple factors significantly influence consumers' decision to use VB. Performance expectancy is one of the most crucial determinants with positive coefficient value of 0.315. This implies that consumers are most probably to adopt virtual banking if they perceive it capable of maximizing their overall performances. Therefore, performance expectancy has a positive significant influence on consumers' intensions to use virtual banking. Social influence, hedonic motivation and habit also have a positive relationship with VB adoption with coefficient value of (b=0.251, b=0.53 and b=0.577) respectively. In other side, effort expectancy, facilitating conditions and price value have a negative relationship with VB adoption with coefficient value of (b= -0.119, b= -0.027 and b= -0.010) respectively.

5.3. Conclusion

The study found that performance expectancy, effort expectancy, social influence and habit significantly affect consumers' adoption in VB service (p= less than or equal 0.05). This implies that customers place a high value on quick service delivery, how to use it, influence of people around them, and frequent use of VB service. Whereas facilitating conditions, hedonic

motivation and price value are less important or did not provide sufficient evidence to conclude that have significant effect on consumers' adoption with p- value greater than 0.05.

5.4. Recommendations

Based on the data analysis and result, the following listed recommendations are given on factors influencing consumers' adoption towards virtual banking service.

Focusing on Performance expectancy can maximize productivity, quick service delivery, save time, and provide utility in daily life. BOA leaders should plan how the service can improve efficiency and convenience for users.

Any technological product offered to provide multipurpose services should be easily understandable and adaptable. Enhancing effort expectancy in VB service positively enforce to use the service.

Emphasis on Social influence leads consumers to use virtual banking. Using social Medias, advertising, inviting influential person and letting him to present shows, rewards clear for users can positively enforce BOA and other bank customers towards virtual banking.

Developing consumers' habit also ignites the intention of users to adopt virtual banking services. BOA leaders and followers should assist customers to develop a habit they can behave and experience frequently by using virtual banking services.

5.5. Suggestion for Further research

The researcher suggests for further research to explore the impacts of mediating Variables, studies across all virtual banking service providers companies and qualitative studies for in-depth insights.

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APPENDIX

Appendix I: Questionnaires

Dear respondents first of all I would like to thank you for your willingness to fill this questionnaire. The purpose of this research is to collect data on "Factors affecting consumers' adoption in virtual banking in case of bank of Abyssinia s.c".

The collected information through this questionnaire will be used only for research purposes as part of a research for master's degree in Business Leadership at the Addis Ababa University. All the information that you provided will be kept confidential and it will not be used for any other purposes.

PART- I Demography of respondents

Put a tick mark (√) on your choice

1. Gender: Male ( )Female( )
2. Age: 18- 30 ( ) 31-40 ( ) 41-50 ( ) above 51 ( )
3. Level of education

   Less than or equal to grade 12 ( ) Diploma ( ) Degree ( ) Masters ( ) Phd ( )
4. For how long have you been a customer of Bank of Abyssinia?

   Less than 1year ( ) 1-5 years ( ) 6-10 years ( ) above 10 years ( )

Part II. UTAUT Dimensions

The following questions will be used to measure technology acceptance of consumers in BoA S.C. Response ranges are set from "strongly disagree to strongly agree". Please indicate that by Putting a tick mark (√) in a given appropriate column aaccording to your experience of the service offered by virtual banking centers in BoA.

Note:- 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree

Performance expectancy (PE)	1	2	3	4	5
PE1. I get the service useful for daily life.					
PE2. Using VB helps me to do things quickly.					
PE3. Using VB increases my productivity**.**					
PE4. Using VB increases my chances of achieving things that are important to me.					

Effort Expectancy (EE)	1	2	3	4	5
EE1.Learning how to use the ITM is easy for me.					
EE2.My interaction with the service is clear and understandable.					
EE3.I finds the ITM easy to use.					
EE4. It is easy for me to become skilful at using the VB.					

Social Influence(SI)	1	2	3	4	5
SI1. People who are important to me think that I should use VB.					
SI2. People who influence my behaviour think that I should use VB.					
SI3. People whose opinions that I value prefer that I use VB.					
SI4. Most people around me are using VB.					

Facilitating conditions(FC)	1	2	3	4	5
FC1. I have the resources necessary to use VB.					
FC2. I have the knowledge necessary to use the game.					
FC3.The ITM is compatible with other technologies I use.					
FC4.I can get help from others when I have difficulties using VB.					

Hedonistic motivation(HM)	1	2	3	4	5
HM1. Using VB is fun.					
HM2. Using the ITM is enjoyable.					

HM3. Using the ITM is very entertaining.					

Price Value(PV)	1	2	3	4	5
PV1. VB service is reasonably priced.					
PV2. VB is a good value for the money.					
PV3.At the current price, VB provides a good value.					
PV4. When I use VB services, I can save money.					

Habit(HB)	1	2	3	4	5
HB1.The use of VB has become a habit for me.					
HB2. I am addicted to using VB services**.**					
HB3. I must use VB services.					
HB4. Using VB has become natural to me.					

Consumer Adoption of Virtual Banking	1	2	3	4	5
CAVB1.I intend to continue using virtual banking,					
CAVB2.I will keep using virtual banking as regularly as I do now.					
CAVB3.My intention is to continue using virtual banking than use any alternative means.					
CAVB4.I will strongly recommend others to use virtual banking.					

Appendix I: Reliability Test

Reliability Statistics

No.	Cronbach's Alpha	N of Items
PE	.941	4
EE	.913	4
SI	.708	4
FC	.833	4

HM	.898	3
PV	.937	4
HB	.948	4
CAVB	.908	4

Appendix II: Demographic profile of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	214	57.4	57.4	57.4
	female	159	42.6	42.6	100.0
	Total	373	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30	138	37.0	37.0	37.0
	31 - 40	118	31.6	31.6	68.6
	41-50	104	27.9	27.9	96.5
	above 51	13	3.5	3.5	100.0
	Total	373	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than or equal to 12 grade	26	7.0	7.0	7.0
	diploma	52	13.9	13.9	20.9
	Degree	177	47.5	47.5	68.4
	Masters	116	31.1	31.1	99.5
	PhD	2	.5	.5	100.0
	Total	373	100.0	100.0	

	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 1year	11	2.9	2.9	2.9
1-5 years	185	49.6	49.6	52.5
6-10 years	166	44.5	44.5	97.1
above 10 years	11	2.9	2.9	100.0

Total	373	100.0	100.0	

Appendix III. Descriptive statistics

	N	Mean	Std. Deviation
PE	373	3.9088	.98138
EE	373	3.6769	.96313
SI	373	3.8546	.61494
FC	373	3.8572	.78023
HM	373	3.8239	.94264
PV	373	3.8458	.94508
HB	373	3.7245	.95884
CAVB	373	3.6273	.91085
Valid N (listwise)	373		

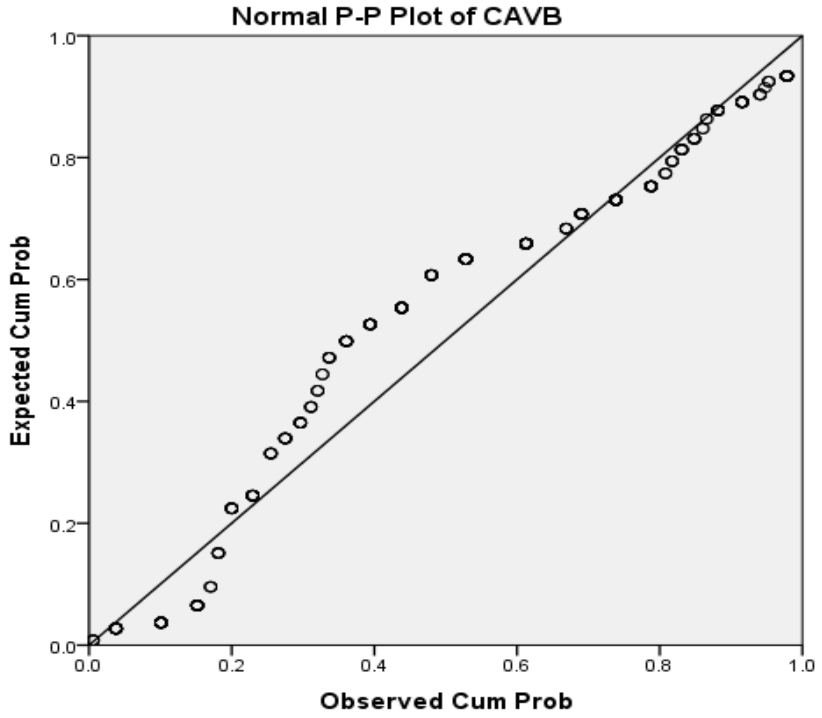
Appendix IV. Correlation analysis

Correlations

		PE	EE	SI	FC	HM	PV	HB	CAVB
PE	Pearson Correlation	1							
	Sig. (2-tailed)								
	N	373							
EE	Pearson Correlation	.863**	1						
	Sig. (2-tailed)	.000							
	N	373	373						
SI	Pearson Correlation	.655**	.763**	1					
	Sig. (2-tailed)	.000	.000						
	N	373	373	373					
FC	Pearson Correlation	.670**	.783**	.846**	1				
	Sig. (2-tailed)	.000	.000	.000					
	N	373	373	373	373				
HM	Pearson Correlation	.846**	.868**	.818**	.853**	1			
	Sig. (2-tailed)	.000	.000	.000	.000				
	N	373	373	373	373	373			

PV	Pearson Correlation	.868**	.908**	.761**	.776**	.872**	1		
	Sig. (2-tailed)	.000	.000	.000	.000	.000			
	N	373	373	373	373	373	373		
HB	Pearson Correlation	.835**	.888**	.754**	.771**	.845**	.909**	1	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		
	N	373	373	373	373	373	373	373	
CAVB	Pearson Correlation	.870**	.855**	.771**	.755**	.855**	.880**	.925**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	
	N	373	373	373	373	373	373	373	
**. Correlation is significant at the 0.01 level (2-tailed).									

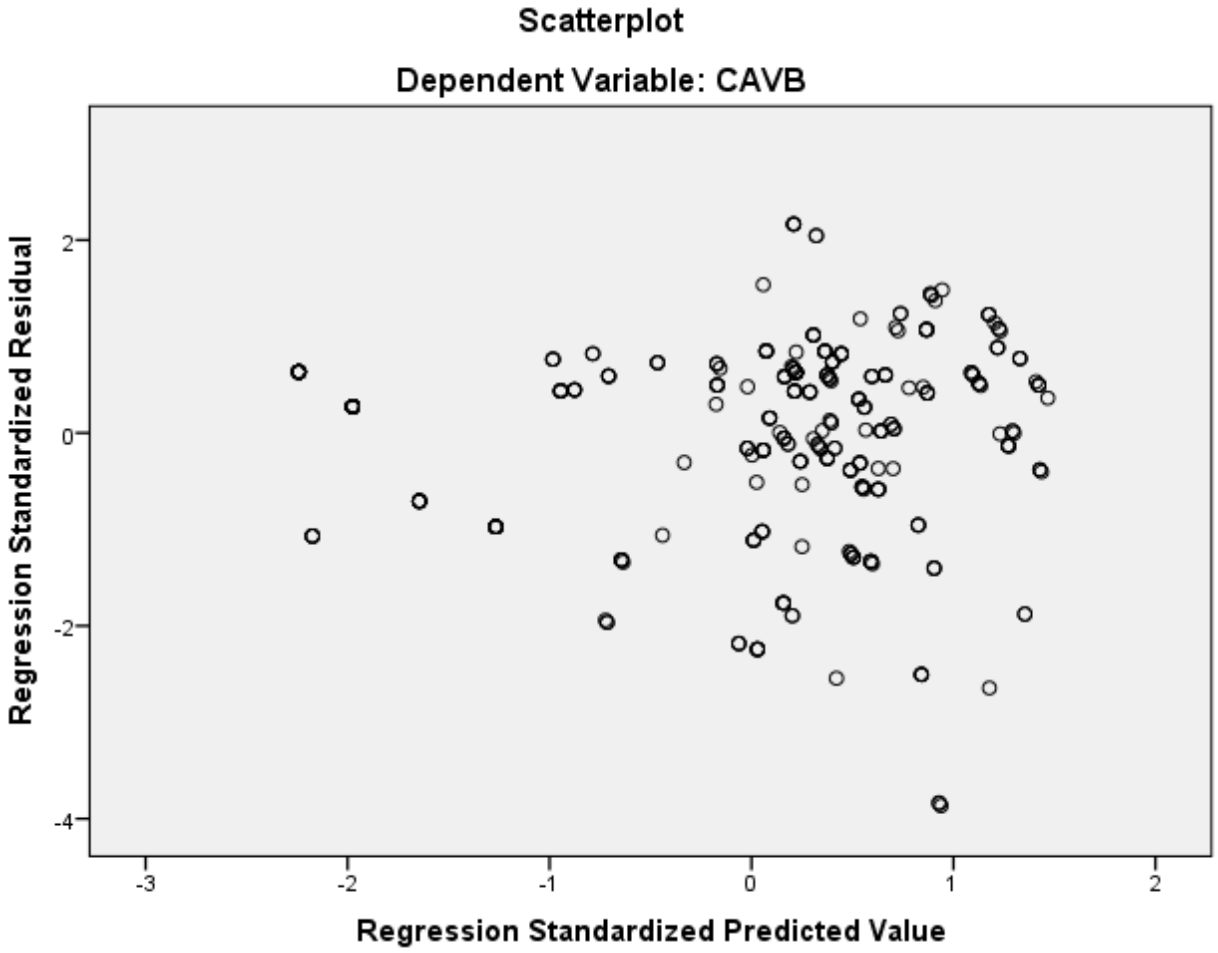
Appendix X. Regression Analysis



Multicollinearity test

Model		Unstandardized Coefficients		Collinearity Statistics
		B	Std. Error	VIF
1	(Constant)	-.340	.107	
	PE	.315	.037	5.864
	EE	-.119	.044	7.892
	SI	.251	.050	4.180
	FC	-.027	.044	5.207
	HM	.053	.046	8.301
	PV	-.010	.049	9.247
	HB	.577	.042	6.959

a. Dependent Variable: CAVB



Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.949[a]	.900	.898	.29113

ANOVA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	277.695	7	39.671	468.066	.000[b]
	Residual	30.935	365	.085		
	Total	308.631	372			

Coefficient Table

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.340	.107		-3.189	.002
	PE	.315	.037	.339	8.457	.000
	EE	.119	.044	-.126	-2.710	.007
	SI	.251	.050	.170	5.008	.000
	FC	-.027	.044	-.023	-.621	.535
	HM	.053	.046	.055	1.147	.252
	PV	-.010	.049	-.010	-.207	.836
	HB	.577	.042	.607	13.885	.000