



**St. Mary University
School Of Graduate Studies**

**MASTER OF BUSINESS ADMINISTRATION
GRADUATE PROGRAM
FACTORS AFFECTING CUSTOMERS' INTENTION TO
ADOPT ATM BANKING IN COMMERCIAL BANK OF
ETHIOPIA**

BY: - ELENI BERHANU

RESEARCH ADVISOR. - TEWODROS MESFIN (PHD)

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ADDIS ABABA, Ethiopia

**FACTORS AFFECTING CUSTOMERS' INTENTION TO
ADOPT ATM BANKING IN COMMERCIAL BANK OF
ETHIOPIA**

**A Thesis Submitted to the School of Graduate Studies of St. Mary's
University in Partial Fulfillment of the Requirements for the Degree of Master
of Business Administration**

BY: Eleni berhanu assefa

ADVISOR: TEWODROS MESFIN (PHD)

**JUNE, 2021
Addis Ababa, Ethiopia**

Statement of Declaration

Statement of Declaration I hereby declare that the work which is being presented in this thesis entitled “Factors Affecting Customer’s intention to Adopt ATM Banking system on Commercial Bank of Ethiopia” is original work of my own, has not been presented for a degree to any other university and all the materials used for the thesis have been duly acknowledged.

Eleni berhanu assefa

(Candidate)

Date

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APPROVED BY BOARD EXAMINERS

Dean, graduate studies

Signature and Date

Advisor

Signature and Date

External examiner

Signature and Date

Internal examiner

Signature and Date

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Abstract

This research project aims to explore Factors Affecting Customer's intention to Adopt ATM banking system on Commercial Bank of Ethiopia. The study was conducted based on the data gathered from commercial bank of Ethiopia south Addis district.

In order to achieve the objective of this study and answer the research questions, the researcher adopted mixed research design (both descriptive and explanatory research design).The study was conducted based on the data gathered from the user of commercial bank of Ethiopia.. The data collected was analyzed using descriptive statistics by using SPSS version 20.. A research framework developed based on the Technology Acceptance Model (TAM) was used to guide the study.

The study revealed the following major driving factors in adopting of ATM banking among commercial banks in Ethiopia; perceived usefulness, perceived ease of use, perceived risk, intention to use, convenience, are major factors.

The study recommended banks should launch campaigns to create direct awareness to potential adopters, issues such as fear of the lack of privacy and security, together with relative advantages of using ATM banking system. The results obtained from regression output indicated that among the studied variables, Perceived usefulness, ease of use, intention to use and convenience were found to be statistically significant determinant of adoption of ATM banking

Keywords: *intention to use, Adoption, ATM Banking*

List of Acronyms

CBE	Commercial bank of Ethiopia
EU	Ease of use
ATM	Automated teller machine
IU	Intention to use
PR	Perceived risk
PU	Perceived usefulness
TPB	Theory of Planned Behavior
TAM	Theory Acceptance model
TRA	Theory of Reasoned Action
TPB	Theory of planned behavior
CRM	Customer Relations Management
POS	point of sale
ANOVA	Analysis of Variance
E-payment	Electronic Payment

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CHAPTER ONE

1. INTRODUCTION

1.1 Background of the Study

The condition which we refer to as “change” has had an effect on the way we do things and live, and will continue to do so as long as it is an inevitable or unchangeable state of the planet. Economic, social, political, technical, and other factors all contribute to change. The advent or coming of information technologies, which have done a lot in the banking industries around the world, is one of the manifestations of technological changes. According to og-buji et al. (2012), converging technological forces have dramatically changed the manual way that banks deliver service, paving the way for electronic distribution platforms in recent years. One of the outcomes of this situation is the automated teller machine, which is replacing paper based payment instruments.

Technological innovations play a crucial role in banking industry by creating value for banks and customers that it enables customers to perform banking transactions without visiting a brick and mortal banking system. E-banking has enabled banking institutions to compete more effectively in the global environment by extending their products and services beyond the restriction of time and space (Turban, 2008). With the introduction of communication and computer technology, and its attendant revolution of information processing, electronic banking has become the order of the day resulting in the emergence of various automated devices enabling the banking industry to improve the speed and quality of service delivery and rapidly changed how banking is done worldwide. The volume and speed of banking transactions have tremendously improved, especially in the developed countries. Its various innovations have brought about reduction in costs, wide range of banking services, and greater convenience for customers (Ayodeji,2003).

E-banking has become the way for the development of banking system, and the role of electronic banking is increasing in many countries. It offers opportunities to create services processes that demand few internal resources, and therefore, lower cost. As well as it provides wider

availability and possibility to reach more customers (Mohammad, 2012). E-banking, a system that enables banks to offer their customers access to their accounts to transact business and obtain information via electronic communication channels such as Automated Tellers Machines (ATMs), Tele-banking, home banking and internet banking is becoming a common practice across the developed world (Pikkarainen et al,2004).

But the implementation of E-banking system is not likely to be considered successful if user's are unmotivated to use that type of technology, and thus it will not bring full benefits to the organization. In order to motivate customers to use electronic banking, banks must make key improvements that address the customers' concerns. Although electronic banking introduces many benefits for banks and customers; customers still fear from the risk of electronic banking services (Mohammad, 2012).

Modern banking in Ethiopia, which was introduced in 1905, is finally making a leap to catch up with innovative banking services and products. One can easily observe that the home grown banks are introducing a new range of banking services based on ATM, Internet Banking, Mobile Banking, POS, SMS and Call Center banking as an extension of their traditional branch services. Commercial bank of Ethiopia is a state owned institution. The bank was the first in the country to offer ATM banking to local customers. Cash withdrawals, bill payments, fund transfers, mobile top up, balance inquiry and other services are offered by the bank via ATM.

Since the mid –eighties, the factors that promote the adoption of information technology have received a lot of attention. Adoption of new technology is characterized as the process by which a person commits to using an invention indefinitely. E-banking has become increasingly prevalent, employed by many financial institutions to reduce costs associated with having personnel serve customers physically, shorten processing periods, increase speed, improve the flexibility of business transactions and provide better service overall (Shih & Fang, 2004). Also, with the rapid progress of other types of electronic, largely Internet based services; there has been increased interest in e- banking services.

With the rapid growth of e payment technology, online banking has played an important role in the e-payment area which provides an online transaction platform to support many e-commerce applications. Banks have been using the e payments as one of their distribution channels because e payment Banking services benefit both the banks and their customers (Karjaluto, 2002). It has

become the most profitable distribution channel of the banks because it can help banks to save costs. It is convenient for the customers to execute their bank transactions or contact their banks faster, anytime and anywhere. Many companies in the financial services sector have been quick to implement electronic service is becoming a viable option for interaction between financial service providers and their customers (Rotchanakitumnuai, & Speece, 2004).

1.2 Statement of the problem

ATM banking has number of benefits but in spite of number of potential benefits many problems occur before ATM banking can become extensively adopted by customers Despite the fact that ATM provide alternative self banking delivery services such as withdrawals, balance enquiry, and fund transfers 24 hours a day, 7 days a week without the assistance of bank personnel (jemal, A. and naser , K.,2002).

Commercial bank of Ethiopia and also other private banks are investing huge capital to provide banking services to their customers through them. Some of the factors that affect customer intention to adopt ATM banking are usability issues which is many people are not aware of the good side of ATM machine or don't like to use the machine they prefer the conventional (physical banking).

Some people think that it is difficult to operate. security and privacy issue which means customers have concern regarding security of ATM machine, the other is trust issue meaning customers don't rely on ATM machines because of threats associated with it, the other is accessibility issue customers face problems when the server or system of the bank has to be closed for maintenance purpose or for upgrading or it is not have enough money to provide more over customers expect 24/7 support and service from the bank. Since in the modern era customers demand a lot from the banking service especially from ATM machine so in order to maintain ATM banking customers or to stay competitive with other private banks it is vital to provide them the best service by understanding their needs and complain. So that it is very important for commercial bank of Ethiopia and also for other banks to know the factor that are more important for the adoption ATM banking from customer point of view. By understanding these factors banks can make their policies and improve their services accordingly that would help them to attract customers.

It is very important to investigate current problems through Empirical data we can take example

like The study conducted by Yitbarek and Zeleke (2013) on Analyzing the factors influencing customers' intention to the adoption of e-banking service channels in Bahir Dar city with integration of Technology Acceptance Model, Theory of Planned Behavior and previous empirical studies identified seven factors; attitude, subjective norm, perceived behavioral control, perceived usefulness, perceived ease of use and perceived risk affecting users' behavioral intention to use E-banking. Results also revealed that the construct perceived behavioral control is the dominant factor followed by perceived ease of use and attitudes in predicting an individual's intention to accept e-banking service channels. The regression result also shows that attitude is jointly predicted by perceived behavioral control, perceived usefulness, perceived ease of use, and perceived risk while perceived ease of use contributed more for the variation in attitude. The other research work related to this paper is the survey study made by Ayana Gemechu Bultum (2012), in which he examined adoption of E-banking in the Ethiopian banking industry with respect to the barriers which can influence firms from taking advantage of E-banking systems and expected benefits derived by adopting the system. The study was conducted based on the data collected from four banks in Ethiopia; three private banks and one state bank. The result of the study indicated that the major barriers the Ethiopian banking industry faces in the adoption of Electronic banking are mainly Security risk, lack of trust which emanated from security risk, lack of legal and regulatory framework, lack of ICT infrastructure, etc. This study suggested a series of measures which could be taken by the banking industry and by the government to address various challenges identified in the research work. The paper try to investigate these issues and producing evidence based result that not only help the banks to make knowledge based decision but also will become input for customers in adopting technology based banking services. Keeping in view the above discussion the researcher focus to conduct a research study in which the most important factor that can have intention on customers to adopt ATM banking is identified and analyzed.

1.3 Research Questions

The research is conducted based on the following major questions.

1. Does usefulness affect the adoption of ATM banking?
2. How does ease of use affect ATM adoption?
3. How perceived risk can affect adoption of ATM banking?
4. How conveniences affect the adoption of ATM on the customers?

1.4 Objectives of the Study

1.4.1 General Objective

The main objective of the study is to examine the factors affecting customers' intention to use ATM banking service in Addis Ababa city.

1.4.2 Specific Objectives

Specifically the study will attempt:-

1. To assess the effect of usefulness on adoption of ATM banking.
2. To assess the effect of ease of use on consumer adoption of ATM banking.
3. To examine the effect of perceived risk on adoption of ATM banking
4. To assess the effect of Convenience on adoption of ATM banking

1.5 Significance of the Study

The stakeholders for this study were regulatory bodies, banks and financial institutions. As a result, the study's are realistic in that they offer significant input and a benchmark for policymakers and regulators to consider and assess whether to uphold or change current laws and e-payment processes, as well as for banks to adopt and update their system in order to get customer reliability. The study will pave the way for various banks to formulate effective strategy on alleviating the factors and harnessing the opportunities entailed by customer base diversification as the study pinpoints unique prospects and factors influencing customers' intention of ATM payment adoption from various perspectives. The findings of the study will inspire other researchers to conduct a more thorough and in-depth investigation of the topic.

1.6 Scope of the Study

The study was focused to investigate the major challenges of adoption of ATM banking in the banking industry of Ethiopia. The study was limited to commercial bank of Ethiopia and their branches that are located only in Addis Ababa and excluded financial institutions other than bank. The reasons for this are Ethiopia is too large for the researcher to travel all over the country. From the total population of user of commercial bank of Ethiopia only one district were selected.

There are many factors affecting adoption of E- banking. But I would try to see the following factors only and other factors are excluded Perceived usefulness, perceived ease of use, perceived risk, intention to use, and convenience

1.7 Limitation of the Study

The sample is drawn from one state owned bank called commercial bank of Ethiopia and the researcher uses non probability sampling technique, which has its own drawbacks such as an known proportion of the entire population is not included in the sample group, resulting in lack of representation of the entire population, comparison to probability sampling, there is lower level of applicability of study findings, as well as difficulties in measuring sample variability and spotting probable bias. As a result, the generalization may not apply to them. Respondents were obtained from commercial bank of Ethiopia south Addis district, however, in order to have more reliable representation. Due to misunderstandings, lack of expertise, or lack of dedication to the subject matter, respondents may not have adequately responded to the entire substance of the questionnaires that were distributed to those individuals who the researcher believes have potential, ability, and capacity to properly respond to the questioner.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Introduction

2.1.1 Types of E-banking

E-banking can be defined as a variety of platforms such as internet banking or (online banking), TV- based banking, mobile phone banking, and PC (personal computer) banking (or offline banking) whereby customers access these services using an intelligent electronic device, like PC, personal digital assistant (PDA), automated teller machine (ATM), point of sale (POS), kiosk, or touch tone telephone (Alagheband 2006). According to Alagheband, there are different types of E-banking and some of the basic are discussed as follow:

1. Automated Teller Machines (ATM) - It is an electronic terminal which gives consumers the opportunity to get banking service at almost any time. To withdraw cash, make deposits or transfer funds between accounts, a consumer needs an ATM card and a personal identification number (PIN).
2. Point-of-Sale Transfer Terminals (POS) - The system allows consumers to pay for retail purchase with a check card, a new name for debit card. This card looks like a credit card but with a significant difference. The money for the purchase is transferred immediately from account of debit card holder to the store's account (Malak 2007).
3. Internet / extranet banking- It is an electronic home banking system using web technology in which Bank customers are able to conduct their business transactions with the bank through personal computers.
4. Mobile banking- Mobile banking is a service that enables customers to conduct some banking services such as account inquiry and funds transfer, by using of short text message (SMS).

2.1.2 Benefit of ATM banking

A. The Many Social and Economic Benefits of ATMs

Since 1967, the ATM has helped create the convenience society by providing cardholders with 24 x 7 accesses to their safely banked cash. With the touch of a few buttons, they can withdraw cash, make deposits, pay bills (and even fines), do balance enquiries, and buy tickets, top up cell

phone air time, send remittances and transfer funds. Retail purchases outside of banking hours, using cash from ATMs or credit cards, have driven the extension of shopping hours beyond previous limits, providing for greater sales, greater employment opportunities and greater convenience for today's highly mobile citizens.

B. Benefits of ATMs to Banks

- ATMs save banks costs of hiring tellers by automating many “teller” transactions
- ATMs create extended service hours provided by banks beyond traditional 9-5 banking hours
- ATMs have become the customer's most popular and most used interaction with the bank and an important Customer Relations Management (CRM) and customer retention tool
- Each off-premise & branded ATM becomes an advertising and marketing tool by putting the bank's signage in front of thousands of additional potential banking customers in traditionally non-bank locations
- Branded off-premise ATMs extend the bank's visibility to current customers, providing visible reassurance of their bank's reach beyond the branch
- ATMs enable banks to re-design branches into more sophisticated customer services and sales outlets
- ATMs have enabled some banks and non-bank financial institutions to develop successful “branchless” business models
- ATMs reject unfit banknotes, helping maintain banknote standards
- ATMs reduce queues in banking halls

C. Benefits of ATMs to Cardholders

- ATMs allow citizens to draw cash outside of banking hours, enabling retail cash purchases around the clock
- ATMs save cardholders transport costs and time by bringing self-service banking into convenient, non-branch locations near to where they live, work and shop in a variety of locations such as shopping malls, supermarkets, convenience stores, railway stations, hotels, airports, petrol/gas stations, post offices, university campuses, restaurants and bars, etc, creating time-saving convenience for modern citizens
- ➤ ATMs provide cardholders travelling outside their country with a reassuringly familiar, uniform and comprehensible interface for obtaining cash
- ATMs allow for easy payment of utility bills and other functions like topping up air-time on cell/mobile phones
- ATMs can help cardholders monitor their bank accounts outside of bank hours through balance enquiries
- ATM debit cards use debit rather than credit teaching financial self-discipline as opposed to credit card payments which can, and do, get citizens into debt .

2.1.3 Disadvantage of ATM

- ATM machines can be targeted by criminals, robbers and hackers:- they are both physically and electronically vulnerable. This makes them an easy target for criminals. Malware can be used to access peoples cash skimming devices and small cameras can be fitted on to ATM machines. Other criminals can physically destroy an ATM in order to access cash. People risk being robbed using ATM machines especially in isolated areas.
- ATM machines may malfunction: - an ATM like any other machine is bound to break down, although this is rare. Some machines may fail to recognize bank cards or can run out of cash. At other times the ATM system goes offline. Also there is a limit to the amount of cash one can withdraw from ATM which can be an inconvenience if we are requiring more funds. So the

other disadvantage of ATM is that they may breakdown.

- **AT M machines are costly for the users:** - setting up ATM machine can be affordable for financial institutions, but it is not the same for the users. Banks and machine owners obtain in a lot of revenue from ATM machine in the form of fees that users are charged for using them. The transaction costs are huge disadvantage of ATM machines.
- **Lack of personal services:** - which is there will not be personal assistants to help you or to ask question to.
- **Obsolescence:** - they may become obsolete. ATM machine may slowly become obsolete due to the use of debit, credit cards, mobile money and internet banking. Transactions are becoming more digital and the use of physical cash is slowly declining. Also, the major reason people use ATM machines is to withdraw cash, these days, this can be done from any point of sale (POS) vendor with enough funds can dispense cash quickly and conveniently just like an ATM. Thus, the use of ATM machines may decline in the near future.
- If you get a problem with your bank card, or forget your pin, you can't withdraw your money.
- Cash withdrawal limits on ATM machines
- If an ATM card is lost, it can be misused
- Banks have limited ATM machine in rural areas

Potential Drawbacks of Adopting the ATM Banking

Some might think that all the difficulties will disappear with the application of electronic banking, such as the administrative and technical problems. However, the reality on the ground points to a rather different picture, namely that the application of electronic banking will require a continuous scrutiny and sustained surveillance to ensure the continuous provision of services in the best shape possible in order to maximize the use of time, money and effort. Furthermore, it must be considered that the existence of alternative plans or contingency plans in the event of default electronic banking remains paramount. The difficulty of providing an appropriate infrastructure for electronic banks, as well as the obstacles in updating the data to enable the customers to see the latest offers.

Barriers Affecting the Adoption of ATM Banking

There are many obstacles and problems that have an impact on the application of an electronic banking project. Officials must develop a plan for the implementation of such a project and hold a comprehensive approach to the different environment variables that can arise and hinder the work plan in order to either to avoid them or to find solutions. According to researcher some of these barriers are :-

- Security risk
- Lack of trust
- Lack of legal and regulatory frame work
- Lack of ICT infrastructure
- Absence of competition between local and foreign banks

2.2 Empirical Review

There is no doubt that we live in a world where technology dominates our everyday life choices and decisions. One of the greatest concerns of every business organization is customer satisfaction and their intension about the company's product and services. In the banking industry, most customers are motivated by accuracy of records and timely service delivery they receive. This has not only made the banking industry sophisticated but dynamic and ultimately becoming complex in nature with the introduction and invention of the Automated Tellers Machine (ATM). Thus, many studies have investigated the effect of the ATM payment system on banking industry.

The study conducted by Yitbarek and Zeleke (2013) on Analyzing the factors influencing customers' intention to the adoption of e-banking service channels in Bahir Dar city with integration of Technology Acceptance Model, Theory of Planned Behaviour and previous empirical studies identified seven factors; attitude, subjective norm, perceived behavioural control, perceived usefulness, perceived ease of use and perceived risk affecting users' behavioural intention to use E-banking. Results also revealed that the construct perceived behavioural control is the dominant factor followed by perceived ease of use and attitudes in predicting an individual's intention to accept e-banking service channels. The regression result also shows that attitude is jointly predicted by perceived behavioural control, perceived usefulness, perceived ease of use, and perceived risk while perceived ease of use contributed more for the variation in attitude. The research work done by Edemivwaye (2015) with topic of "Electronic Banking and Customer Satisfaction in the Nigerian Banking Sector" with purpose of finding factors that influence customers' adoption and utilization of e-banking products, and to determine if e-banking has improved customer satisfaction come out with different results. The researcher found some of the factors that influence customers' adoption and utilization of e-banking services in Nigeria. These factors are; availability, accessibility, fees/charges, speed of transaction, security, privacy, and IT knowledge/awareness. He found that there was a significant difference in customers' preferences for e-banking services across different educational qualifications. He also found that there was no significant

difference in customers' preferences for internet banking, telephone/mobile banking, and POS terminal across gender; while preferences for ATM and smart card showed a statistically significant difference across gender. The researcher also found that there was a significant relationship between utilization of e-banking channels and customer satisfaction in Nigeria. Additionally, he got utilization of e-banking products has significantly improved customers satisfaction in Nigeria.

Adewoye (2013), observes that ATM is an innovative customer delivery service tool that offers diversified services such as cash withdrawals, funds transfer, payment of bills, etc. The use of ATMs as a customer service delivery strategy has enabled bank customers to transact banking business using a coded ATM card, wherever an ATM facility is located, customers can access their accounts at any time of the day.

According to Adeniran (2014), among the development in the banking services delivery is the introduction of Automated Teller Machine (ATM) that intends to decongest the banking halls as customers now can go to any nearest ATM outfit to consummate their banking transactions such as: cash withdrawal, cash deposit, bill payments, and transfer of fund between accounts. The research made use of a cross-sectional survey design that questioned respondents on ATM services. The findings revealed that, the impact of ATM services in terms of their perceived ease of use, transaction cost and service security is positive and significant. However, the result also indicates that the impact of ATM services in terms of availability of money is positive but insignificant. In a similar study Idris, (2014), is of the view that Automated Teller Machine (ATM) among others was one of the services introduced by banks with the objective of providing customers quick access to their finances, as well to reduce cost of such access.

Research done by Gardachew (2010) examines Electronic-Banking in Ethiopia-Practices, Opportunities and Challenges was one of the related works. Low level of infrastructural development, lack of suitable legal and regulatory framework, high rates of illiteracy, frequent power interruption and security issues are found as the main challenges for developing e-banking in Ethiopia.

The other research work related to this paper is the survey study made by Ayana Gemechu Bultum (2012), in which he examined adoption of E-banking in the Ethiopian banking industry with respect to the barriers which can influence firms from taking advantage of E-banking systems and expected benefits derived by adopting the system. The study was conducted based on the data collected from four banks in Ethiopia; three private banks and one state bank. The result of the study indicated that the major barriers the Ethiopian banking industry faces in the adoption of Electronic banking are mainly

Security risk, lack of trust which emanated from security risk, lack of legal and regulatory framework, lack of ICT infrastructure, etc. This study suggested a series of measures which could be taken by the banking industry and by the government to address various challenges identified in the research work. Although the objective of the study was mainly to identify the major barriers that the Ethiopian banking industry is facing in line with adoption of E-banking in which security risk has got focused, this research work can be taken as a reason for the inception of our research ideas.

The research work by Thorsten and Weigoldon Secure Internet Banking Authentication was one of the related works. The purpose of this study was to describe the current authentication threats and two proposed solutions as well as how these solutions can be extended in the face of more complex future attacks. The authentication schemes and attacks introduced in this work represent the standard of knowledge discussed in various publications dealing with user authentication. However, most of them provide an overview of schemes and corresponding attacks and don't attempt to draw a security landscape by relating them to each other in a sensible way. Moreover, this work presents mainly focusing on authentication solutions one based on short time password and one on certificates and then described how easily these solutions can be extended should sophisticated content manipulation attacks arise. Therefore, the focus of the research was on the two challenge response ATM banking authentication solutions rather than showing the basic security landscape like client-side vulnerabilities and its level of risk, so it doesn't satisfy the need of my study. The other research work closely related to this research is the one done by Stawowski. The study aimed at identifying and particularly focusing on the penetration testing guidelines for client-side threats that commonly used security technologies find difficult to mitigate by elaborating web browser attacks conducted in encrypted SSL tunnels, HTTP/HTTPS sessions hijacking and use of dangerous applications. In this research work Metasploit, Apache Tomcat, SSI-explorer and Burp Suite have been suggested as list of testing tools with specific required configuration settings. Since one of my research objectives is to identify the level of client-side vulnerability and its risk level this research work is closer to my research work; however its basic focus was only on penetration testing guidelines for client-side threats.

The other research work reviewed dealt with "threat to online banking" done by Wüest in which the researcher mainly identified that the number of malicious applications targeting online banking transactions has increased dramatically in recent years. This represents a challenge not only to the customers who use such facilities, but also to the institutions who offer them, as evidenced by an ongoing trail in the US. The researcher described the idea that malicious applications employ two kinds

of attack vector-local attacks which occur on the local computer, and remote attacks, which redirect the victim to a remote site. The possibility also exists that both approaches will be combined. The prevalence of malicious applications that steal financial account information has increased dramatically over the last year, often resulting in victims losing hard currency. There are several factors that may have influenced the evolution of this type of malicious applications, but may be the dramatic increase in their prevalence is just because they have a higher chance to succeed than expected. The theory of reasoned action is a widely studied model from social psychology which is composed of attitudinal, social influence, and intention variables to predict variables (Ajzen, 1975). It hypothesized that behavioral intention is jointly determined by attitude toward performing behaviour and subjective norm. Attitude is defined as individual negative or positive feeling about performing a specific behaviour and can be determined by one's belief that performing the behaviour will lead to various consequences multiplied by the subjective evaluation of those consequences (Davis, 1986). Subjective norm refers to the person perception that most people who are important to him think he should or should not perform the behaviour in question (Ajzen, 1975). The theory of reasoned action also hypothesize that behavioural intention is the only direct influence of actual behaviour.

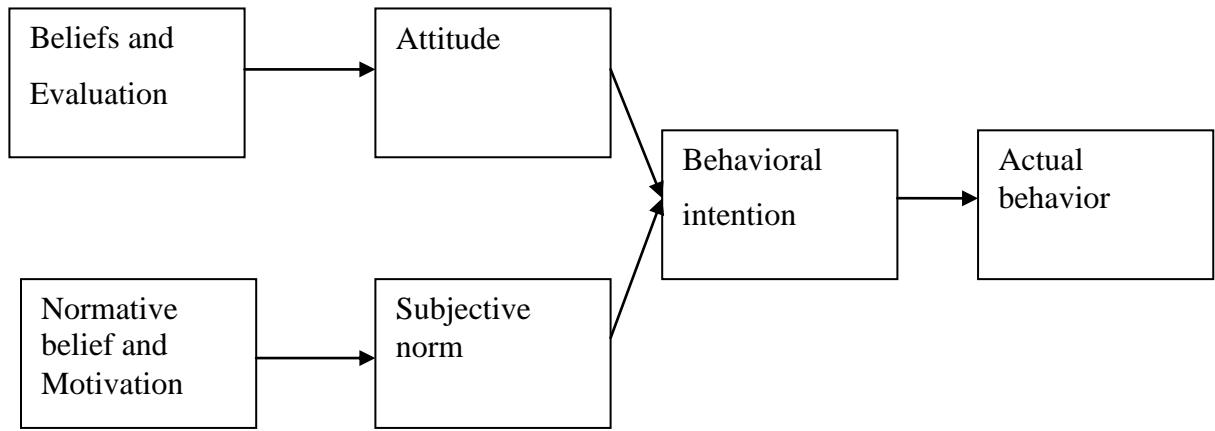


Figure 2. 1 Theory of Reasoned Action. S : Fisheben & Ajzen, 1975. 1

2.2.1. Technology Acceptance Model

The Technology Acceptance Model (TAM), introduced by Davis (1986), is an adaptation of the Theory of Reasoned Action (TRA) specifically modified for modeling user acceptance of information technology. (Davis, 1986) stated that the main goal of TAM is to explain the determinants of IT acceptance across a broad range of information technologies and user populations. Moreover, Davis (1986) suggested that acceptance of IT can be determined by two primary constructs: perceived usefulness and perceived ease of use of the technology. When predicting the acceptance of information technologies, TAM suggests the following factors are important: external variables; beliefs about information technology (perceived usefulness and perceived ease of use), attitudes, behavioral intention, and finally, actual IT use. Davis(1986) suggested that using an information system is directly determined by the behavioral intention to use it, which is in turn influenced by the users' attitudes toward using the system and the perceived usefulness of the system. Attitude and perceived usefulness are also affected by the perceived ease of use. According to TAM, greater perceived usefulness and the perceived ease of use of an information system will positively influence the attitude toward this system. The attitude, in turn leads to a greater intention to use the system, which positively affects one's actual use of the system. According to Davis (1986), even though external variables do not have a direct influence on attitudes and behavioral intention to use, TAM underlies the bridging role of beliefs and attitudes between external variables and behavioral intention.

Perceived Usefulness

According to (Davis, 1986), perceived usefulness can be defined as “the degree to which an individual believes subjectively that using a particular IT would enhance his or her job performance”. In other

words, the individual believes that the use of the IT would yield positive benefits for task performance associated with his/her job. Perceived usefulness suggests a user believes that using a particular IT will be beneficial. For the user to hold such a belief several conditions must be met. First, the user must have prior experience with the particular problem suggesting at least some understanding of the nature of the problem, even if the problem is not yet understood sufficiently to derive a solution. Generally, the user must also have experience with information technologies. This experience gives the user a basis for evaluating the capabilities of information technologies and how and in what circumstances they may be useful. In the formation of initial opinions, the user will not have much hands-on experience, but may know of the capabilities of information technologies through the media like television and newspaper) or other communication channels like friends (Jihyune, 2003).

2.2.2 Theory of Planned Behavior (TPB)

The theory of planned behavior (TPB) is an extension of the theory of reasoned action (TRA), which is widely used in social psychology and marketing studies to explain the determinants of intended behaviors (Ajzen, 1975). Both the TRA and TPB suggest that behavior is directly influenced by behavioral intention. But TPB model adds “perceived behavioral control” to the theory of reasoned action.

Beliefs and Attitudes

TPB postulates that attitude toward the behavior refers to the degree to which people have a positive or negative feeling toward the behavior. (Hofstede, 1997) suggested that attitudes are determined by the beliefs people have about the object of the attitude and beliefs are formed by the characteristics of the attitude object. (Ajzen, 1991) also stated that individuals’ positive or negative attitudes depend on desirable or undesirable expected outcomes or results that are associated with an object. For example, people have a positive attitude toward online financial services when they believe that online financial services are a convenient technology for dealing with financial activities.

Subjective Norm

Subjective norms are influenced by the normative beliefs that refer to the perceived social pressure to perform or not to perform the behavior (Ajzen, 1991). Normative belief might be related to the influence of opinion among social groups such as family and friends. In TPB model subjective norm has a positive relationship with intention to adopt ATM banking services and it is negatively related to perceived risk. Attitude has a positive relation with subjective norm.

Perceived Behavioral Control

According to (Ajzen, 1991), perceived behavioral control reflects beliefs regarding access to the resources needed to perform a behavior. There are two components affecting perceived behavioral control. The first element is 'facilitating conditions' which reflect the availability of resources needed to perform a behavior. This might include access to the time, money, skills and other specialized resources required to perform a behavior. The second element is 'self-efficacy'. It is an individual's self-confidence in his/her ability to perform a behavior. Taylor and Todd (1995) suggest that resources (i.e., time, money) and the individuals' "self efficacy" are important elements affecting behavioral intention and actual technology use. According to Ajzen (1991) when individuals believe that they have more resources, they believe they have fewer obstacles and perceive greater control over the behavior, while people lacking requisite resources and confidence perceive little control over the behavior thereby reducing intentions to perform the behavior Associated with an object. For example, people have a positive attitude toward online financial services when they believe that online financial services are a convenient technology for dealing with financial activities Subjective Norm

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Convenience

Convenience goods are class of consumer products that were intensively distributed and required minimal time and physical and mental effort to purchase. Some later definitions of convenience also focused on resources such as time and effort required of the consumer in shopping for a product, however, expanded the concept of convenience to incorporate non-shopping activities.

It is related to the visual view of the Internet compared to telephone banking (Al-Ashban and Burney, 2001). Furthermore, the 24-hour service availability, home access, world wide access time savings, and wide variety of services accessible are seen as drivers of convenience in ATM banking (Yang et al., 2003). e banking as competitive advantage of adopting of a new retailing channel in services capes; it is one of the dominating factors in transaction channel preferences and a key determinant of consumer satisfaction (Yang et al., 2003). In his study Ajzen (1991) found that perceived convenience was the strongest predictor of online banking usage. Finally, the same study also indicated that the perceived convenience was the most influential variable of overall adoption of all four e-commerce activities investigated.

Perceived Risk

Consumer behavior studies define perceived risk (PR) in terms of the customer's perception of the uncertainty and potential adverse consequences of buying a product or services. The degrees of risk that customers perceive and their own tolerance of risk tacking are factors that influence their purchase decision (Nasri, 2011). Perceived risk can also cause customer to reject new technological service and it is related to reliability and system failure. Customers are also worried that technology based service delivery will not work as expected and lack confidence that problems can be solved quickly (Hofstede 2007).

2.6 Conceptual Frame Work

The conceptual frame work is developed based on the variables from TAM, as can be seen in figure 1 below the behavioural intention is affected by an individual's attitude toward using ATM banking and perceived usefulness. An individual's attitudes are a joint function of perceived usefulness and perceived ease of use. Both perceived usefulness and perceived ease of use are determined by external variables, The external variable in this research are demographic characteristics such like age, gender, income & education, Convenience knowledge. The researcher proposes that external variable directly affect perceived usefulness and perceived ease of use.

Perceived Usefulness “The degree to which a person believes that using a particular system would enhances their performance” (Davis, 1989)

Perceived Ease of Use “The degree to which a person believes that using a particular system would be from effort” (Davis, 1989)

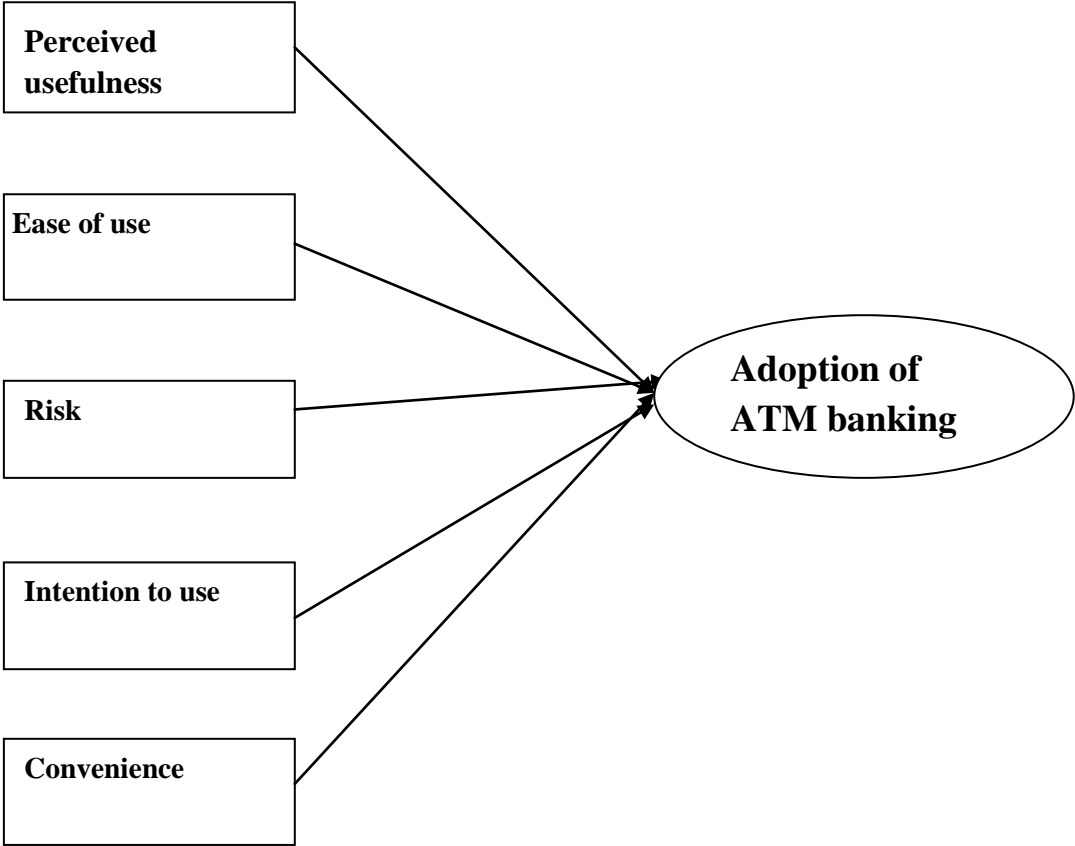


Figure 2 2: Technology Acceptance Model (TAM) 1

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Source: Davis & Venkatesh (1996)

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Introduction

Designing appropriate research methodology is a prerequisite in order to conduct a good research work. Accordingly, this chapter discusses about the methodology by which the researcher used to conduct the study. Thus, research approach, research design, sampling design, source of data, data collection methodology, data collection instrument, data analysis methods, validity and reliability.

3.2. Research Approach

Since the aim of the study is to examine the factors affecting customers' intention to adopt ATM banking services and, quantitative research method used. Inferential study design is used to determine how the independent variables explain the dependent variables of the study.

3.3. Research Design

This research has been exploration attributes; the variables needs more detail data that is why the researcher chooses this descriptive data. According to (Zikmund, 2000 Explanatory research design was used to identify Problem on the adoption of ATM banking which is appropriate for the objective of the study, also explanatory research design is a good fit to know the effects of the independent variable on the dependent variable. The researcher was also employed Consequently, it is appropriate to use when there are little prior knowledge of the problem being researched. (Saunders & Thornhill, 2003) argue that exploratory research is advantageous because it is flexible and adaptable to change.

3.4. Sampling Design

3.4.1. Target Population

According the data fetched from E-payment there are more than 234,792 actively user of ATM

banking in south Addis district as of Dec. 31st 2020. but it is known that these numbers are indicating customers and ATM users at one point in time and these numbers are increasing within a day. As a result a sample of 385 ATM users is taken conveniently for this study

3.4.2. Sampling frame

The study population has been focused on CBE customers of ATM banking under Addis Ababa city branches in 1 district named South Addis district.

3.4.3. Sampling Technique

Individual consumers are selected using convenient sampling procedures and are covered by this massive bank, to which it expects that it has easy access to obtain the essential information among various sampling techniques the researcher adopted Non-probability sampling technique by purposively selecting active users of ATM banking based on their number of transactions posted via ATM banking.

Non-probability sampling: the organizers of the inquiry purposively choose the particular units of the universe for constituting a sample on the basis that the small mass that they select out of a huge one will be typical or representative of the whole (Kothari 2004).

3.4.4. Sample Size

For populations that are large, Cochran (1963) developed the Equation 1 to yield a representative sample for proportions.

$$n = Z^2 pq / e^2 \dots\dots\dots 1$$

Which is valid where n is the sample size, Z is the value of the normal curve that cuts off an area α at the tails ($1 - \alpha$) equals the desired confidence level, (95%), e is the desired level of precision, p is the estimated proportion of an attribute that is present in the population, and q is 1-p. The value for Z is found in statistical tables which contain the area under the normal curve.

To illustrate, we have a large population but that we do not know the variability in the proportion and could not get the previous related result; therefore, assume $p = .5$ (maximum variability).

Furthermore, suppose we desire a 95% confidence level and $\pm 5\%$ precision. The resulting sample size is demonstrated as follows:

$$n = z^2 pq / e^2 = (1.96)^2 * 0.5^2 / 0.05^2 = 384.16 \text{ or } 385$$

A representative number of respondents have been studied by using convenience sampling

method. This method will help the researcher to get information on a convenient way. When population elements are selected for inclusion in the sample based on the ease of access, it can be called convenience sampling (Kothari 2004).

3.5 Data collection method and Sources

For proper achievement of the objectives of the study; the researcher used primary data sources which are customers of the Commercial Bank of Ethiopia different branches under Addis Ababa city, these branches were randomly selected.

3.5.1 Primary Data

Primary data is collected from the respondent based on a structurally designed questionnaire to ATM banking users. There was close ended questions. The primary data source involves through the use of questionnaire. The questionnaires were distributed to the randomly selected branch customer of commercial bank of Ethiopia. The populations under research were 385 questionnaires should be distributed in order to provide data for a reliable survey.. Out of 385 questionnaires that were distributed, 323 questioners were collected. Sixty two of the were cancelled due to the lack of seriousness in their answers and also by different reasons

3.5.2 Secondary data

Secondary data were collected from already existing literature from journals, newspapers, textbooks, articles the websites of the bank and officials periodically releases of E-payment.

3.6. Data Collection Instrument

Primary data has been collected through questionnaires and the questionnaires were prepared in the way that is relevant to the situation so as to decrease invalid responses. The questions were prepared based on the variables namely perceived usefulness, perceived ease of use, perceived risk, intention to use & and convenience.

The five point likert scale was used for the statement of the second section of the questionnaire (See appendices) ranging from 1 for "strongly disagree", 2 for "disagree", 3 for "no opinion", 4 for "agree", and 5 for "strongly agree".

Reliability and validity test were conducted to measure the internal consistency of the data items and to measure whether an instrument actually measures what it is supposed to measure respectively.

3.7. Method of Data Analysis and presentation

Data analysis consists examining, categorizing, tabulating, or otherwise recombining the evidence, to address the initial proposition of a study (Kothari 2004). The data analysis were conducted by using the Statistical Package for the Social Sciences (SPSS) computer program. Regression analysis is applied to analyze the empirical date and Pearson Product Moment Correlation also be added to conclude the regression analysis. These statistical measures contributed to test the research model validity. Regression analysis tested how the independent variables (PU, EU, RISK, IU, and CONVENIENCE) were regressed on the dependent variable, adoption of ATM. The Pearson Product Moment Correlation were used to examine the correlation between the variables and the correlation between the variables and adoption of the system.

3.8 Validity and Reliability

Before empirical analyses are conducted by using the instrument, reliability and validity test were done on items in the questionnaire instrument.

	Mean	Std. Deviation	N
Perceived usefulness	4.3246	.92212	323
Perceived ease of use	4.4856	.7666	323
Perceived risk	3.9566	1.0965	323
Intention to use	3.9597	1.5019	323
Convenience	4.3668	1.2599	323

Table 3. 1 validity

Source: survey result, 2021

Validity on the other hand refers to whether an instrument actually measures what it is supposed to measure. To assure validity, questionnaires were designed on the basis of previous studies' questionnaires and review of related literatures, the researcher selected multiple sources of evidence name documentation and personal observation.

Reliability analysis

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.752	.808	5

Table 3. 2 Reliability

Source: survey result, 2021

Before the questionnaires were formally distributed, a pre-trial reliability analysis was performed on 25 completed questionnaires to appropriately adjust the questionnaire design. According to Nunnally, 1978) Cronbach's alpha should be 0.700 or above. In this study, the value of Cronbach's alpha is above the base line, which is greater than the standard value, 0.7. Thus it can be concluded that the measures used in this study are valuable and highly reliable

CHAPTER FOUR

4. DATA PRESENTATION, ANALAYSIS AND INTERPRETATION

4.1. Introduction

This chapter presents the results of the study based on the empirical study of the data collected from the research respondents and interpretation of results with respect to prior research results and literature. The research results that were collected through the survey questionnaires were analyzed using descriptive statistics and linear regression inferential statistics with the help of SPSS 20.0 software and the results are presented and discussed in the following sections.

Table 4. 1. Demographic Characteristics of the Respondents

Demographic Characteristics	Alternatives	Frequency	Percent
Respondent sex	Male	241	74.6
	Female	82	25.4
	TOTAL	323	100
Respondent age group	18-25 years	66	20.4
	25-35 years	132	40.9
	36-40 years	66	20.4
	41-54 years	47	14.6
	55 and above years	12	3.7
	TOTAL	323	100
Respondent Educational level	10 th grade complete	6	1.9
	12 th grade complete	6	1.9
	Diploma	40	12.4
	Degree	197	61
	Masters	65	20.1
	PhD	9	2.8
	TOTAL	323	100
Respondent employment	Employed	249	77.1

status	Self-employed	27	8.4
	Unemployed	6	1.9
	Student	35	10.8
	Retired	6	1.9
	TOTAL	323	100
Respondent income status	< =2000	18	5.6
	2001-3500 birr	105	32.5
	3501-5000 birr	84	26
	5001-6500 birr	27	8.4
	> =6501	89	27.6
	TOTAL	323	100

Survey result, 2021

The result of the analysis of demographic characteristics of the respondents shows (74.6%) are males and the rest are females (25.4%). In the case of classification of respondents by age 40.9% of the respondents are young (25-35 years old). Respondents marital status is also found to be (77.4%) single and (19.8%) married. In addition the analysis of respondents educational status shows (61% degree), (20%) masters. Moreover respondents employment status (77.1%) Employed, (8.4%) Self-employed and (10.8%) students. The level of income of the respondents is also (32.5%) 2001-3500 Ethiopian birr, (27.6%) Above 6501 and also (26%) are 3501-5000 birr. So the result of the analysis implies that majority of the ATM banking service users of CBE are male (74.6%) and single (77.4%) in their marital status. In addition to that majority of the bank's ATM users are holders of BA or BSc degree (61%) and also most of the respondents are found to be employed (77.1%) in different organizations.

Table 4. 2: Source of initiation to Use ATM

	Frequency	Percent
Banks promotion	219	67.8
My organization	27	8.4
Personally interested	66	20.4
My friend	11	3.4
TOTAL	323	100

Source: survey, 2021

From table-2 above the banks' ATM customers response for the question who influenced them to use ATM technology; 67.8% respondents said they were influenced by the banks promotion, 8.4% by the organization in which they are working in (as their organization is paying their salary through the bank), 20.4% by themselves as they were interested personally to use the ATM banking technology, and 3.4% by their friend who have already tested the technology. From this analysis we can drive that most of the ATM users in bank are using it because they are promoted by the bank.

Table 4. 3: Type of Services ATM Users Get through ATM

	Frequency	Percent
Cash withdrawals	284	87.9
Balance inquiry	20	6.2
Fund transfer	-	-
Others	19	5.9
TOTAL	323	100

Source: survey, 2021

The bank's ATM users were asked to choose what type of service they get mostly through ATM card from the bank and their responses are as presented in table-3. From the total respondents 87.9 % of them use ATM card for withdrawing money from their accounts. This implies the majority of the ATM users are using the multipurpose ATM banking service to only limited functions especially for withdrawing money.

Table 4. 4: ATM Users Frequency of Usage of ATM

	Frequency	Percent
Never	16	4.6
Sometimes	177	54.8
Usually	78	24.1
Always	53	16.4
TOTAL	323	100

Source: survey, 2021

As can be seen from table-4, the respondents were asked 'How often do you use your ATM card to get a banking service?' they answered that 54.8% sometimes use ATM, 24.1% usually use ATM,

16.4% always and 4.6% say they never use ATM to get services.

Table 4. 5 usefulness

Perceived usefulness	Measurement	
	Mean	Std. Deviation
I understood that ATM simplifies the problem of the ordinary traditional banking services (PU1)	4.4489	0.85594
Using ATM banking will enable me to accomplish my banking task more quickly (PU2)	4.5913	0.77631
ATM will make it easier for me to do my banking activities (PU3)	4.3715	0.72963
Using ATM banking improves my performance of banking activates (PU4)	4.2012	0.96510
Using ATM helps me to get service without going to bank. (PU5)	4.0619	1.12394
Using ATM banking will decrease my cost of banking. (PU6)	4.1827	1.22122
ATM banking saves time compared to traditional banking (PU7) .	4.4427	0.81082
Using ATM card helps me for not allowing myself for communicable viral diseases like COVID-19 (PU8)	4.2972	0.88722

From the analysis of the eight questions which deal about perceived usefulness of ATM technology to the bank customers, the mean of each of the above statements in the table -5 above are; (4.44 for PU1), (4.59 for PU2),(4.37 for PU3),(4.2012 for PU 4), (4.06 for PU5) and (4.18 for PU6), (4.44 for PU7) and (4.29 for PU8). The mean responses of the ATM users on each statement is above four which indicates that most of the respondents are experiencing perceived usefulness in using ATM banking technology than using the manual teller based banking system. Mean of mean of the eight statements on ATM technology perceived usefulness to the customers has also indicated that it is above three (4.00). This shows that the

mean of the responses on all the statements can be taken as the customers have agreed on using ATM banking technology has useful than using manual teller based banking could give to them.

Table 4. 6 Ease of Use

Perceived Ease of Use	Measurement	
	Mean	Std. Deviation
ATM banking is easy to use (PEU1)	4.3622	0.81259
ATM banking is not complicated to use. (PEU2)	4.4272	0.83227
I can use ATM banking without anyone helping me. (PEU3)	4.5728	0.74982
My interaction with the ATM banking is clear and understandable (PEU4)	4.5480	0.84517
I find it easy to do what I want to do with ATM banking (PEU5)	4.5325	0.78892
I find ATM banking flexible to interact with. (PEU6)	4.6099	0.69347
Interaction with the ATM banking does not require a lot of mental effort. (PEU7)	4.3684	0.66265
Learning to use ATM banking is easy for me. (PEU8)	4.4644	0.74837

Survey result, 2021

The bank customers' responses on the Perceived Ease of Use of usage of ATM banking technology as shown in table-5 are the results. The mean of all eight statements regarding the simplicity of ATM banking technology are above 4.00 indicating that the customers are convinced that ATM technology is easy to use, it does not require tedious procedure to get the banking service, and provides greater control on their transactions and confidentiality on their privacy.

Table 4. 7 Perceived risk

Perceived risk	Measurement	
	Mean	<i>Std. Deviation</i>
Using ATM banking may expose me to fraud or monetary lose. (PR1)	4.1331	1.07331
I am not confident with the security aspects of ATM banking. (PR2)	3.7337	1.11887
ATM banking is not secure as conventional banking (going directly to the branch). (PR3)	3.9505	1.05325
Using ATM banking is not safe (PR4)	4.0093	1.14068

Survey result, 2021

From the analysis of the four questions which deal about perceived risk of ATM technology to the bank customers, the mean of each of the above statements in the table 7 - above are; (4.13 for PR1), (3.73 for PR2),(3.95 for PR3),(4.00 for PR 4). The mean of the second and third statements on perceived risk of ATM technology are closer to 4.00 which indicate that the respondents mean response is almost agree to the statement. Whereas when we see the mean responses on the other statement in the table, they are above 4.00 which means most of the respondents agree strongly on the statements

Table 4. 8 Intention to use

intention to use	<i>Measurement</i>	
	<i>Mean</i>	<i>Std. Deviation</i>
It's convenient to use (IU1)	3.8638	1.52414
Does it Avoid staying inline timesaving (IU2)	4.0557	1.47967

Survey result, 2021

The bank customers' responses on intention to use of ATM banking technology as shown in table-8 are the results. When we see the mean of the first statement 'ATM is convenient to use, the second it Avoid staying inline timesaving are 3.86, 4.05, respectively. The mean of the two statements regarding the intention to use of ATM banking technology are above 4.00 and close to 4.00 indicating that the customers are convinced to use.

Table 4. 9 convenience

convenience	Measurement	
	Mean	<i>Std. Deviation</i>
ATM banking is convenient, in terms of time saving.(C1)	4.5139	0.91007
ATM banking is convenient, in terms of 7days and 24hours services. (C2)	4.4551	1.95569
ATM banking is a convenient way to manage my finances effectively. (C3)	4.0929	1.09092
Using ATM banking services is convenient in enabling me to complete banking activities more Quickly. (C4)	4.4056	1.08329

Survey result, 2021

The bank customers' responses on the convenience on usage of ATM banking technology as shown in table-9 are the results. When we see the mean of the first statement 'ATM banking is convenient, in terms of time saving', the second 'ATM banking is convenient, in terms of 7days and 24hours services', the third 'ATM banking is a convenient way to manage my finances effectively, and the fourth 'Using ATM banking services is convenient in enabling me to complete banking activities more Quickly are 4.51, 4.45, 4.09,4.40 indicating that the customers are convinced that ATM technology is simple to adapt because it is convenient.

Table 4. 10 adoption

adoption	Measurement	
	Mean	<i>Std. Deviation</i>
I am still using ATM banking (A1)	4.4892	0.9981
I strongly recommend the use of ATM banking (A2)	3.8483	1.17368
I will increase my use of ATM banking (A3)	4.1084	1.37322

Survey result, 2021

The bank customers' responses on the adoption of ATM banking technology as shown in table-10 are the results. The respondents were given the statements 'I am still using ATM banking, 'I strongly recommend the use of ATM banking, 'I will increase my use of ATM banking to express their level of agreement or disagreement in five points scale Likert scale. The mean of the responses of the ATM user on A1, A2, A3 are found to be 4.48, 3.84 and 4.10 which imply that each of the means are a greater or less than 4.00. But these means can be taken as 4.00 as each are closer or above 4.00, indicating that respondents have agreed on these statements. From this we can see that ATM banking technology users have generally a positive attitude and want to continue using the technology.

Descriptive statistics for the selected variable

The mean for Adoption of ATM banking, Perceived Usefulness, Perceived Ease of Use, perceived risk, intention to use, and convenience are 4.32, 4.48, 3.95, 3.95, and 4.36 respectively. According to the likert (1632), the variables are in the range of higher level. Therefore the researcher can understand the respondents have higher level of Adoption of ATM banking,

4.2 Correlation Analysis

In this topic the researcher going to analysis the relationship between perceived ease of use and perceived usefulness with the other variables separately. Pearson correlation was used to associate the independent variables and dependent variable. It is the most widely used methods of measuring the strength and direction of relationship between and among variables. Therefore, in order to test this empirically Pearson correlation results range between 1 (perfectly linear positive correlation) to – 1(perfectly linear negative correlation). When the correlation value lies in the middle between 1 and -1 the below interpretation guide (table 4.11) developed by Field, 2005 becomes handy. Accordingly, this guide has been used to interpret the result which is summarized in the coming section.

Correlation value in range	Interpretation
0.10 – 0.29	weak correlation
0.3 – 0.49	moderate correlation
0.5 – 1	Strong correlation

Table 4. 11 Correlation result interpretation guide
Source: Field, 2005

		AD	PU	PEU	PR	IU	CO
AD	Pearson Correlation	1					
	Sig. (2-tailed)						
	N						
PU	Pearson Correlation	.696**	1				
	Sig. (2-tailed)						
	N						
PEU	Pearson Correlation	.723**	.846**	1			
	Sig. (2-tailed)						
	N						
PR	Pearson Correlation	-.141*	-.124*	-.092	1		
	Sig. (2-tailed)						
	N						
IU	Pearson Correlation	.352**	.396**	.320**	-.434**	1	
	Sig. (2-tailed)						
	N						

	N						
	Pearson Correlation	.381**	.541**	.448**	.346**	.152**	1
CO	Sig. (2-tailed)						
	N						323

Source: survey result, 2021

Table 4. 12: correlation matrix for the selected variable

According to the above correlation matrix the correlation between Perceived Ease of Use, perceived risk, intention to use, and convenience are 0.696, 0.723, -0.141, 0.352, , and 0.381 respectively. The correlation between Adoption of ATM banking, Perceived Usefulness, Perceived Ease of Use, are strong and positive the correlation OF intention to use, and convenience are moderate and positive and the correlation between perceived risk and adoption of ATM is weak.

The correlation between Adoptions of ATM banking Perceived Usefulness, Perceived Ease of Use, perceived risk, intention to use, and convenience are 0.696, 0.846, -0.124, 0.396, and 0.541 respectively. This value tells about correlation between Adoption of ATM banking, Perceived Usefulness, Perceived Ease of Use, ,and convenience are positive and strong. Intention to use have moderate correlation But and the correlation between perceived risk and adoption of ATM is weak.

The correlation between Adoptions of ATM, Perceived Usefulness, Perceived Ease of Use, perceived risk, intention to use, and convenience are 0.723, 0.846, -0.92, 0.320, and 0.448 respectively this value tells about correlation between Adoption of ATM banking, Perceived Usefulness, Perceived Ease of Use are positive and strong, intention to use, and convenience are positive and moderate and the correlation between perceived risk and adoption of ATM is weak.

The correlation between Adoption of ATM banking, Perceived Usefulness, Perceived Ease of Use, intention to use, and convenience are -0.141, -0.124, -0.092, -0.434, and -0.346 respectively this value tells about correlation between Adoption of ATM banking, Perceived Usefulness, Perceived Ease of Use, intention to use, and convenience are some negative and weak.

The correlation between Adoption of ATM banking, Perceived Usefulness, Perceived Ease of Use, intention to use, perceived risk, and convenience are 0.352, 0.396, 0.320, -0.434, and 0.152 respectively this value tells about correlation between Adoption of ATM banking, Perceived Usefulness, weak correlations.

The correlation between Adoption of ATM banking, Perceived Usefulness, Perceived Ease of Use, intention to use, perceived risk, and are 0.381, 0.541, 0.448, 0.346 and 0.152 respectively this value tells about correlation between Adoption of ATM banking, Perceived Usefulness, Perceived Ease of Use, intention to Use, and had positive, strong

4.3. Regression Analysis

Before we come to the individual variable, first we should check the assumption of multiple linear regression models that is, the assumptions of multi co linearity.

The assumption of multi co linearity is checked by VIF (Variance Inflated Factor). As we see from table If tolerance is more than 0.2 and variance inflation factor (VIF) less than 10 there is no Multi colinarity problem. So the result of the below table results show tolerance greater than 0.2 and VIF less than 10 and it is no Multi colinarity problem.

Model	Co linearity Statistics	
	Tolerance	VIF
1 Perceived Usefulness	.227	4.404
Perceived Ease of Use	.283	3.528
perceived risk	.597	1.675
intention to Use	.674	1.484
convenience	.519	1.926

Source: survey result, 2021

Table 4. 13 Regression Analysis

Multiple Regressions are used to calculate that whether there is positive or negative relationship between the dependent and independent variables. The following tables present the results from the multiple regressions carried out using the five variables: Perceived Usefulness, Perceived Ease of Use, intention to Use, perceived risk, and convenience as the independent variables and adoption of ATM as the dependent variable.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	188.284	5	37.657	83.202	.000 ^b
	Residual	143.472	317	.453		
	Total	331.756	322			

a. Dependent Variable: AD

a. Predictors: (Constant), CO, IU, PEU, PR, PU

Source: survey result, 2021

Table 4. 14 ANNOVA table

As we see from the above ANOVA table the P value is 0.00 which is less than the level of significance or 0.05. Therefore the overall regression model is significant. The value of R which is assumed to be 0.753 which implies that about 75.3% of variation in adoption of ATM banking service is expressed in the variation Perceived Usefulness, Perceived Ease of Use, and intention to Use, perceived risk, and convenience.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.753 ^a	.568	.561	.67275

a. Predictors: (Constant), CO, IU, PEU, PR, PU

Table 4. 15 Model summary

From the above model summary table (4.14) it can be seen that R is 0.753 and R square is 0.568. This indicates about 56.8% of the variance (dependent variable) can be explained by overall (independent variable),

Coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	
	(Constant)	-2.917	.483				-6.041
1	perceived usefulness	.485	.118	.336	4.332	.000	.227
	perceived ease of use	.490	.167	.473	6.813	.000	.283
	perceived risk	-.041	.049	.040	.843	.040	.597
	intention to use	.076	.032	.107	2.385	.018	.674
	convenience	.165	.059	.143	-2.788	.006	.519

Table 4. 16 Coefficients of the selected variable
Source: survey result, 2021

The P value of all variables (perceived usefulness, perceived ease of use, perceived risk, intention to use, convenience) is less than 0.05. That is the variables perceived usefulness, perceived ease of use, perceived risk, intention to use, convenience have a significance effect on the adoption of ATM banking. The coefficient of Perceived Usefulness is 0.485 this value tells about, if the Perceived Usefulness is increased by one percent, the adoption of ATM banking is improved by 48.5%. According to the above table, the coefficient of perceived ease of use, perceived risk, intention to use, convinces and is 0.490, -0.041, 0.076, 0.165 respectively. This figure tells about if the perceived ease of use, intention to use, convenience and perceived risk is increased by one percent automatically the value of ATM banking can improve with 48%, 49%, 4%, 76% and 16.5% respectively

CHAPTER FIVE

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

The primary purpose of this study is to explore factors affecting customer intention to adopt ATM banking system on CBE To explore the factors affecting the adoption of ATM banking the researcher try to prepare different questionnaire and filled by the respondent and the result of summary is discussed in chapter four. This chapter, based on the discussion in chapter four, presents the summary, conclusions and recommendations of the study.

5.2 Summary of the major findings

From chapter four data analysis, the study summarized the major research findings as follows where a 5-point Likert scale was used to rate the degree of adoption of these elements.

Usefulness

Towards the extent of the usefulness of adoption of ATM banking, the overall mean score=4.32 and SD=0.92 the response of the respondents was mostly decided agreed. But in some points there were doubts in the usefulness. As a result, the findings revealed. Overall result, the majority of the respondents have responded agree in the points addressed in the usefulness of adoption of ATM banking.

Ease of use

In the table 4.6 towards the extent of the ease of use to adopt ATM banking there are 8 points allocated to measure perceived ease of use. Most of the respondent perception is good and agreed the overall mean score=4.48 and SD=0.76 as a result, the findings revealed. Overall result, the majority of the respondents have responded agree in the points addressed in the ease of use of adoption of ATM banking.

Risk

In this case the finding on table 4.7 Respondents had high concerns for security of their accounts which would leave a lower chance of adopting ATM banking. the overall mean score= 3.95 and SD= 1.09, it means respondents feared that if they were to use ATM banking services someone

else might have access to their bank accounts. So they prefer using conventional banking they are not confident with the security aspect of ATM banking

Intention to use

In the case of intention to use of ATM banking, the overall mean score=3.95 and SD=1.50 the response of the respondents was mostly decided agreed. But in some points there were doubts. As a result, the findings revealed. According to the response of the respondents' in the avoidance of staying in line the mean score=3.86 and shows that the result is they are little bit unsatisfactory. But the overall result, the majority of the respondents have responded agree.

Convenient

Towards the extent of the convenient of ATM banking, the overall mean score=4.36 and SD=1.25 the response of the respondents was mostly agreed. majority of the respondents have responded agree in the points addressed in the convenient of ATM. they agree that ATM is important in saving their time, in terms of 7 days and 24 hours service, it is also important to complete their activity more quickly customers perceived ATM banking to be useful and easy to use unlike any other service. This result indicate that factors such as convenient are the most important motivating factors in influencing adoption of ATM banking services

5.3 Conclusion

ATM banking service currently not only in developed country but also in our country becomes mandatory transaction to save our time, cost, and energy and to become user of new technology. As a result, the following conclusions were drawn based on descriptive and inferential statistics data, as well as a list of major findings. By describing, interpreting, and predicting the relationship between variables, the analysis used an explanatory research design. Primary data sources were also used in the analysis. The primary data source will involve through the use of questionnaire. The questionnaires were distributed to the randomly selected branch customer of commercial bank of Ethiopia. In the objective of the study the researcher tries to identify the most variables factors and to study each variables relation and effect on ATM banking services, then the study clearly shows the most variables factor is perceived usefulness and perceived ease of use, perceived risk, intention to use, and conveniences have valuable or direct and indirect impact on consumer adoption of ATM banking. Based on the descriptive analysis the most ATM

banking users are age of 25-35 years, males are the dominant users and also degree and masters holders. The study also identified benefits of ATM-banking adoption, such as saving time and cost of users, increased productivity of bank, improves customer service, create wider market coverage, simplify banking activity for staff, reduce bank hall queue, accessible without time limit and enhance access to the bank service by both existing and new customers. Multiple regressions were used for testing the model. It provides information regarding the significance of the variables that were included in the model while the R^2 explains how much variance in the dependent variable is explained by the model. Perceived risk have low coefficients show that, respondents had high concerns for security of their accounts which would leave a lower chance of adopting ATM banking and also respondents feared that if they were to use ATM banking services someone else might have access to their bank accounts.

5.4 Recommendations

Based on the conclusion drawn from the analysis and the identified research problems and research goals, the research needed to forward fair and relevant recommendations. Therefore, the following recommendations were suggested by the researcher.

- The bank has to increase its promotion by focusing on improving customers' awareness towards the technology and the different types of services it provides. And also in order To attract customers, commercial bank of Ethiopia should develop perceived ease of use and perceived usefulness completing financial products' offer on ATM banking at a very close level they offer at the branch. This is good for the customer and for eliminating bank costs and building the good image.
- The Bank need to pay attention to their customers of their innovative services characterized in this study, and customizes the services for better customer adoption of ATM banking. It might be important to develop a marketing strategy for ATM banking. To bring many customers to the bank and to make them users of ATM banking technology not only the manager but also all staffs should participate in the process by making the process easy.
- On the other hand, the study could be conducted at a stage of service launching, or at a pre test in order to investigate customers' behavior towards the adoption of the new ATM banking service.

- In order to decrease customers fear or in order to eliminate the risk that ATM has the, Bank form Information Technology departments that will study and monitor the growth and challenges of electronic banking services. This department will be very useful to the management of this problem because it will help to monitor the increase and decrease of the rate adoption and use of ATM banking services and also the problems. And also in order to avoid staying in line and 24/7 usage of the machine the bank must work on the maintenance of the machines.

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Appendix

St. Mary's university

School of graduate studies

Questionnaire to be filled by banks customers

Research topic: factors affecting customers' intention to adopt ATM banking system on commercial bank of Ethiopia (CBE)

Dear sir/madam

This Questionnaire is designed to assess factors affecting customers' intention to adopt ATM banking system on commercial bank of Ethiopia (CBE). All information will be treated confidentially and will be used only for the purpose of the research I am conducting as a partial requirement of masters of business administration. In St. Mary's university.

Thank you for your cooperation!

Best regards, Eleni berhanu

Part one: Demographic Data (Tick “√” as many as applied).

1. Gender:

Male Female

2. In which age group are you?

>18 18 to25 25 to 35 36 to 40 41 to 54 55and above

3. Marital status:

Single Married Divorced Widowed

4. What is your current educational status?

10th grade complete 12th grade complete diploma
Degree masters PhD

5. What is your employment status?

Employed Self-employed unemployed student retired

6. Income status?

<= 2000 2001-3500 3501-5000 5001-6500 >=6501

Part two:

7. Source of initiation to use ATM

Bank promotion my organization personally interested
 My friend others

8. Which banking service do you prefer more?

Teller based method ATM

If you prefer teller based method WHY?

9. Which ATM banking service do you use mostly?

Cash withdrawals balance inquiry fund transfer others

10. ATM user's frequency of usage of ATM.

Never sometimes usually always

Part three main questions

Perceived usefulness	Strongly disagree	disagree	neutral	Agree	Strongly agree
I understood that ATM simplifies the problem of the ordinary traditional banking services					
Using ATM banking will enable me to accomplish my banking task more quickly					
ATM will make it easier for me to do my banking activities					
Using ATM banking improves my performance of banking activates					
Using ATM helps me to get service without going to bank.					
Using ATM banking will decrease my cost of banking.					
ATM banking saves time compared to traditional banking.					
Using ATM card helps me for not allowing myself for communicable viral diseases like COVID-19					
Perceived Ease of Use					
ATM banking is easy to use					
ATM banking is not complicated to use.					
I can use ATM banking without anyone helping me.					
My interaction with the ATM banking is clear and understandable					

I find it easy to do what I want to do with ATM banking					
I find ATM banking flexible to interact with.					
Interaction with the ATM banking does not require a lot of mental effort.					
Learning to use ATM banking is easy for me.					
Perceived Risk					
Using ATM banking may expose me to fraud or monetary lose.					
I am not confident with the security aspects of ATM banking.					
ATM banking not secure as conventional banking (going directly to the branch).					
Using ATM banking is not safe					
Intention to use					
It's convenient to use					
Does it Avoid staying inline timesaving					
Convenience					
ATM banking is convenient, in terms of time saving.					
ATM banking is convenient, in terms of 7days and 24hours services.					
ATM banking is a convenient way to manage my finances effectively.					
Using ATM banking services is convenient in enabling me to complete banking activities more Quickly.					
Adoption					
I am still using ATM banking					
I strongly recommend the use of ATM banking					
I will increase my use of ATM banking					