

**FACTORS AFFECTING ATM TECHNOLOGIES USAGE IN
COMMERCIAL BANK OF ETHIOPIA IN WOLKITE BRANCH**



COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

**THIS RESEARCH PAPER SUBMITTED TO DEPARTMENT OF
ACCOUNTING AND FINANCE FOR PARTIAL FULFILMENT
OF ART (BA) DEGREE IN ACCOUNTING AND FINANCE**

PREPARED BY: WOSIN ASHENAFI

ADVISOR: ANDARGACHEW H. (MSc)

JANUARY, 2021

WOLKITE, ETHIOPIA

Statement of Declaration

I Wosin Ashenafi, have carried out independently a research work entitled "*Factors Affecting ATM Technologies Usage In Commercial Bank Of Ethiopia In Wolkite Branch*" in partial fulfillment of the requirement of BA Degree in Accounting and Finance with the guidance and support of the research advisor. I do hereby declare that this research paper is my original work and that it has not been submitted by any other person for an award of degree in this or any other university/institution.

Submitted by:

Full Name: Wosin Ashenafi Signature_____ Date_____

Approved By:

This paper has been submitted for examination with my approval as advisor

Full Name: Mr. Andargachew H. (MSc) / Signature_____ Date_____

Abstract

*This study could be focused on examining factors affecting ATM technologies usage in commercial bank of Ethiopia in Wolkite, The general objective of the study to examining factors affecting **ATM** technologies usage in commercial bank of Ethiopia in **Wolkite** branch, and this would investigate by hypotheses test. This study was to adopt explanatory research design and would be use qualitative and quantitative analysis, while the sample takes 87respondents would be select non-probably with convenience sampling technique The data would be gathered from primary which were collected through questionnaire from customers.Then the data would be processed, analysed and interpreted by using descriptive and inferential statistics through STATA14 version. The findings further indicate that, there exists linear and positive significant ranging from substantial to strong relationship was found between working place factor and dependent variable Based on the finding the study recommended that the future researches would investigate by increasing the number of samples and by including new factor affecting variables of ATM technologies usage and using advanced techniques.*

Key word;- Automatic Teller Machine, commercial bank of Ethiopia

Table of Contents

Statement of Declaration.....	I
<i>Key word;- Automatic Teller Machine, commercial bank of Ethiopia</i>	II
Table of Contents.....	III
List of table	V
List of figure	V
Acknowledgements.....	VI
Acronym	VII
CHAPTER ONE	1
1. INTRODUCTION	1
1.1 background of the study.....	1
1.2 Statement of the problem	2
1.3 Objectives of the study.....	3
1.3.1 General objectives.....	3
1.3.2 Specific objectives	3
1.4 Research hypotheses	4
1.5 Significance of the study.....	5
1.6 Scope of the study	5
1.7 Organizing the paper.....	5
CHAPTER TWO	6
2. REVIEW OF LITERATURE	6
2.1 Introduction.....	6
2.2. Theoretical Foundation	6
2.2.1 Diffusion of Innovation Theory	8
2.2.2 Dissonance Theory.....	8
2.2.3 Combined Level Theory about ATMs and Customer satisfaction.....	9
2.3 Automated Teller Machine use and Customer Satisfaction.....	9
2.3.1 Forms of customer satisfaction in the use of ATM.....	9
2.3.2 Challenges in the use of ATM	11
2.4 Factors affecting ATM Technologies usage	14
2.4.1 Gender.....	14
2.4.2 Income.....	14

2.4.3 Educational Level	15
2.4.4 Age.....	15
2.4.5 Occupation	15
2.5 Empirical Literature Review	16
2.6 Conceptual framework.....	18
CHAPTER THREE	19
3. Research Methodology	19
3.1 Research design	19
3.2. Research Approach	19
3.3 Target population of the study	20
3.4 Sampling and Sample Size Determination.....	20
3.5 Data collection	21
3.6 Method of Data Collection.....	21
3.7 Data analysis	22
3. 8 Model specification and variables description.....	22
3.9 Dependent variable	22
3.10 Independent variables	23
CHAPTER FOUR.....	25
DATA ANALYSIS AND PRESENTATION	25
Introduction.....	25
4.2. Descriptive statistics of the study variables	27
4.2 Correlation Analysis	29
4.3. Testing Assumption	30
4.3.1 Normality test.....	30
4.3.2 Multicollinearity test.....	31
4.3.3 Heteroscedasticity	32
4.4 Analysis and Interpretation of Regression Result.....	33
4.5 Discussion of Regression Result.....	36
CHAPTER FIVE	40
CONCLUSSION AND RECOMANDATION.....	40
5.1 Introduction.....	40
5.2 Conclusions.....	40

5.3 RECOMANDASTION.....	41
REFERENCE.....	43
<i>Appendix</i>	47

List of table

Table 4. 1Response Rate.....	25
Table 4. 2Gender of Respondents.....	26
Table 4. 3EDUCATIONAL LEVEL OF RESPONDENT	26
Table 4. 4Occupation of the respondent	27
Table 4. 5Summary of Descriptive statistics	28
Table 4. 6Correlation matrix of dependent and independent variables	29
Table 4. 7Normality test	31
Table 4. 8Test of Multicollinearity by Correlation Matrix of X variables.....	32
Table 4. 9Test of Heteroscedasticity.....	33
Table 4. 10Regression result.....	34
Table 4. 11 Marginal Effect.....	36
Table 4. 12Summary of Hypothesized and Actual Impact	39

List of figure

figure2 1Conceptual framework	18
-------------------------------------	----

Acknowledgements

It is the grace, mercy, charity, forgiveness, help and kindness of the almighty God that made me still alive, achieve this success and strength and to go through all the difficult time. While there are several people who have helped me in one way or another to achieve the completion of this paper, it would have not been possible without the guidance, support and expertise of my senior essay advisor **Andargachew Haile (M.Sc)**. So, I would like to begin by thanking **Andargachew Haile** for his constructive comments and outstanding help with this paper, for allowing me the complete freedom to pursue this study, to work on my own initiative and for making me to use the potential that I have with confidence on my ability

Acronym

ATM Automated teller machine

CPU Central Processing Unit

CBE Commercial bank of Ethiopia

ABM Automated Banking Machine

PIN personal Identification Number

SMS short message service

POS point of seller

CHAPTER ONE

1. INTRODUCTION

1.1 background of the study

In modern economics, service sector plays a significant role side by side with manufacturing and other sectors. According to Agbor (2011), banking sector does its activities socially and economically in a country. Service personnel of such service industries are concerned about their service quality and client satisfaction. These calls for the application of more efficient method of service delivery that makes it possible for the clients to meet their service expectations.

In the age of modern technology, the banking sector is considered as life blood of global business. Innovation in technology increases the efficiency of banking operations and system to increase the competitive market share. Banking industry is fast growing with the use of technology. In the last few decades, information technologies have changed the banking industry and have provided a way for the banks to offer differentiated products and services to their customers (Barun et al., 2014). Electronic based business models are replacing conventional banking system and most banks are rethinking business process designs and customer relationship management strategies. It is also known as e-banking, online banking which provides various alternative e-channels to using banking services, that is ATM, credit card, debit card, internet banking, mobile banking, electronic fund transfer, electronic clearing services etc. (Singh and Komal, 2009).

Automated Teller Machine (ATM), is a computerized telecommunications device that provides the customers of a financial institution with access to financial transactions in a public space without the need for a human clerk or bank teller (Adepoju and Alhassan, 1970). Automated Teller Machine (ATM) has been seen by both scholars and practitioners as one of the most innovative techniques that have been introduced into the banking system. This technique enables banks to provide customers with quality and

satisfactory services. The increasing numbers of bank customers preferring this technique do so not only because of its self-service delivery attribute and increased autonomy in executing transactions but also due to diversified financial services it offers (Akpan, 2016). ATMs save time and provide convenience to the customers due to the fact that the card holders do not need to go to bank branches to withdraw money, and the card holder is able to make shopping, travelling etc. ATMs offer a 24 h banking service to the bank customer like cash withdrawal, fund transfer, balance inquiry, card to card transfer, bill payment, accept deposit etc (Kumbhar, 2011). In this study the researcher will to identify Customers Socio- Economic attributes (Gender, Education, Occupation, system quality and Income) and A demographic profile (Age). Therefore, the researcher want to seek investigate and find out the factors affecting ATMs Technologies usage in Commercial Bank of Ethiopia Wolkite branch in Wolkite town.

1.2 Statement of the problem

The developments of technologies have enabled organizations to provide superior services for customers' satisfaction (Surjadjaja et al., 2003). The availability of several ATMs country wide has greatly improved the quality and convenience of service delivery; however, some researchers have stated that users' satisfaction is an essential determinant of success of the technology-based delivery channels (Tong, 2009). According to Singh and Komal (2009), ATM services enhance operations and customer satisfaction in terms of flexibility of time; add value in terms of speedy handling of voluminous transactions which traditional services were unable to handle efficiently and expediently. Moreover, today customers of any service including banking are interested in the ease, reliability and faster service. They want autonomy in transacting and so that they prefer self- service delivery system (Khan, 2010).

In Ethiopia, banking services offer different services like mobile banking, internet banking, SME banking, credit card, Short Message Service (SMS) banking, foreign currency account, Automated Teller Machine services, locker service, and loan and advances. They also offer corporate banking, loan syndication, real-time online banking for corporate clients. Service charges, quality of service, perceived value and customer's satisfaction are the main sources of success in any service factory.

Commercial Bank of Ethiopia (CBE) is the first bank in Ethiopia to introduce ATM service for local users. Currently, CBE has more than 20 million account holders and the number of Mobile and Internet Banking users also reached more than 1,736,768 as of June 30th, 2018. Active ATM card holders reached more than 5.2 million. As of December 31, 2018, 2361 ATM machines and 12,057 POS machines were available (CBE, 2018). However, despite the fact that the ATMs are strategically installed in branches, hotels, universities, malls and other public places, only 22.5% of the total CBE's customers were using ATM at the end of 2016.

Moreover, due to lack of appropriate infrastructure and related problems (frequent breakdown of ATM service, ATM machines being out of cash, cards being blocked, unreliability of ATM service, lack of sufficient technicians who solve breakdown of ATM machine in all bank) CBE,2016. It failed to increase customer satisfaction and profitability. In this study the researcher will to identify Customers Socio- Economic attributes (Gender, Education, Occupation, system quality and Income) and A demographic profile (Age). Therefore, the researcher want to seek investigate and find out the factors affecting ATMs Technologies usage in Commercial Bank of Ethiopia Wolkite branch in Wolkite town.

1.3 Objectives of the study

This paper have both general and specifics objectives.

1.3.1 General objectives

The general objective of this study is to examine factors affecting ATM Technologies usage in Commercial Bank of Ethiopia Wolkite branch in Wolkite branch.

1.3.2 Specific objectives

The specific objectives of the study were as follows -

- ✓ To examine the effect of Gender on the usage of ATM technologies in commercial bank of Ethiopia in Wolkite branch..
- ✓ To examine the effect of Education on the usage of ATM technologies in commercial bank of Ethiopia in Wolkite branch.

- ✓ To examine the effect of Occupation on the usage of ATM technologies in commercial bank of Ethiopia in Wolkite branch.
- ✓ To examine the effect of Income on the usage of ATM technologies in commercial bank of Ethiopia in Wolkite branch.
- ✓ To examine the effect of Age on the usage of ATM technologies in commercial bank of Ethiopia in Wolkite branch.
- ✓ To examine the effect of system quality on the usage of ATM technologies in commercial bank of Ethiopia in wolkite branch.

1.4 Research hypotheses

The ATM usage depends on the education, income class, gender, and types of accounts. And some other demographic factors of the customer of banks. This study was examining Customers Socio- Economic attributes (Gender, Education, Occupation, Income and system quality) is significant influence with the usage of ATM technologies in commercial bank of Ethiopia in Wolkite branch. A demographic profile (Age) is significant influence the usage of ATM technologies in commercial bank of Ethiopia in Wolkite branch.

Following hypothesis have been tested based on customer responses:

H1. Gender is positive and significant influence on ATM technologies usage in commercial bank of Ethiopia in Wolkite branch.

H2. Education is positive and significant influence on ATM technologies usage in commercial bank of Ethiopia in Wolkite branch.

H3. Occupation is positive and significant influence on ATM technologies usage in commercial bank of Ethiopia in Wolkite branch.

H4. Income is positive and significant influence on ATM technologies usage in commercial bank of Ethiopia in Wolkite branch.

H5. Age is negative and significant influence on ATM technologies usage in commercial bank of Ethiopia in Wolkite branch.

H6. System quality is positive and significant relationship with ATM technologies usage in commercial bank of Ethiopia

1.5 Significance of the study

The result of the study would have significance or benefit for the student researcher, decision makers and other researchers. The result is helping a manager to identify the organization strength, weakness on delivering service through ATM and use as an input. The finding of the study was help the banking industry by showing how quality service can be offered by ATM (Automated Teller Machine) services is essential.

The study was also having importance to future researchers who was conduct research in the fields related to ATM system of banking and customer satisfaction. It was improve the student researcher's knowledge and skills related to the application of ATM service concepts in the real world. The result of this study would be of great advantage to the customers and Banks. The above are some of its significance.

1.6 Scope of the study

The study basically focuses factors affecting ATM technologies usage in commercial bank of Ethiopia in Wolkite branch. This study uses primary source of data. There are multiple factors that affect ATM technology usage, however this study limited to examine only the effect of socio economic (Gender, Education, Occupation, Income and system quality) and demographic factors (Age) which affect the usage of ATM technologies commercial bank of Ethiopia in wolkite branch.

1.7 Organizing the paper

The study would be organized in to five chapters. The first chapter includes, introduction, background of the study, statement of the problems, objectives of the study, hypotheses test, significant of the study and scope of the study. The second chapter includes literature review, the third chapter includes research methodology, the fourth chapter includes data interpretation and analysis and the final chapter constituted conclusion and recommendation of the study.

CHAPTER TWO

2. REVIEW OF LITERATURE

2.1 Introduction

In this section some of the related theoretical and empirical research works done are discussed to provide theoretical insight and empirical elaboration to the researcher work and to see its supportive climate and dissimilarity of those research works with that of mine.

2.2. Theoretical Foundation

This section outlines the theories that this study is grounded to underpin the foundation of Automatic Teller Machine and customer satisfaction. These theories include Diffusion of Innovation Theory, innovation Diffusion Theory, Dissonance Theory and combined Level Theory.

A Theory is a plausible or scientifically acceptable general principle or body of principles offered to explain phenomena (Cheltel, 1998). Theory explains how some aspect of human behavior or performance is organized. It is through understanding the theory behind banking that led to implementation of ATM to influence customer satisfaction. The study concentrates on ATM theory and Customer satisfaction theory.

Automated Teller Machine is a computerized telecommunications device that provides the customers of a financial institution with access to financial transactions in a public space without the need for a human clerk or bank teller. On most modern ATMs, the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic smartcard with a chip that contains a unique card number and some security information, such as an expiration date. When it was first introduced, the ATM was meant to reduce the unnecessary traffic in the banking hall, make customers have a quick access to their money and make life convenient to a certain level. However, according to Ayo et al., (2010) the situation today has changed drastically; it has become a source of worry to

users and providers (banks), because the function it was meant to provide has been seriously eroded. It has become a money spinner for fraudsters, who have found new heaven in compromising innocent peoples personal identification numbers (PIN).

Cacioppo (2000) argued that use of Automated Teller Machine system of banking brought efficiency in the banking industry majorly in terms of speed, data processing and storage which is anticipated to induce customer satisfaction through instant cash withdrawal, balance enquiry, bill payment, cash and cheque deposit, saving and credit account on a 24 hours basis (Patricio & Cunha, 2011).

Donell (2003) viewed electronic banking service as a service that consumers can access, by using Network framework or an Internet service to a banks computer center, to perform banking stacks, receive and pay bills, and so forth. Many other financial services can be gained access through the Internet. To most people, electronic banking service means 24- hour access to cash through an ATM or paychecks deposited directly into checking or savings accounts (Hillier, 2002).

Rose (2010) cited by Abor, describes ATMs as follows: “an ATM combines a computer terminal, record-keeping system and cash vault in one unit, permitting customers to enter the banks book keeping system with a plastic card containing a Personal Identification Number (PIN) or by punching a special code number into the computer terminal linked to the banks computerized records 24 hours a day”. Once access is gained, it offers several retail banking services to customers.

Adepoju and Alhassan (2010) stated that ATMs were originally developed as just cash dispensers; they have evolved to include many other bank-related functions. In some countries, especially those whose benefit from a fully integrated cross-bank ATM network, ATMs include many functions which are not directly related to the management of one’s own bank account, such as: Paying routine bills, fee and taxes (utilities, phone bills, social security, legal fees, taxes etc.), Printing bank statement, Updating passbooks, Loading monetary value into stored value cards, Purchasing and so on.

2.2.1 Diffusion of Innovation Theory

The ATM innovation was a result of Diffusion of innovation theory. Diffusion of Innovation (DOI) Theory, developed by E.M. Rogers in 1962, is one of the oldest social science theories which originated in communication to explain how, over time, an idea or product gains momentum and diffuses (spreads) through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product like the use of ATM. ATM innovation was result of a need to initiate a computerized telecommunication device that provides the customers of a financial institution with access to financial transactions in a public space without the need for a human clerk or bank teller which was influence by diffusion. The bank needs to diffuse easy access to its services 24/7 laid foundation for ATM use. Adoption means that customers switched to use of ATM and abandoned using teller within the bank hall. This new innovation depicts the suggestions of diffusion theory about the way people perceive and subscribe to technology.

2.2.2 Dissonance Theory

Satisfaction is an overall psychological state that reflects the evaluation of a relationship between the customer or consumer and a company, environment, product or service. Satisfaction involves one of the following three psychological elements: cognitive (thinking/evaluation), affective (emotional/feeling), and behavioral.

Dissonance Theory 1965 suggests that a person who expected a high-value product and received a low-value product would recognize the disparity and experience a cognitive dissonance (Cardozzo, 1965). That is, the disconfirmed expectations create a state of dissonance or a psychological discomfort (Yi, 1990). According to this theory, the existence of dissonance produces pressures for its reduction, which could be achieved by adjusting the perceived disparity like the services expected from use of ATM. This theory holds that post exposure ratings are primarily a function of the expectation level because the task of recognizing disconfirmation is believed to be psychologically uncomfortable. Raising expectations substantially above the product performance and failing to meet customer expectations may backfire, as small discrepancies may be largely discounted while large discrepancies may result in a very negative evaluation although its establishes

a basis for offering services to meet continuous needs of customers. Thus, ATM user are posited to perceptually distort expectation-discrepant performance to coincide with their prior expectation level. The study conceptualize Dissonance Theory to relate the ATM customer expectations and the actual perceived expectations which requires Stanbic bank Mbarara branch to strive and raise ATM services to meet customer expectations in order to obtain a higher product evaluation to induce customer satisfaction.

2.2.3 Combined Level Theory about ATMs and Customer satisfaction.

A number of authors criticized the Expectancy-Disconfirmation Paradigm (EDP) on the grounds that this approach posits that the primary determinant of customer satisfaction is the predictive expectations created by manufacturers, company reports, or unspecified sources (Tour & Peat, 1979). For instance,) argued that the EDP ignores other sources of expectations, such as the consumers past experience and other consumers experience with similar constructs. They proposed a modification of the Comparison Level Theory (Thibaut& Kelley, 1959). In contrast to the Expectancy-Disconfirmation paradigm which uses predictive or situational-produced expectations as the comparison standard, the Comparison Level Theory argues that there are more than one basic determinants of comparison level for a product which include consumers'' prior experiences with similar products, situational produced expectations (those created through advertising and promotional efforts), and the experience of other consumers who serve as referent persons. Thus justify the relationship between actual satisfaction and projected satisfaction after the use of ATM is high advocated in the comparison theory since customers keep comparing the ATM services previous consumed and the current services to yield satisfaction. Comparison level refers to expectation for the relationship between cost incurred to access ATM services and benefits attached.

2.3 Automated Teller Machine use and Customer Satisfaction

2.3.1 Forms of customer satisfaction in the use of ATM

The already developed forms of customer satisfaction on the use of ATM at bank include timely withdraw and deposit of cash, print of readable slips and financial min statements, ATM fees charged, carriage of large sum of money using ATM card, ATMs not out of

order, cleanliness of ATM stations, accuracy of ATM transactions, payment of bills online, ease of access to ATMs, convenient location, privacy at ATM stations, employee speed in solving ATM issues, easy application process for ATM cards and cash availability in ATMs. These are universal attributes of customer satisfaction which need an evaluation to determine whether they exist in the case study area of Stanbic Bank Mbarara Branch.

Diniz (2011) argued that timely withdraw of cash facilitate customer satisfaction. ATM enable customers to access their money instantly at any time at any ATM of their convenience, thus induce the regular use of the service. Furthermore Okior (2015) argued that cheap cash withdraw of funds enables customers to meet their immediate needs which attract customer satisfaction since a single satisfied customer in today's dynamic corporate environment will obviously convince other customers through reference to the business and satisfaction greatly influences customers' repurchase intentions whereas dissatisfaction has been seen as a primary reason for customers intentions to switch to other dealers in banking industry. Satisfied customers are most likely to share their experiences with other five or six people around. Banking industry is too competitive and therefore all players are struggling to win customers and use of ATM is the core yardstick to affect quality service delivery to clients. However, Diniz (2011) conjure that cash deposit via ATM point is not as effective as cash withdraws since deposit of cash does not update the account automatically in developing countries.

Mazursky (2010) argued that easy carriage of large sum of money using ATM card facilitates customer satisfaction. The safety of cash carriage justifies customer satisfaction which led to repeated purchase from which old customers are maintained and attract new ones. Use of ATM is a fundamental tool used by financial institutions for enhancing customer loyalty and ultimately organizational performance and profitability. The importance of customer satisfaction cannot be dismissed because happy customers are like free advertising. Many of customers become aware of current trend for businesses through repeated purchase which induces customer-centric, that is to put the customer at the centre of their business in terms of their strategies, actions and processes. For most of us, old truths still hold well, such as it is easier and more profitable to sell to

existing customers than to find new ones. In addition, Feronicah (2009) disclosed that financial institutions are increasingly setting themselves strategies to out compete other players through Information Technology Communication (ITC) enhancement like use of ATM amongst other to induce customer satisfaction and loyalty. Anderson and Sullivan (2007) argued that ATM facilitate 24/7 deposits and withdrawals of cash by customers account to transact induce customer satisfaction. In addition, 24/7 access to account make customers to feel satisfied and become loyal which make the business to survive since a single unsatisfied customer can send away more clients from the bank and current ITC is the base line to induce customer satisfaction which the Stanbic achieve through the use of ATM to offer 24/7 service to induce customer satisfaction and retention. It is worth to focus on customer satisfaction strategies; no matter how large or small your organization is. A well-known fact is that referrals only come from customers who are “apostles”. Banking industry in Uganda is highly competitive with over 20 commercial licensed commercial banks etc. There is also pressure from mobile money players, SACCOs amongst other innovative non-bank intermediaries that compete aggressively in the development of products and services in the same market segmentation.

Stemper (1990) stresses the positive dimension of ATMs based on freedom of transaction. Effective service delivery in ATM system guarantees quality excellence and superior performance and provides autonomy to the customers (Lovelock, 2000). In addition, Yavas, Benkenstein and Stuhldreier (2004) opine that customer focused ATM delivery system that fulfills their needs and maximize operational performance is an essential dimension for bank to achieve and sustain competitive advantage.

2.3.2 Challenges in the use of ATM

The universal challenges in the use of ATM mentioned by other scholars include lack of cooperation by the banks to stem incidence of ATM related fraud, network breakdown on ATM, limits on daily transaction, absence of clear direction about inserting ATM cards, PIN theft, long queues, high rate of Visa ATM charges are reviewed below.

Ihejiahi (2012) expressed concern about the lack of cooperation among banks in the fight to stem the incidence of ATM related frauds now plaguing the industry. He expressed that the silence among banks on ATM frauds makes it difficult for banks to share vital

information that will help curb the menace. In addition, Femior (2013) argued that the advantages of safety and convenience of ATM has unfortunately been lessened by the frauds that are perpetrated by „plastic money“. The increase in number of customers using ATM has also increased the propensity to fraudulent practices by the ATMs fraud perpetrators.

Stemper (1990) stresses the positive dimension of ATMs based on freedom of transaction. Similarly, Helton (2013) posit that despite the reality that the introduction of ATM terminals as a banking instrument was lauded by several customers as an alternative to the frustrating queues that characterized the country's banking hall, the situation today has changed drastically; it has become a source of worry to users and providers (banks) because the function it was meant to provide has been eroded seriously.

Baron (2008) argued that limit on daily withdrawal affect customers“ cognitive and affective orientation towards shopping activities. Sproles and Kendall (2011) conjure that scale rating in terms of perfectionist high- quality conscious consumer, brand conscious “price equals quality” consumer, novelty-fashion conscious consumer; recreational, hedonistic consumer; price conscious “value –for-money” consumer; impulsive, careless consumer; confused by over choice consumer, and finally habitual, brand-loyal consumer are mental customer style satisfaction characteristics.

Athanassopoulos (2010) found inserting card incorrectly is a challenge on the use of ATM. This is the result of ignorance among the customers, thus indicate empirical evidence of innovation, convenience, price, and service quality as vital dimensions to customers“ satisfaction. An understanding of customers“ expectations enables organizations to offer customer-focused services and reduce attrition of customers which boost their customer satisfaction.

Diebold (2011) states that the major form of ATM fraud is PIN theft which is carried out by various means; skimming, shoulder surfing, camera, key pad recorder etc. Further elucidates that the common type of fraud perpetuated is PIN theft which is mostly as a result of congestion at ATM points. Other forms of fraud that were enumerated by

respondents were; force withdrawal, card theft, and skimming and congestion method fraud at ATM.

Cynthia (2008) states that wait in long queues to access ATM machine together with fraud is a double edge sword it has both advantage and disadvantage. It is easy to deduce that ATM fraud is carried out most in the day time. Also there are occurrences at night but most ATM users prefer to make withdraw during the day thus preventing incidences of robbery at night which adversely affect 24/7 hour banking benefit. ATM manuals or FACTA (Fair and Accurate Credits Transactions Act) is a pertinent document that should be given to ATM users as they are been issued with ATM but from the study this is absolutely neglected. Understanding all these, to implement any security of any level will just be an improvement on the weak security points.

Mohsan (2008) argued that high rate of Visa ATM use, especially switching from different banks like use of Visa ATM of Centenary bank into ATM Stanbic charge Ushs 5,000 which make ATM use not flexible. These high charges contribute to the dissatisfaction of customers on the use of ATM. Equally well, dissatisfied customers are more likely to tell another ten people about their unfortunate experiences with a particular organization. Charleton (2014) argued that incorrect amount of cash dispensed is the challenge associated with ATM use. In order to achieve customer satisfaction, organizations must be able to build and maintain long lasting relationships with customers through satisfying various customer needs and demands which resultantly motivates them to continue to do business with the organization on on-going basis. Barberah (2012) asserted that inadequate technical support to help clients on the use of ATMs deter its use leading to customer dissatisfaction.

2.4 Factors affecting ATM Technologies usage

2.4.1 Gender

In the context of this paper, gender refers to the difference in the adoption and usage of new technology such as e-banking between male and female [11]. The impact of gender on customers' e-banking usage behavior has been validated by a number of scholars as explained below. A study conducted by Alagheband [16] to identify factors affecting the adoption of e-banking services indicated that men represent the segment with the highest use of e-banking. Similarly, Alafeef et al. [17] on their study regarding the influence of demographic factors on e-banking adoption discovered that gender has strong effects on the adoption level of e-banking applications in which males have greater e-banking usage experience as compared to females. Azouzi [18] also discovered that gender is a crucial variable impacting the customers, attitude towards the adoption of e-banking. Similarly, Muzividzi et al. [19] on their study shown that e-banking is popular with men than women. This may be because men have the courage to take up new technology even with little information about it

2.4.2 Income

It refers to the extent to which the level of income users' have will influence their e-banking usage practice [11]. With regard to the impact of income on consumers' e-banking adoption or usage practice, Ismail et al. [20] on their study investigated that e-banking usage is associated with clients' income, account type, and computer and internet literacy. High income clients and those who have current account and computer and internet literate are more likely to use e-banking services [23]. Similarly, Annin et al. [25] clearly indicate that monthly income level is among the socio-economic factors that significantly influence bank customers' decision to use e-banking. However, contradictory results were found by Munusamy, De Run, Chelliah and Annamalah [29]; Alagheband [16] and Annin et al. [25] who stated that income have no significant impact on e-banking adoption. Further, Izogo [14] found that income do not have significant effect on customers' adoption and usage of e-banking. This implies that there is no significance difference in their e-banking adoption behavior between consumers who are in different income groups.

2.4.3 Educational Level

The impact of education on bank customers' e-banking usage practice is discussed below by reviewing various previous studies. For example; a study conducted by Abenet [22] in Ethiopia found that e-banking usage practice is greater among those peoples who are in a better educational level as compared to others, so educational level has positive impact on e-banking adoption. This finding is in line with Edwin et al. [26] who found that consumers' level of education and ICT knowledge impacts their acceptance of e-banking services.

2.4.4 Age

The impact of age on consumers' e-banking usage practice is investigated by various previous scholars and thus the empirical findings of these researchers are discussed here under. A study conducted by Abenet [22] concerning the determinants of e-banking adoption in Ethiopia revealed that the young age group is more computer literate and finds it easy to accept and use new technologies. Poon [23] and Azouzi [18] on their study also supports that young and computer literate respondents are using or are willing to use electronic banking. The hypothesis tested to diagnose the relationship between age and e-banking preference by Yitbarek et al. [24] shows a gradual but steady decline in the percentage preference of e-banking as the age group increases. This means that the percentage preference for e-banking for the 18 to 25 years age group is greater than the percentage preference for e-banking for the above 60 years age group.

2.4.5 Occupation

A person's occupation also influences his or her consumption pattern [22]. Previous empirical studies related to the impact of occupation on e-banking adoption or usage is discussed below. For example; Annin et al. [25] on their study found a positive and significant relationship between occupation and e-banking adoption. With regard to occupation type, Alagheband [16] on his study found that higher users' of e-banking has been evident for government employees rather than other types of employments. Further, Mohammed [29] also investigated that graduated and employed male customers who belong from higher income category and having a bank account preferably in government banks are greatly emphasized to the use of IT based banking services.

2.5 Empirical Literature 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 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 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. He also found that there was no 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 statistical 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 hour of the day.

According to Adeniran (2014), among the development in the banking services delivery is the introduction of Automated Tellers 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 Tellers 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.

Moreover, due to lack of appropriate infrastructure and related problems (frequent breakdown of ATM service, ATM machines being out of cash, cards being blocked, unreliability of ATM service, lack of sufficient technicians who solve breakdown of ATM machine in all bank) CBE,2016. It failed to increase customer satisfaction and profitability. In this study the researcher will to identify Customers Socio- Economic attributes (Gender, Education, Occupation, system quality and Income) and A demographic profile (Age). The gap of the previous study all researcher seen factors affecting ATM technologies study on in Ethiopia. Therefore in this study was

investigated in specific area in wolkite branch in Wolkite town. The researcher want to seek investigate and find out the factors affecting ATMs Technologies usage in Commercial Bank of Ethiopia Wolkite branch in Wolkite town.

2.6 Conceptual framework

This conceptual frame work describes the relationship between dependent variable (ATM usage) and independent variables Customers Socio- Economic attributes (Gender, Education, Occupation, system quality and Income) andthe demographic profile (Age).

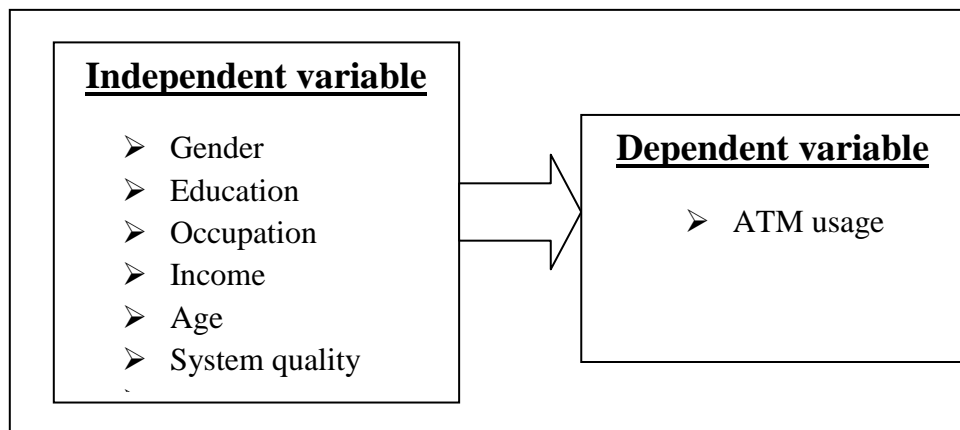


figure2 1Conceptual framework

CHAPTER THREE

3. Research Methodology

3.1 Research design

Research Design is the conceptual structure within which research is conducted; it contains the mechanisms of data collection, variable measurement and analysis (Kothari, 2008). This study using explanatory researcher design, explanatory design is cause and effects relationship dependent and independents variable (Kothari, 2008). The main objective of this study will to investigate the determinants factors affecting ATM technologies usage in Wolkite branch. The researcher was used descriptive and explanatory research design to show the cause and effect. This empirical study would be based on primary data that is obtaining from ATM users of the selects commercial banks in Wolkite branch. Descriptive, Correlation and Multiple regression analysis is employs for this study. Descriptive statistics is applies to give a clear picture of respondents' demographic profiles and to answer some research questions like reasons to prefer ATM, degree of satisfaction, challenges using ATM services, purposes of using ATM, how long respondents had owned an ATM card and how often respondents use ATMs cards etc. The correlation analysis was conducts to assess the relationship between independent variables and dependent variable. Multiple regression method would use to examine the simultaneous effects of several independent variables on a dependent variable.

3.2. Research Approach

As noted in Creswell (2003), in an investigative study there are three familiar types of research approaches to business and social research namely, quantitative, qualitative and mixed methods approach. Creswell (2009) defined quantitative research as a formal, objective and systematic process in which numerical data are utilized to obtain information. Mmuya (2007) stated that qualitative research is an investigative methodology that is grounded in a philosophical position that focuses on making sense of the social world through a process involving how it is experienced, understood and interpreted. The qualitative method takes a theoretical and methodological focus on

complex relations between personal and social meanings, individual and cultural practices and the material environment or context. Whereas, mixed research is characterized as the combination of both qualitative and quantitative research approaches. Considering the research problem and objective along with the philosophy of the different research approaches, the quantitative nature of the data collected, quantitative research approach was found to be appropriate for this study Besides, this study would use mixed research approach to examine a stated objective because mixed research is a systematic and scientific investigation of quantitative properties and qualitative phenomena and their relationships (Abiy, 2009).

3.3 Target population of the study

The target population of the study was customers of commercial bank that are currently using ATM service in Wolkite branch. More than 30000 peoples are customers of the bank from these 14397 are targeting population those having active cards. The sampling technique for this research would be non-probabilistic (non-random) sampling. In this technique, the chance of including any unit of the population in the sample cannot be determined. From non-probability sampling techniques, this case study would be used convenient sampling.

3.4 Sampling and Sample Size Determination

Non random sampling technique made the process of collecting data faster, easier and less costly. The researcher was takes samples by using non-probability sampling. In this specific study, it is not possible to collect data from everyone who uses the service. The target populations of the study are customers of commercial bank that are currently using ATM service in Wolkite branch. The sampling techniques for this study would be non-probabilistic (non-random) sampling. In this technique, the chance of including any unit of the population in the sample could not be determine. From non-probability sampling techniques, this case study uses convenient sampling. In using this sampling technique, elements of the population those who are readily available or convenient for the investigation. The researcher would use judgmental sampling techniques to select sample

size from target population of 14397 customers using ATM. by using yamane (1967) formula. By using level of level of confident is 90 %.

$$n= N/(1+ Ne^2)$$

$$14397/ (1+14397 \times 0.1^2) =99.31$$

Where; N is the total population of the targets size

n= sample size

e = error

3.5 Data collection

The study was used primary source of data. The primary data would be collected by un structured interview and the way of asking questions orally, it would be used in order to get the information needed for the customer and the staff of the Bank. This study was used mainly the data obtain from primary sources. Primary data would be collected from customers who are using ATM services in Wolkite branches of CBE in Wolkite town. Primary data would be collected using orally asked questionnaires. Convenient sampling techniques in Wolkite branches of CBE.

3.6 Method of Data Collection

The researcher was used the following methods to gather the required data. The study would be operated questionnaires as gadget of collecting primary data. Mugenda and Mugenda (2003) depicts that the use of questionnaire method is advantageous because many of the respondents' information can be captured in an easy, quick and cost-effective manner. The questionnaire would use to collect both qualitative and quantitative information through open and close-ended questions. The questionnaire has both open and close-ended questions. The questionnaires would be structured according to the objectives of the study.

3.7 Data analysis

Descriptive, Correlation and Multiple regression analysis is employees for the study. Descriptive statistics was applied to give clear picture of the respondents' profiles. To determine the relationship between dependent and independent variables Pearson correlation is uses. Furthermore, the regression analysis was applied to measure the contribution of the independent variable to the dependent variable. Data is processes with the help of stata software.

3.8 Model specification and variables description

An empirical model has been developed to identify the factors affecting the customers demand for banking services. The customers' socio-economic attributes (mainly gender, education, occupation, income and system quality) and the demographic attributes (Age) were considered as independent variable whereas use of advanced IT based banking services such as ATM usage was consider as dependent variables. All the variables were evaluated in accordance to OLS model developed as follows.

$$ATM_{US\ i} = \beta_0 + \beta_1(GEN)_{it} + \beta_2(EDU)_{it} + \beta_3(OCCU)_{it} + \beta_4(IN)_{it} + \beta_5(AG)_{it} + \beta_6(SQ)_{it} + \epsilon_{it}$$

Where;-

ATM= automatic teller machine

AG= age

GEN= gender

SQ= system quality

EDU= education

ϵ_{it} = errors

OCCU= occupation

IN = income

3.9 Dependent variable

ATM USAGE

Automated Teller Machine is a computerized telecommunications device that provides the customers of a financial institution with access to financial transactions in a public space without the need for a human clerk or bank teller. On most modern ATMs, the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic

smartcard with a chip that contains a unique card number and some security information, such as an expiration date.

3.10 Independent variables

Occupation

Occupation exists only where it is recognizable as such, and where the occupant has a sufficient measure of control that prevents interference from strangers. Usual or principal business, calling, trade, or work a person is engaged in earning a living. Official designation of an employed or self-employed person such as, architect, doctor, engineer, or manager.

Education

What is education? Is it different from schooling? In this piece Mark K Smith explores the meaning of education and suggests it is a process of inviting truth and possibility. It can be defined as the wise, hopeful and respectful cultivation of learning undertaken in the belief that all should have the chance to share in life. Measure by level of education.

Age

Mature age; especially, the time of life at which one attains full personal rights and capacities; as, to come of age; he (or she) is of age. Abbott. In the United States, both males and females are of age when twenty-one years old. Some rights, such as that of voting in elections, are conferred earlier. Measure by age interval.

Gender

Gender is a socially constructed definition of women and men. It is not the same as sex (biological characteristics of women and men) and it is not the same as women. Gender is determined by the conception of tasks, functions and roles attributed to women and men in society and in public and private life. Measure by sex preference.

Income

Income is the money that a person or company earns or receives, as opposed to the money those they has to spend or pay out. They have the expertise of running low-cost operations in markets where consumers have very low incomes. The company reported that net income for the fiscal first quarter more than doubled. Income is the money that a person or company earns or receives, as opposed to the money those they hasto spend or pay out. Measure by level of incomes.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

Introduction

This chapter presents the findings of the study collected from the user of ATM service in commercial bank of Ethiopia in wolkite , on the factors affecting ATM technologies usage in commercial bank of Ethiopia in wolkite branch. The data was collected through use of researcher administered questionnaire. Accordingly, the result of descriptive statistics, correlation analysis, the test of CLRM assumption and result of the regression analysis are presented in the following sub-sections. The chapter lays the foundation on which the conclusions and recommendations of the study may be derived. Walliman (2011), cited in Saunders, Lewis and Thornhill (2012) by noting that important notions should be revealed in research outputs that contribute something new to the area studied. After the presentation of findings, interpretations are made and later discussions are made to check for similarities or differences with previous published works.

Table 4. 1Response Rate

The following table shows the response rate of the respondents

Respondents	Sample size	Response rate	Percent
employees	99	87	87.9%

The responses rate from the sample taken from the employees was 87 (87.9%). Gitonga and Njeru (2014) informs that response rates are more important when the studies purpose is to measure effects or make generalizations to a larger population and less important if the purpose is to gain insight. Acceptable response rates vary by how the survey is administered.

Table 4. 2Gender of Respondents

. tab gender

Gender	Freq.	Percent	Cum.
1	48	55.17	55.17
2	39	44.83	100.00
Total	87	100.00	

Results on gender category shows that (55.17%) of respondents were male while (44.83%) were female. This shows that majority of the respondents were male.

Table 4. 3EDUCATIONAL LEVEL OF RESPONDENT

. tab edu

Edu	Freq.	Percent	Cum.
1	36	41.38	41.38
2	20	22.99	64.37
3	17	19.54	83.91
4	10	11.49	95.40
5	4	4.60	100.00
Total	87	100.00	

Source; Output of STATA 14

The above result shows educational level of the respondents, according to the table 41.38% of them are primary school which indicates large proportion of the

respondents, 22.99% were high school, 19.54% college, 11.49% of the respondents were degree in different fields and the remaining 4.6% were master and above.

Table 4. 4Occupation of the respondent

. tab occu

Occu	Freq.	Percent	Cum.
1	20	22.99	22.99
2	22	25.29	48.28
3	21	24.14	72.41
4	24	27.59	100.00
Total	87	100.00	

Source; Output of STATA 14

The above table shows that the majority of the respondents were self-employed 27.59%, and as indicates on the table next to self-employed 25.29% was employed under private sector. The remaining 22.99% and 24.14% of the respondent were others and government employed respectively. This result shows the people mostly engage and hired in private sector and self-employed rather than occupation.

4.2. Descriptive statistics of the study variables

This section essentially present descriptive statistics of dependent and independent variables included in this study. The dependent variable of this study is ATM usage and independent variable is: gender, education, occupation, income, age and system quality. There were 87 respondents gave their answer for each dependent and independent variable. The descriptive statistics include mean, maximum, minimum and standard deviation of all study variables.

Table 4. 5Summary of Descriptive statistics

. sum atmus gender age edu occu income sq

Variable	Obs	Mean	Std. Dev.	Min	Max
atmus	87	3.583333	.5572809	2.25	5
gender	87	1.448276	.5002004	1	2
age	87	29.88506	10.46525	17	66
edu	87	2.149425	1.215489	1	5
occu	87	2.563218	1.127883	1	4
income	87	6818.759	7030.569	1000	34000
sq	87	3.617816	.6026095	2.25	5

As shown in table 4.5 above, the dependent variable of this study, ATM usage has a mean value of 3.583333 and standard deviation of 0.5572809. This implies that during the study has normal accrual, on average with value of 3.583333. On the other hand, the minimum and maximum value of 2.25 and 5 indicate that the ATM with 5 of maximum have the highest usage.

System quality is independent variable of the study, as shown on the table 4.5 has the mean value of that clearly 3.617816 displays in this study period the ATM have composed, on average, 3.617816 of their system quality from the bank. The minimum and maximum independent system quality value for this decision making is show as 2.5 and 5 respectively, where 2.5 implies gap of system quality facility to banks and 5 means that at least one banks have use independent system quality facility for ATM usage. Standard deviation value of 0.6026095 reveals the average spread from the mean value of banks system quality.

The explanatory variable of the study, income, as demonstrated in table 4.5 has a minimum value and maximum value of 1000 and 34000 respectively. These imply that the maximum monthly income of respondents are 34000 .Yet, Income level has 7030.569 a standard deviation from its mean value. This shows that the existence of

variation in income among respondent. The average monthly income is reported to be 6818.759 during the review period.

4.2 Correlation Analysis

Correlation measures the degree of linear association between variables. Values of the correlation coefficient are always ranged between +1 and -1. A correlation coefficient of +1 indicates that the existence of a perfect positive association between the two variables, while a correlation coefficient of -1 indicates perfect negative association. A correlation coefficient of zero, on the other hand, indicates the absence of relationship (association) between two variables (Brook, 2008).The table below shows the correlation matrix among dependent and independent variables.

Table 4. 6Correlation matrix of dependent and independent variables

```
. corr atmus gender age edu occu income sq
(obs=87)
```

	atmus	gender	age	edu	occu	income	sq
atmus	1.0000						
gender	-0.0626	1.0000					
age	-0.0088	0.1121	1.0000				
edu	0.0157	0.0415	0.1449	1.0000			
occu	0.0401	-0.0199	-0.0073	0.0991	1.0000		
income	-0.0134	0.0958	-0.0530	0.0371	0.1202	1.0000	
sq	0.7149	-0.0615	0.1050	-0.1910	0.0680	-0.0455	1.0000

Source; Output of STATA 14

This study had calculated correlation of dependent variable with the independent variables. From the table education, occupation and system quality had a positive

correlation with ATM usage. Gender, age and income had negative correlation with ATM usage.

This relationship suggests initial picture as to the nature of the relationship between explanatory variables and ATM usage. As the correlation matrix indicates: system quality (0.7149) are a dominant factor on ATM usage, which is reflected in the table by moderate positive correlation with ATM usage. This correlation clearly shows that, as system quality and accurate system usage increase, ATM usage will also moves to the same direction. Besides, the variables occupation and education (0.0401 and 0.0157) shows a relatively weak positive correlation between ATM usages. The variables gender and income reliability show a weak and negative correlation with ATM usage.

4.3. Testing Assumption

4.3.1 Normality test

This assumption dictates that the errors should be normally distributed around the mean. This helps address any issues that may arise out of skewness and high kurtosis in the data, which may affect the test statistics (p, t and F). The estimations using binary models and non-parametric models do not rely on the normality of the dependent variable to produce valid outcomes. For the linear parametric models, however, a normality check becomes crucial. The data that you brought/ independent variable should be normally distributed unless it is not advisable to the regression. To Check Normality we can use *skewedness and kurtosis test and shapiroWilk Test*

Table 4. 7Normality test

```
. sktest atmus gender age edu occu income sq
```

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	—— joint ——	
				adj chi2(2)	Prob>chi2
atmus	87	0.0327	0.4278	5.11	0.0777

Source; Output of STATA 14

According to the table show on the above the p- value is grater than 5%, so data were normally distributed and there is no problem of normality.

4.3.2 Multicollinearity test

This assumption is concerned with the relationship between explanatory variables. If an independent variable is an exact linear combination of the other independent variables, then we say the model suffers from perfect Co linearity, and it cannot be estimated by (Brooks, 2008). Multicollinearity condition exists where there is high, but not perfect, correlation between two or more explanatory variables (Cameron &Trivedi, 2009; Wooldridge, 2006). Malhotra (2007) stated that Multicollinearity problem exists when the correlation coefficient among variables is greater than 0.75.

Kennedy (2008) also suggests that any correlation coefficient above 0.7 could cause a serious Multicollinearity problem leading to inefficient estimation and less reliable results. This indicates that there is no a single agreed upon measure of Multicollinearity. In this research paper the researcher had six explanatory variables. The table below shows the correlation result for all the independent variables in this research.

Table 4. 8 Test of Multicollinearity by Correlation Matrix of X variables

```
. corr gender age edu occu income sq  
(obs=87)
```

	gender	age	edu	occu	income	sq
gender	1.0000					
age	0.1121	1.0000				
edu	0.0415	0.1449	1.0000			
occu	-0.0199	-0.0073	0.0991	1.0000		
income	0.0958	-0.0530	0.0371	0.1202	1.0000	
sq	-0.0615	0.1050	-0.1910	0.0680	-0.0455	1.0000

Source; Output of STATA 14

The correlations between the independent variables are shown in table 4.8 above. All correlation results are below 0.75, which indicates that Multicollinearity is not a problem for this study.

4.3.3 Heteroscedasticity

It has been assumed that the variance of the errors is constant, σ^2 this is known as the assumption of homoscedasticity. If the errors do not have a constant variance, they are said to be Heteroscedasticity Brooks (2008). Since the data the study used is primary with cross-sectional aspect

Table 4. 9 Test of Heteroscedasticity

```
. hettest  
  
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity  
Ho: Constant variance  
Variables: fitted values of atmus  
  
chi2(1)      =    29.96  
Prob > chi2  =    0.0000
```

Source; Output of STATA 14

In this particular study, since the p-values are considerably less than 0.05. Therefore, the null hypothesis that the variance of the errors is constant (homoscedasticity) should be rejected

4.4 Analysis and Interpretation of Regression Result

This part presents the result of regression. Six independent variables and one dependent variable are included in the model.

the empirical model used in the study in order to identify the impact of accounting information system on decision making is:-

$$ATMus = \beta_0 + \beta_1 GEN + \beta_2 AGE + \beta_3 EDU + \beta_4 OCCU + \beta_5 I + \beta_6 SQ + \epsilon_t$$

Table 4. 10Regression result

Source; Output of STATA 14

. reg atmus gender age edu occu income sq

Source	SS	df	MS	Number of obs =	87
				F(6, 80)	= 16.22
Model	14.6600913	6	2.44334854	Prob > F	= 0.0000
Residual	12.0482421	80	.150603026	R-squared	= 0.5489
				Adj R-squared	= 0.5151
Total	26.7083333	86	.310562016	Root MSE	= .38808

atmus	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
gender	-.0138006	.0848839	-0.16	0.871	-.1827249 .1551237
age	-.0060339	.0041175	-1.47	0.147	-.0142279 .0021601
edu	.0830766	.0358503	2.32	0.023	.0117323 .1544209
occu	-.0160725	.0377424	-0.43	0.671	-.0911823 .0590372
income	1.09e-06	6.04e-06	0.18	0.858	-.0000109 .0000131
sq	.7060177	.0719411	9.81	0.000	.5628504 .8491851
_cons	1.08461	.3274906	3.31	0.001	.4328831 1.736337

On the above regression outputs the beta coefficient may be negative or positive; beta indicates that each variables level of influence on the dependent variable. P-value indicates at what percentage or precession level of each variable is significant. The R-squared value measures how well the regression model explains the actual variations in the dependent variable (Brooks, 2008).

These indicate that explanatory variables included in this model could explain variation in the dependent variable by about 54.89 percent. The remaining 45.11 percent can be taken as the role of explanatory variables that are not included in this model but that have impact on the ATM usage.

The null hypothesis of F-statistic (the overall test of significance) that the R² is equal to zero is rejected at 1% as the p-value is sufficiently low. F-probability of 0.000a indicates that the model fit well however it has some gap of the study the sample data somehow well and the sum of explanatory variables are significant. The other of the independent variables jointly has statistically insignificant impact on ATM usage. As shown in the above table, gender, age and occupation has negatively weakly affect the ATM usage. And it insignificantly correlates with dependent variable.

The coefficient for gender is -0.138006 on ATM usage indicates that the variable of gender had negative relationship with ATM usage and the relationship is not significant at 5% level of significant. The coefficient for age is -0.0060339 on ATM usage indicates age had negative relationship with ATM usage and the relationship is not significant at 5% level of significant. The coefficient for education is 0.0830766 on ATM usages this variable had a positive relationship with ATM usage and it is significant at 5% level of significant.

The coefficient for occupation is -0.0160725 on ATM usage indicates that occupation of respondents had a negative relationship with ATM usage and insignificant effect at 5% level of significant. The coefficient for income 1.0906 on ATM usage indicates that the income level had a positive relationship with ATM usage but the relationship is significant at 5% level of significant.

The coefficient for system quality 0.7060177 on ATM usage indicate that system quality of a given ATM machine had a positive relationship with ATM usage and significant effect at 5% level of significant.

The negative relationships indicate that there is an inverse relationship between the three independent variables and ATM usage. Thus, the increase of those variables will lead to a decrease in ATM usage. On the other hand, the positive relationships indicate that there is a direct relationship between the other three independent variables and ATM usage. The increase of these variables will lead to an increase ATM usage.

4.5 Discussion of Regression Result

Table 4. 11 Marginal Effect

. mfx

Marginal effects after regress

y = Fitted values (predict)

= 3.5833333

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X
gender	-.0138006	.08488	-0.16	0.871	-.18017 .152569	1.44828
age	-.0060339	.00412	-1.47	0.143	-.014104 .002036	29.8851
edu	.0830766	.03585	2.32	0.020	.012811 .153342	2.14943
occu	-.0160725	.03774	-0.43	0.670	-.090046 .057901	2.56322
income	1.09e-06	.00001	0.18	0.857	-.000011 .000013	6818.76
sq	.7060177	.07194	9.81	0.000	.565016 .84702	3.61782

Source; Output of STATA 14

Thus, based on the result in above Table, the following model was developed to examine the impact of effective accounting information system on banks decision making.

$$ATMus = 3.5833333 + (-0.0138006)GENDER + (-0.0060339)AGE + 0.0830766EDU + (-0.0160725)OCCU + 1.0906I + 0.7060177SQ + \epsilon$$

The following section provides a brief analysis of the results for each independent variable and their importance in examining the factor affecting ATM technologies usage in commercial bank of Ethiopia in wolkite branch.

GENDER AND ATM USAGE

According to the regression table gender is negatively related with ATM usage with a coefficient estimate of -0.0138006. This means holding other factors constant, a 100% increase in gender reduces ATM usage by 1.38006% and the p value of gender is 0.871, reveals that it is statistically insignificant at 5% level of significance. According to regression result the alternative hypothesis that there is significant and negative relationship between gender and financial inclusion was not supported.

Prior study made in other country does not consist with this finding. They conclude that gender had significant effect ((Nandru₁, Anand and Rentala (2017), Guzelia, Imaeva, Labanova, and Tomilova (2014)).As indicated in the regression analysis gender had a negative and insignificant effect on financial inclusion.

AGE AND ATM USAGE

The regression result above shows that age, measured by age in number has a statistically insignificant negative impact on ATM usage. According to the regression table age is negative related with ATM usage with a coefficient estimate of -0.0060339. This means holding other factors constant, a 100% increase in age up to a certain age decrease ATM usage by 0.0060339% and the p value of age is 0.143, reveals that it is statistically insignificant at 5% level of significance. This result is not accordance with the result expected by the researcher that age has significant effect on ATM usage.

System quality and ATM usage

According to the regression result in the table above system quality, measured by five likert scale had a negative relationship with decision making with a coefficient estimate of 0.7060177 and it is significant at 5% level of significant with p value of 0.000 which is less than 5%. The statistical result was in line with the expectation (working hypothesis) of the researcher. So, the result supported the accepting of the working hypothesis that system quality has a positive and significant influence on ATM usage. The implication of this result is that system quality has significant influence on ATM usage and the significant result indicates that system quality was considered as a proper explanatory variable of ATM usage.

INCOME AND ATM usage

The income level of households, measured by monthly income of household, was positively but statistically insignificant at 5% significance level (p-value=0.857) which is not in line with a prior expectation or it will reject the working hypothesis, which expect that , the income level of individual has significant and positive impact on ATM usage. The marginal effect result also shows that, other thing being constant if level of income is increased by 100% then ATM usage services will also improve by 1.0906%.

Educational level and ATM usage

As far as educational level is concerned the regression result of Marginal effect model as reported in table above clearly show that educational level has statistically significant positive impact on ATM usage. This result indicates that the hypothesis of the study is not rejected, since the t-statistic value is higher than 0.05.

Table 4. 12 Summary of Hypothesized and Actual Impact

Independent variable	measurement	Expected Relationships with ATM usage	Actual result	Statistical Significance test	Hypothesis Status
Gender	Dummy	positive	negative	Insignificant at 5%	Reject
Age	Continuous	negative	Negative	insignificant at 5%	Reject
Education	Dummy	positive	positive	significant at 5%	Accept
Occupation	Dummy	Positive	negative	Insignificant at 5%	Reject
Income	Monthly earn	Positive	Positive	insignificant at 5%	Reject
System quality	Likert	Positive	Positive	significant at 5%	Accept

CHAPTER FIVE

CONCLUSSION AND RECOMANDATION

5.1 Introduction

The preceding chapter presented the results and discussion, while this chapter deals with conclusions and recommendations based on the findings of the study. Accordingly, this chapter is organized into two subsections namely conclusion and recommendation. For clarity purpose, the conclusions are based on the research objectives of the study. Based on the findings of the study recommendations are made to the banking industry and suggestion for other researchers.

5.2 Conclusions

The major objective of the study was to clearly investigate factor affecting ATM technologies in commercial bank of Ethiopia at wolkite branch. The role of ATM service on customer satisfaction of Commercial Bank of Ethiopia also investigates. In order to conduct the research the researcher used different data collection methods including:- Questionnaires of closed ended to gather necessary information that is crucial to the study. More over the researcher after the collection of available information from the respondents has been analysed through statistical package STATA14

Gender had statistically insignificant negative relationship with ATM usage, which was in not line with prior expectation. This result implies that gender related to ATM usage is not significant to increase the customer ATM usage within the bank. A negative sign suggests that gender has opposite relation with ATM usage. In contrast, educational level had a positive and statistically significant relationship with ATM usage, which was match with the expected results. Regarding to the effect of system quality on ATM usage in commercial banks, the result shows that as there was positive and statistically significant relationship with ATM usage, which is in line with prior expectation. Besides, the results of study indicated that occupation had statistically insignificant negative relationship with ATM usage, which was not consistent with the

researcher prior expectation. The result implies that occupation had insignificant effect on the ATM usage.

The impact of income is negative and statistically insignificant. The relationship between income and ATM usage are insignificant but positive. This result was not consistent with prior expectation.

In conclusion, the finding of the study suggests that educational level and system quality were important variables that influence ATM usage. However, there was no support of gender, age, income and occupation on the level of ATM usage commercial bank of Ethiopia.

5.3 RECOMANDASTION

The analyses of the study indicated that factors affecting ATM technologies in commercial bank of Ethiopia, gender, age, income, educational level and occupation was significantly related to ATM technologies. In line with this result the researcher recommended the following points to increase objective or sound ATM usage.

- Commercial bank of Ethiopian should sensitize its customer's about the availability of the ATM and the different services it offers.
- Commercial bank of Ethiopian should make sure that the cost of using the ATM is kept as minimum as possible and this will encourage more people to use these services and this helps to reduce congestion in the banks.
- The bank should solve the problems of the efficiency of operation dimension by having available cash in the ATM machine & it should make the ATM machine to withdrawal money quick as it ordered by users and also ATM machine should available anywhere in the city at research able distance.
- In order to solve customer complain regarding responsiveness of the bank in taking immediate actions. It should work on delivering ATM service with quality so that customers and easily with drawn money and it should also take care of problems which occur in the process of withdrawing money from the

ATM machine the bank should be active in solving problem or minimizing and queuing immediate response to customers complain.

- Finally, a similar study could also be carried out focusing on factors affecting ATM technologies usage even challenges faced during implementation of a system in the banks.

REFERENCE

- Adeniran (2014), among the development in the banking services delivery is the introduction of Automated Teller Machine (ATM)
- Adepoju and Alhassan (2010) stated that ATMs were originally developed as just cash exchange to customer.
- Adepoju AS, Alhassan ME (1970).Challenges of Automated Teller Machine (ATM).
- Adewoye (2013) observes that ATM is an innovative customer delivery service.
- Adhallah, T. (2010).Evaluation of the relationship between ATM services and customer satisfaction in South Africa.Journal of Business management,
- Agbor (2011), banking sector does its activities socially and economically in a country
- Akrani G (2011). Automated Teller Machine ATM – Advantages of ATM. Available at: <https://kalyan-city.blogspot.com/2011/02/automated-teller-machine-atm-advantages.html>
- Anderson, R.E (2001), customer dissatisfaction. The effect of disconfirmed expectancy on perceived product performance. Journal of marketing research, vol.
- Balunywa, K. (2003); Balunywa, L. (2014). ATM services and consumer satisfaction: A new concept. Journal of finance, 40, April, pp.
- Barun et al.,(2014) banks to offer differentiated products and services to their customers on ATM usage.
- Cacioppo (2000) use of Automated Teller Machine system of banking brought efficiency.
- Chalet, P. (2011). Customer perception about the use of ATM service in the banking industry. Journal of banking.

Chelstel,(1998). The theory of banking that led to implementation of ATM to influence on Customer satisfaction

Churchill, G. &Surprenant, R. (2007).Changes in the Banking Sector- the case of internet banking in the UK. . Internet Research: Electronic Networking Application and Policy,

Churchill, G. &Surprenant, R. (2007).Changes in the Banking Sector- the case of internet banking in the UK. . Internet Research: Electronic Networking Application and Policy,

Dhiraj Sharma (2017) influence of demographic factors on users' adoption of electronic CustomerSatisfaction and Store Loyalty. International Journal of Banking & Customer satisfaction.

Diniz (2011) conjure that cash deposit via ATM cash does not update the account dispensers; they have evolved to include many other bank-related function distribution Management.

Donell, N. (2003). A Comparative Study of Banking Services and Customer Satisfaction in Public,

Edemivwaye (2015) with topic of “Electronic Banking and Customer Satisfaction in the Nigerian Banking Sector”

Feposter, E. (2013). Impact of ATM on customers satisfaction in the banking sector, journal of management,

Hillier, E. (2002). "Service excellence in ATM channels", *Managing Service Quality: An international'*

Howard, R. (2011). An assessment of the relationship between ATM use and customer satisfaction in the formation of consumers' purchase intentions. *Journal of marketing,*

Howcroft, T. (2012). An Examination of the Relationship between ATM Service Quality, customer Satisfaction, and Store Loyalty. *International Journal of Banking distribution Management.*

Jole, N. (2011) Information Technology in the Banking Industry and ATM performance. *journal of banking.*

Josaphat, T. (2003). Effectiveness of ATM use and growth of banking sectors, *journal banking.*

Kumbhar V (2011). Factors affecting on customers' satisfaction an empirical Investigation of ATM service. *International Journal of Business Economics and Management Research.*

Rose et al (2010) cited by Abor, describes ATMs as follows: "an ATM combines a Computer terminal, record-keeping system

Stemper (1990) stresses the positive dimension of ATMs based on freedom of transaction and Effective service delivery in ATM system

Tillya JJ (2013). The effect of automated teller machine (ATM) service on customer Satisfaction in the Tanzanian banking sector: the case study of national Microfinance bank (NMB), Ifakara branch (Doctoral dissertation, Mzumbe University).

Tong DYK (2009). A study of e-recruitment technology adoption in Malaysia. *Industrial Management and Data Systems*.

Yitbarek et al (2013) on Analyzing the factors influencing customers' intention to the adoption of e-banking service channels in Bahir Dar city with integration
Of Technology

Appendix
Appendix-Questioner
Data collecting Questionnaire

Project Title:-The factors affecting ATM technologies usage in commercial bank of Ethiopia in WOLKITE branch.

I am a degree student at Wolkite University who is doing this particular research. The main objective of this research is to find out the factors which influence ATM technologies usage in commercial bank of Ethiopia in Wolkite branch. You are being invited to take part in a research by answering the questions. Since your idea and contribution on the study will be quite significant, please take a time and give appropriate answer that fill for the questions.

Part 1 Personal Information.

1. Gender Female male
2. Age Less than 20 years old
 20-30 years old
 30-40 years old
 40-50 years old
 Older than 50 years old
3. Education Primary school
 High school
 College diploma
 Degree
 Master or above
4. Occupation Government employee
 Private Sector
 Employee Self-employed
 Other

5. Income

- Less than 5,000 Birr per month
- between 5,000 – 10,000 Birr per month
- Between 10,000 – 15,000 Birr per month
- Between 15,000 – 20,000 Birr per month
- Between 20,000 – 25,000 Birr per month
- More than 25,000 Birr per month

Part 2 main questions

Please answer questions below by putting (√) symbol on the appropriate blank cell. 1 for „strongly disagree“, 2 for „disagree“, 3 for „no opinion“, 4 for „agree“, and 5 for „strongly agree“.

Questions		likert scale				
		1	2	3	4	5
	My decision to adopt ATM banking is influenced my income level					
	I have the resource to use ATM banking.					
	It was my job that made me use the ATM machine					
	My decision to adopt ATM banking is influenced by my educational level					
	Using the ATM machine is influenced by age					
	Gender is the factors that affect to use ATM machine in our area.					
	The system quality of ATM is always available service to in the commercial bank of Ethiopia.					
	The system quality of ATM is always satisfied to he/her.					
	The system quality of ATM easy to used /understand to she/her					
	The system quality of ATM is the same in all other banks to she/her.					

Part 3 main questions.

1. Which banking service do you prefer more?

Teller based methods ATM banking.

2. If you prefer teller based methods, why you choose this banking service?

3. If you prefer ATM-banking, why you choose this banking service?

4. Which ATM-banking packages do you use? (it is possible to give more than one answer)

- Cash withdrawal
- Fund transfer
- Balance statement
- Mini statement
- Cheek Book request
- PIN change
- Appointment

Thank you for your cooperation!!!

