ASSESSMENT OF CHALLENGES AND PROSPECTS ON ATM PAYMENT SYSTEM

A CASE STUDY ON COMMERCIAL BANK OF ETHIOPIA GUBRE BRANCH

WOLKITE UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

A SENIOR ESSAY SUBMITTED TO DEPARTMENT OF ACCOUN AND FINANCE IN PARTIAL FULFILLMENT FOR THE REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARTS IN ACCOUNTING AND FINANCE

PREPARED BY;

TSEGAYE ENDALE

ADVISOR: MR. DESTA YOHANES

MAY 2025

WOLKITE ETHIOPA

ADVISORS' APPROVAL SHEET

This is to certify that a thesis on the topic entitled **"Assessment of Challenges and Prospects On ATM Payment System (A Case Study on Commercial Bank of Ethiopia Gubre Branch)"** submitted Partial Fulfillment of the Requirements for the BA Degree in Accounting and Finance; the undergraduate program has been carried out by Tsegaye Endale, under my supervision. Therefore, I recommend that the student has fulfilled the requirements and hence hereby can submit the thesis.

ADVISOR

_____

EXAMINERS' APPROVAL SHEET

We, the undersigned, members of the Board of Examiners of the final open defense by Tsegaye Endale have read and his thesis entitled**" Assessment of Challenges And Prospects on ATM Payment System (A Case Study on Commercial Bank of Ethiopia In Gubre Branch)"** and examined the candidate. This is, therefore, to certify that the thesis has been accepted in partial fulfillment of the requirements for the BA degree in Accounting and Finance.

Name of Principal Advisor **Signature** **Date**

_____

Name of Internal Examiner **Signature** **Date**

_____

Name of External examiner **Signature** **Date**

_____

Final approval and acceptance of the thesis is contingent upon the submission of the final copy of the thesis to the department of Accounting and Finance.

ACKNOWELDGEMENT

Above all, I would like to thank the Almighty God who enabled me to accomplish this work successfully. Next, my deepest gratitude goes to my advisor, Mr. Desta Yohanes, for his critical guidance, valuable advice, constructive suggestions, support, and comments on every draft of this paper. I would also like to express my sincere thanks to my family—Endale Gebre, Teji Sime, and Birehanu Beshu—for their invaluable support, both financially and morally, as well as their continuous encouragement throughout my studies. The last but not the least of my thanks goes to, Commercial Bank of Ethiopia, Gubre Branch manager and finally to all my respondents who give me valuable information. Without their passionate participation and input, the study could not have been successfully conducted. At last, I would like to thank my friends for their non-stop support. I could have not done this without you all.

ABSTRACT

Every business organization has its own unique service that leads to achieve the main objectives or goal of the organization. Like any other business organization commercial bank of Ethiopia provide or deliver different services by using different technology in order to compete with other organization. For instance, the services that deliver by using technology are e-payment and ATM. Therefore, the research paper tries to assess challenges and prospects of ATM payment system of commercial bank of Ethiopia in Gubre branch. It addresses three basic research questions designed to assess challenges and prospects of ATM payment system of the bank. For the study, the researcher was used both primary and secondary data; much was focus on the primary data. The more information that obtained by questionnaire. The main source of obtain primary data are employees and ATM customer of the bank. The researcher was use convenience sampling technique to take 50 selected individuals participants (40 ATM users and 10 employees).The processed data analyzed by using descriptive-statistics analysis methods. That is quantitative and qualitative data analysis method and the data that collected through questionnaire and analyzed by using different analysis like percentages and tables.

Table of Contents

LIST OF TABLES

ACRONYMS

CBE Commercial Bank of Ethiopia

ATM Automatic Teller Machine

PIN Personal Identify Number

POS Partial Point of Sale

NBE National Bank of Ethiopia

ABM Automated Banking System

TAM Technology Acceptance Model

TRA Theory of Reasoned Action

PEOU Perceived Ease of Use

IOT Innovation Diffusion Theory

EPS Electronic Payment System

USA United States of America

IPS Internet Payment System

UK United Kingdom

OBE Order of the British Empire

TTP Trusted Third Party

TSB Trusted Saving Bank

ABM Automated Transaction Machine

ACH Automated Clearing House

PU Perceived Usefulness

CHAPTER ONE

1. INTRODUCTION

1.1 BACK GROUND OF THE STUDY

Automated teller machine (ATM) is a computerized machine that permits bank customer to gain access to their accounts. It is a magnetically encoded plastic card and code number. It enables the customer to perform several banking operations such as withdrawal of cash, making deposit, pay bills, and obtain bank statement effect cash transfer. It is also called Automated Banking Method (ABM) and remote service unit.

Automated teller machines (ATMs) remain a cornerstone of modern banking, enabling customers to perform transactions such as cash withdrawals, deposits, and bill payments. Recent advancements have expanded their functionality, integrating biometric authentication (e.g., fingerprint and facial recognition) to enhance security (Kumar & Sharma, 2020). The rise of contactless technology, such as Near Field Communication (NFC), has further modernized ATMs, allowing cardless transactions via smartphones (Mendoza-Tello et al., 2018).

Globally, ATMs are adapting to shifting consumer preferences. A 2021 report by the European ATM Security Team (EAST) highlighted a 15% decline in physical ATM attacks in Europe due to improved anti-skimming technologies and real-time fraud monitoring systems. However, cyber threats targeting ATM software, such as "jackpotting," have surged, emphasizing the need for robust cybersecurity frameworks (EAST, 2021).

In developing economies like Ethiopia, ATMs play a critical role in financial inclusion. The National Bank of Ethiopia's 2020 Financial Inclusion Report noted a 34% increase in ATM deployments since 2018, driven by public and private banks aiming to reduce reliance on cash. Despite this growth, challenges persist, including uneven geographic distribution and limited interoperability between banking networks (NBE, 2020).

The COVID-19 pandemic accelerated the adoption of hybrid ATMs, which combine traditional services with digital features like QR code payments and instant card issuance (Deloitte, 2021).

Additionally, block-chain-enabled ATMs for cryptocurrency transactions have emerged, though their adoption in Ethiopia remains nascent (World Bank, 2022).

Ethiopia's Commercial Bank has prioritized ATM network expansion, yet studies indicate persistent customer concerns about transaction limits, machine downtime, and security (Gebremichael & Tadesse, 2022). A 2023 survey by Addis Ababa University revealed that 62% of urban customers prefer ATMs for routine transactions, while rural access lags at 18%, underscoring regional disparities (AAU, 2023).

These trends highlight the dual role of ATMs as both a legacy infrastructure and a platform for innovation, necessitating continuous assessment of user experiences and technological integration.

The banking industry has tried to take advantage of the productivity and customer service gains associated with technology by the provision of ATMS, which customers can use to carry day to day banking transactions.

Banking industry in Ethiopia is growing in numbers and in modern service provision when compared with the last decades of the nature of its services provisions and operations. Most banks still used the traditional or the manual payment system. Customers still carrying large amounts of paper currency and coins in their hands.

Bank service automation is becoming a critical factor in the process of trying to attain cost effectiveness, which can be used as a strategic competitive weapon in the financial services market. Many financial institutions have clearly embarked on the development of technology-driven strategies which they hope was translated in terms of customer preference and consequently, higher returns and market penetration.

According to Dugbe (2015), ATM is convenient for the customers to access and use their account at any time of the day. With reared to the challenges ATM make people a target of armed robbery attack because of lack of adequate security at location points.

Thus, the purpose of this study was to assess the challenges and prospects of the ATM service in case of Commercial bank of Ethiopia Gubre branch.

1.2. BACK GROUND OF THE ORGANIZATION

The agreement that reached in 1905 between emperor menelik II and Mr., McGillivray, representative of the British owned national bank of Egypt marked the introduction of modern banking in Ethiopia.

Following the agreement, the first bank called bank of Abyssinia inaugurated in February 16, 1906 by emperor and the bank totally managed by the Egyptian National bank. By 1931, bank of Abyssinia legally replaced by bank of Ethiopia shortly after Emperor Haile Selassie came to power.

The new bank, bank of Ethiopia, was purely Ethiopian institution and east the first indigenous bank in Africa and established by official decree on August 29, 1931 with a capital of Birr 750,000 (http:en, Wikipedia, org/wiki/ commercial bank of Ethiopia)

The first indigenous bank, which functions as both as commercial bank, and central Bank established in 1963, under the name of state of Ethiopia. In 1963, new banking law split the state bank of Ethiopia to central and commercial banking namely national bank of Ethiopia (NBE) and commercial bank of Ethiopia (CBE). The former was responsible for supervision of banks in the country. The national bank of Ethiopia with more power and duties started its operation in January 1, 1964.

Following the incorporation as a share company on December 16, 1963 as per percolation No, 207/1997s o October 1963 took over the commercial bank activates of the former state bank of Ethiopia. it started operation on January 1,1964 with a capital of birr 22 million in the new commercial bank of Ethiopia, in contrast , with the former state bank of Ethiopia, all employees where Ethiopians (http://www.teh history of corporate, com)

Consequently, the present day commercial bank of Ethiopia was established under proclamation No, 184 of August 1980.

- According to this proclamation, the main objectives of the commercial bank of Ethiopia are as follows:-

1. To extend commercial banking services throughout the country

2. To extend loans, credits and all other banking facilities to any person for specific purpose and periods.

3. To encourage the mobilization of saving by making the people aware of the use of banking.

4. To spread widely banking habits among the people.

Moreover, according to this proclamation, the bank shall have the responsibility to perform the following duties in accordance with the general directives issued to it by the supervising authority, namely the national bank of Ethiopian.

1. Receive saving demand and time deposits

2. Make loans and advances

3. Draw, accept, discount, buy and sell bill of exchange, drafts, and promissory notes payable within or outside Ethiopia.

4. Issue letter of credit.

5. Buy, sell, hold or otherwise deal in foreign exchange,

6. Control the end use of credit loans, and other facilities that provides to its customers.

7. Act as an agent for persons and in this capacity, engage in the sale of money and shares.

8. Negotiate, under write or issue bond

9. Keeping safes securities, jewelry, precious metal and other valuables materials.

10. Issue and travelers cheque generally deal with cheque.

11. Hold, acquire and sell negotiable instrument and security by the government or private person.

12. Acquires, poses, mortgage sell, exchange and dispose of property for the purpose of attaining its objectives and proper functioning its operations.

13. Performs such other banking activities as are customarily carried out by commercial bank.

1.3 STATEMENT OF THE PROBLEM

The financial industry is experiencing increased competition due to rapid technological advancements and the globalization of financial markets. As competition intensifies, financial institutions are compelled to offer similar pricing on deposits and loans, leading them to seek competitive advantages through non-price factors. In this context, innovative distribution channels have become essential for financial institutions, allowing them to reduce costs while maintaining service levels. Over time, there has been a marked shift in how financial services are delivered, with a growing interest in diversifying beyond traditional branch networks, which are often associated with high staffing and overhead costs.

Globally, payment transactions are transitioning from traditional methods such as cash and checks to electronic systems. This shift may involve developing electronic payment systems in regions where they did not previously exist or expanding existing electronic services to new areas. Literature indicates that the relationship between information technology (IT) and bank performance yields two significant outcomes. First, IT can reduce operational costs for banks (cost advantage). For example, internet technology streamlines processes for standardized, low-value transactions like bill payments and balance inquiries, allowing banks to focus their resources on higher-value transactions such as personal trust services and investment banking conducted through branches. Second, IT can enhance customer interactions within the same network (network effects) (Farrell Saloner, 1985).

Research by Saloner and Shepard (1995) on U.S. commercial banks from 1971 to 1979 highlighted the importance of network effects in the utilization of Automated Teller Machines (ATMs). Additionally, Harold and Jeff (1995) argued that financial service providers must adapt their traditional operational practices to remain competitive in the evolving landscape of the 1990s and beyond. They identified a widespread failure among senior management in banks to recognize the significance of technology and its integration into strategic planning as a major drawback in the banking industry.

Various information and communication technology tools have emerged to improve service delivery speed and quality, fundamentally transforming global banking operations (Shokan, 2005). Research conducted by Wondwossen and Tsegaye in Ethiopia focused on e-payment

challenges and opportunities but did not explore employee and customer attitudes towards ATM usage.

Thus, the researcher undertook this study to identify additional factors affecting ATM usage at the Commercial Bank of Ethiopia, Gubre branch.

1.4 Research Questions

The following are the guideline for the researcher and the researcher attempt to solve some or all of it:

1. What are the challenges that faced by the Bank up on adopting and operating of ATM?
2. How Can ATMs contribute to the bank prospects?
3. What are users' attitudes towards ATM usage?

1.5 Objective of the study

1.5.1 General Objective

The overall objective of this study is to assess the challenges and prospects of the ATM payment system at the Commercial Bank of Ethiopia, Gubre branch

1.5.2 Specific Objectives

In line with general objective, this study has the following specific objectives:

1. To assess the challenges associated with ATM payment system.
2. To evaluate how ATM assists the bank in achieving its goals.
3. To analyze users attitudes towards electronic payment systems, particularly regarding ATMs.

1.6 Significance of the study

It is necessary to undertake a research on this issue because there are challenges and prospects when new system is implemented. As a result the significance of the study is:

- Bank gets information about the attitude of the machine users that help to make decision and revised strategies.

- It serves as a spring board on which other interested researchers could do a more in depth analysis or create new research idea.
- Users also benefited because the study become a voice through which their concerns are heard.
- A fairly clear picture on challenges and prospects of ATM payment system was apparent to stakeholders of the bank.

1.6 SIGNIFICANE OF THE STUDY

This research holds substantial importance for multiple stakeholders, as outlined below:

1.Strategic Insights for the Bank:

The study provides the Commercial Bank of Ethiopia (CBE), Gubre Branch, with critical insights into user attitudes, challenges, and operational barriers (e.g., frequent power outages, low internet penetration). These findings enable the bank to make data-driven decisions to refine ATM services, prioritize infrastructure upgrades, and enhance customer satisfaction.

Recommendations such as investing in backup power solutions (e.g., solar energy), expanding ATM functionalities (e.g., bill payments), and improving multilingual interfaces directly address identified gaps, fostering operational efficiency and competitiveness.

2. Academic Contribution:

The research serves as a foundational study for future scholars by highlighting gaps in Ethiopia's electronic payment landscape, particularly the intersection of illiteracy, infrastructure deficits, and technology adoption. It encourages further exploration of financial inclusion strategies in developing economies.

3. User Empowerment.

By capturing customer feedback (e.g., satisfaction levels, security concerns), the study amplifies user voices, ensuring their experiences influence service improvements. This fosters trust and encourages broader ATM adoption, especially among rural and less tech-savvy populations.

4. Stakeholder Awareness

Policymakers, regulators, and banking stakeholders gain clarity on systemic challenges (e.g., uneven ATM distribution, interoperability issues) and opportunities (e.g., block chain integration, mobile banking synergy). This informs national strategies for financial inclusion and technological modernization.

5. Economic and Social Impact.

The study underscores how ATM systems enhance financial inclusion** by reducing reliance on cash, minimizing fraud, and lowering transaction costs. Addressing challenges like illiteracy and infrastructure gaps could bridge urban-rural disparities, aligning with Ethiopia's broader economic goals.

1.7 Scope of the study

The study is concerned with challenges and prospects of ATM payments system in case of CBE. The scope of the study is Commercial bank of Ethiopia, Gubre branch. Even though there are different types of electronic payment system, this study specifically focuses on ATM payment system.

1.8 Organization of the paper

The paper was contains five chapters. The first chapter, which is introductory part, explains briefly about background of the study, statements of the problem, research questions, objective of the study, significance of the study, scope and limitation of the study, and organization of the paper. Chapter two is about literature review. Chapter three is about research methodology. The next or fourth chapter is data presentation and analysis. Finally, the fifth chapter is left for conclusion and recommendation with regard to challenges and prospects of ATM payment system in case of CBE in Gubre branch.

CHAPTER TWO
2. LITERATURE REVIEW

2.1. THEORETICAL REVIEW

2.2 THEORETICAL MODELS

Different studies have been done to develop methods for measuring the acceptance of technology, was a willingness to make use technology, and the dispersion of innovations, which gives directions to understand why customers are not using electronic banking or newly innovated technology. Here under two models are chosen in order to measuring and give directions to the customers; adoption of ATM technology.

2.12. TECHNOLOGY ACCEPTANCE MODEL (TAM)

Technology Acceptance Model was introduced by Davis (1986) is based on adaptation Theory of Reasoned Action (TRA) particularly customized for modeling user acceptance of IS (Information System). (Garrard et al, 2006). It provides a foundation intended for tracing the impact of external reasons on internal beliefs, attitudes and goals.TAM was formulated in an attempt to achieve these goals by identifying a small number of fundamental variables suggested by previous research dealings with cognitive and affective determinants of computer acceptance (Davis et al, 1989). According to Davis, TAM defines the two constructs that is perceived usefulness (PU) and perceived Ease of Use (PEOU) that are of primary significance for computer acceptance.

Perceived Usefulness (PU) is defined as the degree that using a specific system was increase the job performance while perceived Ease of use (PEOU) refers to the degree to which the user thinks that the target system is to be free from effort. According to (Eriksson et al, 2004) it has been found that TAM's ability to explain attitude towards using an information system is better than other models. TAM can be considered very appropriate for studying the usage the internet banking (Eriksson et al 2004). In addition, individual characteristics like age, qualification, prior experiences in adopting, technology, compatibility with existing technology and enhanced value are important factors.

2.1.1.2. INNOVATION DIFFUSION THEORY (IDT)

Innovation diffusion theory (IDT) has been used since the 1960s to explain the process of innovation adoption, following an extensive review of the literature, (Rogers, 1983) found five attributes that consistently proved determinants of the diffusion rate of an innovation:

1. Relative advantage: refers to the extent to which the innovation is perceived as superior to all other options.
2. Compatibility: extent to which the innovation is perceived as being in line with the values, need, and experiences of prospective adopters.
3. Complexity: the extent to which the innovation is perceived as difficult by understand or use.
4. Observe: ability the extent, to which the benefits or attributes of innovation can be observed, pictured or described to prospective adopters.
5. Trail ability: the extent to which the innovation can be experienced before its actual adoption.

As a conclusion, this chapter covers the theoretical reviews and empirical reviews about ATM payment system. Under the theoretical review; overview of E-payment, Benefits of E-payment, types of E-payments (wholesale and retail EPS), Documentation of EFT, History of ATM, ATM's service in banks and growth of online banking with technology are deeply defined and explained. The empirical review discussed about knowledge of computer, convenience of hour, speed, awareness, accurate records, perceived usefulness and dimensions ATM technology.

2.1.2. OVERVIEW OF E- PAYMENT IN ETHIOPIA

The appearance of E-banking in Ethiopia goes back to the late 2001. When the largest state owned commercial bank of Ethiopia (CBE) introduced ATM to deliver service to the local users. In addition to eight ATM located in Addis Ababa, CBE has had visa membership since November 14, 2005. But due to lack of appropriate infrastructure it failed to reap the fruit of its membership. Deposit being the pioneer in introducing ATM based payment system and acquired visa membership, CBE logged behind Dashen Bank, which worked aggressively to maintain its lead in E-payment system. As CBE, continues to move at a snail space in its turnkey solution for

card based payment system. Dashen bank remains so far the player in field of E-Banking since 2006(GARDACHEW, 2010).

Dashen bank, a forerunner in introducing E-banking in Ethiopia has installed ATMs at convenient location for its own cardholders. Dashen ATM is available 24 hours a day, seven day a week and 365 days a year providing service to debit cardholders and international visa cardholders coming to the country. At the end of June 2009, Dashen bank has installed more than 40 ATMs in its area branches. University compounds, shopping malls, restaurants and hotels. In the year 2011 the payment card service have witnessed significant strides, Dashen ATM service expanded to 70 and 74 pos terminals (GEMECHU, 2014).

By the end of 2008 Wegagen bank has signed an agreement with technology association (TA), a Kenyan based information technology (IT) firm, for development of the solutions for the payment system and installation of a network of ATMs. On December 30, 2008 zemen bank, the only Ethiopian bank anchored in the idea of single branch banking, by launching full-blown internet banking, a service which is new to Ethiopian banking industry in the year 2010. The bank tested the venture through its first phase of the on line service, and now it is already started the full-fledge version, which enable customers to make online money transfer freely. Previously, the online banking service, Delivered by the bank, only gave access to bank statement and exchange rate information. The new and never been tried service proposed by roll uploading system where employers could upload pay roll to the system and make payments to individual worker's account online and online utility bill settlement system, when utility companies are ready (ASRAT, 2010).

2.1.3. Benefits of Electronic payment Banking system

2.1.3.1 From the Banks Point of View

Attracting High Value Customers: E-Banking often attracts high profit customers with higher than average income and education levels, which helps to increase the size of revenue streams. For a retail bank, e-banking customers are therefore of particular interest, and such customers are likely to have a higher demand for banking products. Most of them are using online channels regularly for a variety of purposes, and for some there is no need for regular personal contacts with the bank's branch network, which is an expensive channel for banks to run (Berger & Gensler, 2007).Some research suggests that adding the Internet delivery channel to an existing

portfolio of service delivery channels results in nontrivial increases in bank profitability (Young, 2007). These extra revenues mainly come from increases in non interest income from service charges on deposit / current accounts. These customers also tend to be of high-income earners with greater profit potential.

Enhanced Image: E-banking helps to enhance the image of the organization as a customer focused innovative organization. This was especially true in early days when only the most innovative organizations were implementing this channel. Despite its common availability today, an attractive banking website with a large portfolio of innovative products still enhances a bank's image. This image also helps in becoming effective at e-marketing and attracting young/professional customer base. (Young, 2007).

2.1.3.2 Benefits from the Customers' Point of View

The main benefit from the bank customers' point of view is significant saving of time by the automation of banking services processing and introduction of an easy maintenance tools for managing customer's money. The main advantages of e-banking for corporate customers as per (BankAway! 2001; Gurău, 2002) are Reduced costs in accessing and using the banking services, Increased comfort and time saving, Transactions can be made 24 hours a day, without requiring the physical interaction with the bank and Quick and continuous access to information.

2.1.3.3 Benefits to General Economy

Electronic Banking as already stated has greatly serviced both the public and the banking industry. This has resulted in creation of a better enabling environment that supports growth, productivity and prosperity. Besides many tangible benefits in the form of reduction of cost, reduced delivery time, increased efficiency, reduced wastage, banking electronically controlled and thoroughly monitored environment and discourage many illegal and illegitimate practices associated with banking industry like money laundering, frauds and embezzlement. Further E-banking has helped banks in better monitoring of their customer base. This is a useful tool in the hand of the bank to device suitable commercial packages that are in conformity with customer needs. As e- banking provide opportunity to banking sector to enlarge their customer base, a consequence to increase the volume of credit creation which results in better economic condition. Besides, E-banking has also helped in documentation of the economic activity of the masses (Mahdi Salehi, 2004).

2.1.4 Problems or challenges of using ATM

The use of ATM service is very simple, after getting the card, what the customers has to do is go to any ATM station and insert the card in to the slot and enter the password and write or choose the amount that the customer needs to withdraw and then press enter. But some limitations of ATM's are the customer can withdraw money no limits as to how many times a customer can withdraw money in a day as far as the cumulative amount do not exceeded the limit set by the bank. It is impossible to withdraw money in any denomination such as one, five, ten, fifty and hundred birr note what the customer is able to do is only type the total amount of money and the machine will give a combination of the available denominations and in addition to this, If the customer forget the password unable to use the service it is must to inform the bank either by dialing to 951 or personally visit to where the card is initially obtained.

In addition to the above limitations there is also another limitations like if the customer forget the password, the banks give another password with an addition payment, impossible to withdraw coined and currency below fifty, incorrect machine operation system, device derived, application) communication or poorly down to operators error (WendemenehGashaw, 2000).

2.1.5. Types of Electronic Payment system

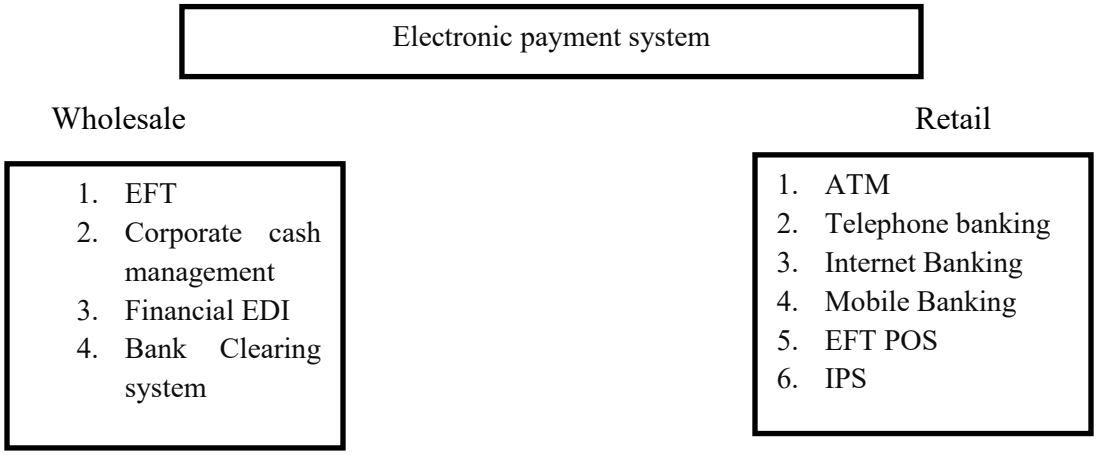
In general, there are two main types EPS(1) Wholesale EPS, designed primarily for the business community's payment need and (2) Retail EPS, designed primarily for the individual consumer of financial services. Wholesale banking represents payment activities occurring at the corporate level such as automatic salary payments to employee's bank accounts, direct company-to-company payments via banks or international funds transfers.

Retail banking represents any banking, which is not wholesale based and to generally focused on the personal sector, rather than on the corporate sector (How Croft &Lavis, 1986). Figure 2.1 below illustrates the range of EPS available today. It is not the purpose of this paper to discuss this range of EPS in details but it is important to understand where internet payment systems fit into the continuum of EPS; and how these subgroups of the wider EPS group differs from its fellows.

The major difference between IPS (Internet Payment System) and other EPS is that IPS uses the internet as a medium to transfer financial communication channels. It is also important to note

that every often card-based payment systems (such as credit, debit or charge cards) are also defined as retail based electronic payment systems. These card-based payment systems are mainly used with other types of EPS to maximize the benefit of electronic banking.

Figure 2.1 Types of electronic payments



2.1.6. Documentation of Electronic Fund Transfer

The documentation of electronic funds transfer is very important. Due to the nature of electronic banking, that is the man to machine interaction, the bank customer is entitled to receive as the end of the transaction confirmation that his account has only been credited by the amount of the transaction authorized by him through the input of his personal identification Number (PIN).

A terminal receipt is therefore required at any time an electronic transfer is initiated by a consumer at a public access terminal. The terminal receipt clearly certifies the amount of the transfer, the calendar date, the consumer who initiated the transfer, the time and the balance in the customer's account. It is a breach of the banks obligations to its bank customers not to produce the above receipts. Such failure is made worse by the fact that a similar transaction over a bank hall counter was in all occasions be evidenced by an audit trail. That is, there were written receipts and/or paying slips written by both the bank and customer.

It is the bank's duty to issue regular bank statements to enable a customer to verify any un authorized electronic funds transfer. The customer on the other hand has a duty to promptly verify its correctness.

2.1.7. HISTORY OF AUTOMATED TELLER MACHINES (ATM)

The idea of self-services in retail banking developed through independent and simultaneous effort in Japan: Sweden, the United States and United Kingdom. In USA, Luther George Simjian has been credited with developing and building the first cash dispenser machine. There is strong evidence to suggest that simjian worked on this device before 1959 while 132ndpatent (US 3079603) was first filed on 30 June, 1960 and granted 26 February, 1963. The rollout of this machine, called Bank graph, was delayed a couple of years. This was due in part to Simjian'sreflectone Electronics Inc. Being acquired by Universal Match Corporation. An experimental Bank graph was installed in New York city in 1961 by The City Bank of New York, but removed after 6 months due to lack of customer acceptance. The Bank graph was an automated envelope deposit machine (accepting coins, cash and cheques) and it did not have cash dispensing features. The Bank graph however, embodied the pre occupation by US banks in finding alternative means to capture core deposits while the concern of European and Asian banks were cash distribution (Geletesa, 2002).

A first cash-dispensing device was used in Tokyo in 1966. Although little is known of this first device, it seems to have been activated with a credit card rather than accessing current account balances. This technology had no immediate consequence in the international market. In simultaneous and independent efforts, engineers in Sweden and Britain developed their own cash machines during the early 1960s. The first of these that was put in to use was by Barclays Bank in Enfield Town in North London, United Kingdom, on 27 June 1967. This machine was the first in the UK and was used by English comedy actor Reg Varney, at the time so as to ensure maximum publicity for the machines that we to become main stream in the UK. This instance of the invention has been credited to John shepherd-Barron, while disregarding others engineers of De La Rue Instruments who contributed to the design and development of that machine. Nevertheless, shepherd-Barron was awarded on OBE (Order of the British Empire) in the 2005 New Year's honor's list. His design used special checks that were matched with a personal Identification Number, as plastic bank cards had not yet been invented. After looking first hand at the experiences in Europe, 1968 the networked ATM was pioneered in Dallas, Texas by Donald Wetzel who was a department head at an Automated Baggage-Handlin Company called Docutel. On September 2, 1969 Chemical Bank installed the first ATM in the US at its branch in

Rockville Center, New York. The first ATMs were designed to dispense a fixed amount of cash when a user inserted specially coded card. A chemical bank advertisement boasted "On September 2, our bank was open at 9:00 and never close again." Chemical executives were initially hesitant about the electronic banking transition given the high cost of the early machines. Additionally, executives were concerned that customers would resist having machines handling their money. In 1995, customers would resist having machines handling their money. In 1995, the Smithsonian National Museum of American History recognized Docutel and Wetzel as the inventors of the networked ATM.

ATM first came into use in December 1972 in the UK: the IBM 2984 was designed at the request of Lloyds banks. The 1984 CIT (Cash Issuing Terminal) was the first true cash point. Cash point is still a registered trademark of Lloyds TSB (Trustee Saving Bank) in the UK. All were online and issued a variable amount which was immediately deducted from the account. A small number of 2984s were supplied to a US bank. Notable historical models of ATMs include the IBM 3624 and 4738 series, Diebold 10xx and TABS 9000 series and NCR 50xx series.

2.1.8. Automated Teller Machines (ATM) in Banking Services

An automated Teller Machine (ATM), also known as a cash machine and by several other names (see below) is a computerized telecommunications device that provides the client of a financial institution with access to financial transactions in a public space without the need for a cashier, human clerk or bank teller. On most modern ATMs the customer is identified by inserting plastic ATM card with a magnetic stripe or a plastic smart card with chip that contains a unique card number and some security information such as an expiration date. The customer entering a personal identification numbers (PIN) provides authentication.

Using an ATM, customers can access their bank accounts in order to make cash withdrawals, credit card cash advances, and check their account balances as well as purchase prepaid cell phone credit. If the currency being withdrawn from the ATM is different from that which the bank account is denominated in (e.g., withdrawing Japanese Yen from a bank account containing US dollars), the money was converted at a wholesale exchange rate, thus ATMS often provide the best possible exchange rate, thus for foreign travelers and are heavily used for this purpose as well.

ATMs are known by various other names including Automatic Banking Machine (or Automated Banking Particularly is US) (ABM), Automated Transaction Machine, Cash point (Particularly in the UK), Money machine, Bank Machine, Cash Machine, Hole in the wall, Auto Teller (after the Bank of Scotland's Usage), Cash Line Machine (After the Bank of Scotland's Wage), Cash Line Machine (After the Royal Bank of Scotland's usage).

Automated Teller Machines (ATMS) provide many more services than simple dispensing cash, ATM's have evolved from simple note distributors to true mini branches where the customer can pay bills, verify checking account balances and obtain statements. Kenya Commercial Bank; Barclays Bank and Standard Chartered, national Bank of Kenya, Co-operative Bank of Kenya are among banks in Kenya that have public access to Automated Teller Machine and the list is growing longer by the day (Kilongo, 2007).

ATMs are the most immediate visible type of retail banking technology. They play a key role in any retail bank's efforts to use technology as a quality weapon to defeat competition. This facility provides a major role in offering convenience, speedy and round the clock services (barua and muckhopadhyay, 2000). ATMs capabilities include balance and transaction inquires, withdrawals, deposits and account transfer. A banking application should have facilities for online, real time connection at ATM network.

Also as fundamental to worldwide scene of ATM is the concept of shared ATM network. Any bank participating in a shared ATM network according to Chung et al. (2004) was enjoy the following advantages.

- The bank's customer was enjoy access to far more than the bank alone could ever provide.
- The bank is able consequently to make substantial cost saving compared with the cost of continually extending its ATM network on an independent basis.
- The bank may benefit from the branding of the shared network.
- It does help for international ATM sharing.

The facilities offered by Standard Chartered via their public access terminals, are by far the most advanced in the market. Standard chartered was the first bank to install ATM in the market.

The bank's ATM card holders may:

- Access their accounts twenty-four hours a day, 7 days a week, 365 days a year, from any Standard chartered ATM facility located countrywide or worldwide. They may also access their accounts in a similar manner, but an extra cost, at any ATM facility, other than a standard Chartered ATM, that displays the visa logo, and located in the country or anywhere also on the globe.
- Order a bank statement
- Withdraw cash
- Deposit cash or cheques at select ATMs
- Order Cheque-book
- Initiate the transfer of funds from one account to another belonging to the card-holder. Whether the branch at which any or both of the accounts are opened are located within or outside his country's national frontiers.
- Instruction deposit. That is the deposit of paper-based payment instructions via the ATMs.

Although ATMs were originally developed as just cash dispensers, they have evolved to include many other bank related functions. In some countries, especially those which benefit from a fully integrated cross bank ATM network (e.g. Multibank in Portugal), ATMs include many functions which are not directly related to the management of one's own bank account such as:

- Deposit currency recognition, acceptance.
- Paying routine bills, fees, taxes (utility, phone bills, social security, legal fees, taxes etc.).
- Printing bank books
- Updating pass books
- Adding prepaid cell phone/mobile phone credit
- Cheque processing module
- Paying (in full or partially) the credit balance on a card linked to a specific current account.

2.1.9. Growth in Online Banking with Technology

GSMA Mobile Economy Report (2023): Notes that global smartphone adoption reached 80% by 2023, directly correlating with increased mobile banking usage, especially in Asia and Africa.

Statist (2023): Reports over 3.6 billion mobile banking users globally, up from 1.2 billion in 2017.

Journal of Financial Services Marketing (2021): A study found that 65% of consumers prefer mobile apps over physical branches post-pandemic due to convenience and real-time services.

McKinsey (2022): Highlights AI-driven chatbots (e.g., Bank of America's Erica) reducing customer service costs by 30% while improving engagement.

International Journal of Bank Marketing (2019): Examines how AI personalizes financial advice, increasing customer retention by 20–25%.

Bank for International Settlements (BIS) (2021): Discusses central banks exploring CBDCs, with pilot projects in China (e-CNY) and Sweden (e-krona) enhancing transaction efficiency.

Deloitte (2020): Emphasizes blockchain's role in cross-border payments, reducing processing times from days to seconds.

FDIC Survey (2020): Indicates 87% of U.S. households used online banking in 2019, with trust in security measures as a key driver.

Computers & Security Journal (2022): Shows biometric authentication (e.g., fingerprint, facial recognition) reduced fraud incidents by 40% in digital banking

World Bank Global Findex Report (2021): Reveals a 30% rise in digital financial transactions in developing economies during 2020–2021.

Journal of Financial Services Research (2021): Attributes a 50% surge in neobank adoption (e.g., Revolut, Chime) to pandemic-driven digital reliance.

EMARKETER (2023): Asia-Pacific leads in mobile banking penetration (45% of adults), driven by India's UPI and China's Alipay.

European Central Bank (2022): Reports 60% of Euro zone citizens use online banking weekly, up from 40% in 2016.

Post-2015 studies underscore that technology—mobile platforms, AI, block chain, and cyber security—has been pivotal in online banking growth. The COVID-19 pandemic acted as a catalyst, accelerating adoption by 5–10 years in many regions. Future growth will likely hinge on emerging technologies like quantum computing and 5G, alongside regulatory adaptations.

2.2. Dimensions of ATM technology Facilities

1. Convenience of the location of the ATM

2. Convenience of the operating time of the ATM

3. Provision of financial services by ATM

4. Ease of use of ATM;

5. Security of customer's information By ATM,

6. Immediate Satisfaction,

7. Speed of the service provider system in delivering service of ATM,

8. Clarity of service instructions by ATM,

9. Accuracy of transaction information by ATM.

2.3. Empirical Review

In discussing customer mindsets, there are two possible opposing views: a positive view of ATMs due to their convenience and efficiency, or a dislike rooted in technological apprehension, infrastructural barriers, or cultural resistance. While global studies, such as those by Filotto et al. (1997) in Italy and Muhammad Rahimuddin (2010) in Pakistan, highlight the role of accessibility and automation in driving satisfaction, regional contexts—particularly in Africa—reveal nuanced challenges and adoption patterns.

For instance, Devamohan's study on Ethiopia underscores systemic barriers to e-banking, including infrastructure deficits and high setup costs. Similarly, a 2021 study by Tadesse & Gebremichael in Ethiopia found that despite recent improvements in mobile network coverage, rural areas still face significant gaps in ATM accessibility, exacerbating urban-rural financial inclusion disparities.

In Nigeria, Adeyemi (2015) identified erratic power supply and frequent network failures as critical impediments to reliable ATM services, forcing customers to revert to manual banking during outages. Paradoxically, ATMs remain popular in urban centers like Lagos, where customers prioritize 24/7 access over occasional service disruptions. Meanwhile, Kenya's integration of mobile money platforms (e.g., M-Pesa) with ATMs has reshaped user behavior. Mwangi & Ouma (2018) observed that Kenyans increasingly use ATMs primarily for cash withdrawals to fund mobile wallets, blending traditional and digital banking methods.

In South Africa, security concerns dominate customer hesitancy. Van der Merwe (2016) reported that ATM fraud, including card skimming and physical attacks, has led to distrust, particularly among elderly users. Conversely, younger demographics exhibit higher adoption rates, valuing speed and reduced human interaction. Ghana presents a demographic divide: Boateng's (2020) survey revealed that educated urban populations adopt ATMs at twice the rate of rural residents, citing ease of use, whereas rural non-users often lack digital literacy or perceive ATMs as culturally impersonal.

These regional studies align with global findings on accessibility and satisfaction (e.g., Mountinho et al., 1989) but emphasize Africa's unique infrastructural and socio-cultural hurdles. While automation enhances accuracy and efficiency (as noted in Pakistan and Ethiopia), systemic challenges—such as skill gaps in Ethiopia, power instability in Nigeria, and security risks in South Africa—highlight the need for context-specific solutions to optimize ATM adoption.

Expanded Ethiopian context with Tadesse & Gebremichael (2021). Nigerian infrastructural challenges (Adeyemi, 2015).

Kenyan mobile-ATM integration (Mwangi & Ouma, 2018). South African security concerns (Van der Merwe, 2016).

Ghanaian demographic divides (Boateng, 2020). Connections drawn between local challenges and global theme (e.g. accessibility vs. infrastructure).

Contrasts between positive adoption drivers (convenience) and regional barriers (fraud, power outages) emphasized.

This revision contextualizes findings within Africa's diverse landscapes while maintaining the original structure and global references.

On the other hand Devamohan documented in his ATM Thesis entitled "E – Banking – Problems and Prospects in Ethiopia" that documented that, beside their recently introduction to the country, e-banking in Ethiopia are challenged by the following major challenges, like lack of infrastructure facilities, unbearable establishment cost, lack of skilled man-power, unavailability of comprehensive legal framework and socio-Cultural aspect.

CHAPTER THREE

3.1. RESEARCH METHODOLOGY

This chapter comprises or contains research design, source of data, method of data collection, sampling technique, sample size, method data analysis.

3.2. RESEARCH DESIGN

This study employed a descriptive research design. Descriptive design is suitable when the objective is to observe, describe, and document aspects of a situation as it naturally occurs, without manipulating variables. In this research, it is used to assess the challenges and prospects of ATM payment systems at the Commercial Bank of Ethiopia (CBE), Gubre Branch.

Descriptive research is particularly effective in capturing the attitudes, experiences, and behaviors of both customers and employees regarding the use of ATM services. It enables the researcher to explore how customers perceive the usefulness and ease of ATM use, as well as the problems they encounter. Additionally, it allows for the identification of infrastructural or organizational barriers that affect the efficient operation of ATMs.

By using descriptive methods, the researcher was able to gather firsthand data through structured questionnaires and summarize the findings using statistical tools like percentages and tables. This approach provides a clear picture of both the current state of ATM usage and the potential for improvement at the branch level.

3.3. SOURCE OF DATA

In order to increase the effectiveness of the study the researcher was used both primary source of data and secondary source of data. Primary sources of data were achieved through questionnaires. The type of questionnaires that was used by the researcher is close-ended questionnaire from then ATM card holders and the employees of commercial bank of Ethiopia. Secondary source was conducted through reviewing organizational document. In the case of data type the researcher was used both qualitative and quantitative type of data.Because the study focus a specific place on challenges and prospects of ATM payment system in Commercial Bank of Ethiopia, in Gubre branch. Therefore, the qualitative type of data is the most appropriate for the study.

3.4. METHODS OF DATA COLLECTION

To conduct the study primary data collection method was use questionnaires to distributed for respondents of ATM card holders and employee of the bank.

SAMPLE SIZE

The data of sample size was collected from current customers of the bank who are ATM card holders and employee of the bank. The researcher selects the study population by using non-probability techniques depending on the range of elements of target population. Because this represent all the study population for area is difficult. Therefore, the researcher was used convenience sampling Techniques. The reason why non-probability sampling technique was selected is that it is less complicated to collect the data, is less expensive, less time since concerned bodies. The total target population for this study is 10,000 ATM holders and 50 employees from 10,000 ATM holders 40 and from 50 employees 10 was selected conveniently for this study. The researcher used non-probability sampling techniques particularly judgmental the reason behind the researcher used this type of sampling is because the respondent is selected based on the researcher judgment that the researcher think the respondent that different for the researcher questionnaires.

3.6 METHODS OF DATA ANALAYSIS

The researcher used a descriptive method of data analysis to examine the collected data. Specifically, tabulation and percentage analysis were applied to present the findings clearly. In addition, data collected through questionnaires were analyzed using Likert scale analysis, where applicable, to measure respondents' attitudes and perceptions. This combination of statistical tools helped to interpret both qualitative and quantitative data effectively.

CHAPTER FOUR

4.1 DATA ANALYSIS AND INTERPRETATION

The research intended in assessing the challenges and prospects of ATM payment system and from this stand, the researcher collected the necessary data from respondents of the organization through questionnaire. Then the necessary information gathered to reach at a desired conclusion and recommendations from the analysis result of respondent's information

TABLE 4.1. 1:Analysis of Bank Employees Responses

DEMOGRAPHIC CHARACTERSTICS OF RESPONDENTS

Gender	Number of respondent	Percentage of respondent
Male	5	70%
Female	3	30%
Total Average Standard deviation	8 4 1.412	100%
Department you are working		
Credit	1	10%
Trade and finance	0	0%
Customer account and transaction	6	60%
Others	3	30%
Total Average Standard deviation	10 2.5 2.57645	100%

Experience in bank		
Less than one year	2	20%

1-5 year	6	60%
6-15 year	2	20%
Above 15 year	0	0%
Total Average Standard deviation Educational qualification	10 2.5 2.5166	100%
Diploma	1	10%
First degree	9	90%
Master	0	0%
Others	0	0%
Total Average Standard deviation	10 2.5 4.4	100%

Source questionnaire, 2025

As shown in the table above, the gender distribution of respondents indicates that the majority were male, accounting for 70%, while females made up 30% indicating a male-dominated environment in the study sample.The average number of respondents per gender category is **4**, with a standard deviation of **1.412**, meaning there is a moderate level of variability in gender representation across the sample.This suggests that while males are the majority, there is still a significant representation of females, which could indicate progress in workplace diversity depending on the field being studied.Regarding departmental placement, 60% of respondents work in the Customer Account and Transactions department, 10% in the Credit department, and 30% in other departments. No respondents reported working in the Trade and Finance department.The **average number of respondents per department is 2.5**, but the standard deviation is **2.57645**, indicating relatively high variability. This suggests that department sizes are uneven, with some departments being significantly larger than others.The lack of representation in **Trade and Finance (0%)** could highlight gaps in staffing or a preference for employees to work in customer-facing roles.In terms of work experience, most respondents (60%) have served between 1 to 5 years, while 20% have less than one year of experience, and another

20% have between 6 to 15 years. None of the respondents reported having more than 15 years of service.Suggesting that employees in this sample are relatively new in their careers.

Only **20%** have less than a year of experience, and **20%** have between **6–15 years** of experience, with **none above 15 years**, indicating a lack of long-term employees.The **average experience is 2.5 years**, with a **standard deviation of 2.5166**, which shows a fairly wide variation in experience levels. This suggests that most respondents are mid-level employees, but there may be some gaps in retaining highly experienced professionals.When looking at educational qualifications, the majority (90%) of respondents hold a first degree, while 10% have a diploma. There were no respondents with a master's degree or other qualifications.The **average qualification level is 2.5**, with a **high standard deviation of 4.4**, showing significant variation in educational background.This could imply that while most employees meet the standard qualification level for banking jobs, further education (such as a master's degree) is not a priority or requirement in this work setting.

Summary: most respondents were male, had 1 to 5 years of work experience, and held a first-degree qualification. the majority worked in the customer account and transactions department. gender distribution.This could imply that while most employees meet the standard qualification level for banking jobs, further education (such as a master's degree) is not a priority or requirement in this work setting.

IMPLICATIONS OF FINDINGS

GENDER DIVERSITY CONSIDERATIONS;WHILE MALE EMPLOYEES MAKE UP THE MAJORITY, THE PRESENCE OF FEMALE EMPLOYEES (30%) SUGGESTS OPPORTUNITIES TO IMPROVE GENDER BALANCE FURTHER.ORGANIZATIONS MIGHT CONSIDER IMPLEMENTING DIVERSITY POLICIES TO ENCOURAGE FEMALE REPRESENTATION IN LEADERSHIP POSITIONS.

Departmental Staffing Trends;The dominance of the **Customer Accounts and Transactions department** suggests a focus on client services over finance or credit management.If staffing shortages exist in **Trade and Finance**, it may indicate the need for recruiting specialists in financial roles.

Employee Experience and Retention;Since **most employees have 1–5 years of experience**, it raises questions about employee retention and career growth.The absence of employees with **over 15 years** of experience suggests possible turnover challenges or lack of long-term career opportunities.**Education and Career Development;**The overwhelming dominance of **first-degree holders (90%)** suggests a standardized hiring requirement.The absence of **master's degree holders** may indicate limited incentives for advanced education. Companies could encourage further studies through scholarship or training programs.

TABLE 4.1. 2:Challenges faced by the CBE in Gubre main branch and its prospect of the bank Branch

Question statement	Percentage	Frequency
Low level of internet penetration and poorly developed telecommunication infrastructure affect development and improvement in ATM payment.		
Strongly disagree	1	10%
Disagree	0	0%
Neutral	0	0%
Strongly Agree	1	10%
Agree	8	80%
Total Average Standard deviation	10 2 3.39	100%
Frequent power interruption affects your organization ATM system		
Strongly Disagree	1	10%

Disagree	0	0%
Neutral	0	0%
Strongly agree	3	30%
Agree	6	60%
Total Average Standard deviation	10 2 2.5495	100%
Rate of illiteracy has a serious impediment for the adoption of ATM payment system ?		
Strongly Disagree	1	10%
Disagree	0	0%
Neutral	3	30%
Strongly agree	3	30%
agree	3	30%
Total Average Standard deviation	10 2 1.4142	100%
Does Political instability in the country has negative impact on ATM payment system?		
Strongly disagree	1	10%
Disagree	3	30%
Neutral	2	20%
Strongly agree	2	20%
Agree	2	20%
Total Average Standard deviation	10 2 0.71	100%

Do you believe ATM increase unemployment?		
Yes	3	30%
No	7	70%
Total Average Standard deviation	10 5 2.8	100%
Do you think that ATM machine is secured?		
Yes	9	90%
No	1	10%
Total Average Standard deviation	10 5 5.6568	100%
Does ATM payment system prevent fraud through automatic control?		
Yes	7	70%
No	3	30%
Total Average Standard deviation	10 5 2.8	100%
Does ATM machine enhance payment security by minimizing theft or loss?		
Yes	10	100%
No	0	0%
Total Average Standard deviation	10 5 7.1	100%

Source questionnaire, 2025

As table 4.1.2Above indicates 10% of the respondents rated strongly agree, 80% of them agree, 10% of them neutral, 10% of them strongly disagree and 0% of them disagree. This shows that the low level of internet penetration and poorly developed telecommunication infrastructure highly affect the development of ATM payment systems with regard to power interruption and the **average score is 2**, with a **high standard deviation of 3.39**, indicating significant variability in responses. While most participants agree, the deviation suggests that perceptions of this issue might vary based on regional infrastructure differences.This finding implies that improving internet connectivity and telecom reliability could significantly enhance ATM payment adoption and reliability.,60% of the respondents rated agree, 30% of them strongly agree,0% of them disagree, 0% of the neutral and 10% of them strongly disagree. This indicates that the frequent power interruption has a great effect on the improvement of ATM payment system.The **average is 2**, with a **standard deviation of 2.5495**, signaling variability but with a clear majority recognizing the impact. Ensuring a stable power supply and integrating backup solutions, such as generators or alternative energy sources, can help mitigate disruptions.

Concerning rate of illiteracy 30% of them rated agree, 30% strongly agree, 30% of neutral and 10% disagree, strongly disagree 0% This shows the rate of illiteracy has a serious impediment for the adoption of ATM payment system.The **standard deviation of 1.4142** suggests moderate variation in responses, indicating that some individuals view illiteracy as a key barrier while others do not. The implication here is the need for financial literacy initiatives and user-friendly ATM interfaces to improve accessibility.

On political aspect 10% of the respondents rated strongly disagree, 30% of them disagree and 20% neutral, strongly agree 20%and agree 20 From the figures the researcher understands the current political situation in the country would not affect the provision of ATM payment system to political instability has no impact of ATM payment system.The **standard deviation is 0.71**, indicating low variability and relatively consistent views. This highlights the potential influence of governance and stability on banking services, suggesting that financial institutions should develop contingency strategies in politically volatile environments.Regarding the ATM increase unemployment 30% of them said yes and 70% of them said no this shows that ATM payment system don't increase unemployment.The **average is 5**, with a **standard deviation of 2.8**, suggesting some difference in perspectives.This implies that while ATMs automate certain tasks, their impact on employment is likely minimal, and they could create opportunities for maintenance

and security roles.Regarding to ATM security 90% of respondent thinks ATM is security were 10 of them think ATM is not secure. This indicates that there is no challenge relating to ATM machine.The **standard deviation of 5.6568** suggests variability in perception, but overall, the majority trust ATM security.This highlights the importance of strengthening security measures, such as encryption, biometric authentication, and fraud prevention systems, to reassure users.

With regard to the prevention of fraud 70% of the respondents rated yes and 30% of them no this show that the majority 70% of them indicate that ATM payment system prevent fraud through automatic control. The **standard deviation of 2.8** suggests some variation in trust levels, meaning there may be concerns about vulnerabilities in fraud detection.Institutions can address these concerns by implementing enhanced monitoring systems and better fraud prevention technologies.

Concerning payment security 10% of respondent rated ATM enhance payment security by minimizing theft/loss where as nobody said any matter regarding ATM machine minimizing theft/loss. The **standard deviation of 7.1** is high, but with unanimous agreement, it suggests a strong perception that ATMs contribute positively to transaction security.This reinforces the idea that ATMs play a crucial role in financial security by reducing cash-related risks.

In general the summary of the bank employee's response with respect to the above questions found that low level of internet penetration and poorly developed telecommunication challenges the development and improvement of ATM.

- ✓ Frequent power interruption challenges the bank's ATM payment system.
- ✓ High rate of illiteracy has a great challenge to the adoption of ATM.
- ✓ Political instability in the country has low effect on the provision of ATM.
- ✓ ATM payment system not increase unemployment
- ✓ ATM payment system is secured
- ✓ ATM payment system prevent fraud through automatic
- ✓ ATM enhance payment security by minimizing theft/Loss

IMPLICATIONS OF FINDINGS

- Enhancing internet and telecom infrastructure can improve ATM efficiency.
- Backup power solutions can reduce transaction failures and enhance reliability.
- Simplifying ATM interfaces and promoting financial education can increase adoption among less literate populations.
- Banks should explore user-friendly solutions like voice-assisted transactions.
- Strengthening security protocols can maintain trust in ATM systems.
- Governments and institutions must ensure political stability to support banking infrastructure.
- ATMs do not necessarily lead to job losses but require skilled personnel for management and servicing.
- Expansion of ATM services can create new employment opportunities.

4.1.3 CUSTOMER RESPONDENT

Demographic characters' of respondent

Gender	Number of respondents	Percentage of respondents
Male	27	67.5%
Female	13	32.5%
Total Average Standard deviation	40 20 9.89	100%
Age		
18-30	30	75%
31-40	5	12.5%

41-50	3	7.5%
Above 50	2	5%
Total Average Standard deviation	40 10 13.39	100%
Educational level		
Primary to 10th	6	15%
Diploma	5	12.5%
First degree	28	70%
Master and above	1	2.5%
Total Average Standard deviation	40 10	100%
Frequency of using the bank		
Daily	6	15%
Twice a week	14	35%
Weekly	5	12.5%

Monthly	15	37.5%
Total	40	100%
Average	10	
Standard deviation	5.228	

Source questionnaire, 2025

As observed above table the sex distribution of respondent shows that the majority of respondent 67.5% are male's and 32.5% females ,the **average is 20**, meaning that gender representation in the survey was evenly split around two groups.The **standard deviation of 9.89** suggests some variability in responses, but the gap between male and female respondents remains significant.

This might indicate a gender imbalance in the population being studied, which could be a factor influencing workplace or financial trends.and the age of the respondents' lies 18-30(75%) 31-40(12.5%) the respondents lies within 41-50(7.5%) and The remain 5% of the respondent are above 50.The **average age group score is 10**, and the **standard deviation of 13.39** suggests a high spread among responses, meaning that even though younger individuals dominate, there is variation in age representation.These findings imply that younger populations engage more with banking services or financial studies, whereas older groups may have different banking habits or preferences.As observed above table their educational level 15% of them have primary to 10^{th}complete12.5% of the them have dipoloma70%and 2.5% of the them have first degree and masters respectively.The **average is 10**, which suggests that most respondents fall within a mid-to-high education range.The dominance of degree holders suggests that banking services may primarily cater to educated individuals, raising potential concerns about financial accessibility for less educated groups.As seen their frequency of using the bank 15% of the them using daily 12.5% of the them using weekly and 35% and 37.5% of the them are using twice weekly and monthly respectively this shows most of the customer used twice weekly and monthly.The **average is 10**, meaning banking frequency tends to be spread across different usage patterns.The **standard deviation of 5.228** shows some variation in banking habits, implying that individuals have diverse needs and preferences when interacting with financial institutions.

IMPLICATIONS OF FINDINGS

- The gender imbalance suggests that financial behaviors and access might differ between men and women.
- Institutions could implement strategies to improve financial inclusion and ensure equal banking opportunities for both genders.
- The high percentage of younger individuals interacting with banking services suggests that digital banking and modern financial tools are highly relevant.
- Banks could focus on youth-centered financial services, such as mobile banking and digital payment solutions.
- Since the majority of respondents hold a first degree, financial literacy might be high among them.
- However, lower-educated individuals (such as those with primary-level education or diplomas) might need targeted financial education programs to enhance their banking knowledge.
- Monthly banking usage is the most common, indicating that people prefer digital or self-service banking rather than frequent physical visits.
- Banks could enhance digital banking infrastructure to accommodate customers who prefer remote access over frequent in-person visits.

TABLE 4.2:Attitude towards the use of ATM

Question statement	Frequency	Percntage
Do you have adequate knowledge about ATM payment system ?		
Yes	34	85%

No	6	15%
Total Average Standard deviation	40 20 19.8	100%
Dimension of ATM technology facilities that drive customer to adopt ATM influence of ATMon time saving		
Very high	5	12.5%
High	22	55%
Moderate	12	30%
Low	1	2.5%
Very low	0	0
Total Average Standard deviation	40 8 9.14	100%
Do customers have strong positive attitude towards ATM services such as faster, cheaper, easier and more service oriented?		
Strongly disagree	5	12.5%
Disagree	7	17.5%
Moderate	7	17.5%
Agree	18	45%
Strongly agree	3	7.5%
Total Average Standard deviation	40 8 5.53	100%
Dimension of ATM technology facilities that drives customer to adopt ATM in influence of ATM on clarity of service instruction		
Very high	2	5%
High	20	50%
Moderate	16	40%

Low	2	5%
Very low	0	0%
Total Average Standard deviation	40 8 9.27	100%
Are you satisfied with ATM payment system services you are rendered ?		
Highly satisfied	14	35%
Satisfied	22	55%
Not satisfied	4	10%
Undecided	0	0%
Total Average Standard deviation	40 10 9.93	100%
Do ATM users adopt ATM because of influence of ATM on speed of transactions?		
Very high	10	25%
High	13	32.5%
Moderate	14	35%
Low	2	5%
Very low	1	2.5%
Total Average Standard deviation	40 8 6.1	100%

Source of questionnaire, 2025

The tabular result shows majority of the respondents (85%) have adequate knowledge about ATM payment system, and 15% of respondents have not adequate knowledge. This indicates most ATM users have adequate knowledge about the ATM.The **standard deviation of 19.8** suggests that while most respondents share this knowledge, there is a wide spread in familiarity levels.This implies that while ATM literacy is generally high, targeted financial education for the

15% who lack adequate knowledge could improve adoption rates further. Regarding influence of ATM time saving of12.5% respondents said very high of the them, majority of respondent(55%) said high of them, 30% and2.5 % of them said influence of ATM on time saving are moderate and low respectively. But nobody reposed on very low (This indicates customers adopt ATM because of the time saving dimension of ATM. It saves their time more. Concerning customers' attitude towards ATM service the above table shows 45% of the respondent rated agree, 17.5% of them moderate and 7.5% of them strongly agree, 12.5% of them said strongly disagree and 17.5% 0f them said disagree this show moderate and low respectively but no response for the very low. That the customers have strongly positive attitude to the wards ATM dimensions i.e. faster, cheaper, and easier and more service oriented.

Regarding clarity of service, of the respondents (5%) rated very high, and 50% of them said as high, 40% and 5% of the them said moderate and low respectively but nobody responded saying very low among of them said very This indicates that the clarity of service that guides users in order to operate ATM is a factor to adopt it. Relating to security of customer information, 7.5 % of respondents rated very high, majority (67.5%) of them high, 12.5% of them moderate, 7.5% of them low and 5 % of them very low.As observed the satisfaction on ATM Payment system 35% of them said highly satisfied, 55% of the them said satisfied and 10% not satisfied but 0% of them said UN decided.As seen the influence of ATM on speed of transaction 25% of them said very high, 32.5% of them said high and 35%of them said moderate,5% of them said low and2.5%said very low this indicate that the influence of ATM on speed of transaction is very essential.

As a conclusion, the researcher reaches on the following.

- Customers have adequate knowledge about ATM.
- Users adopt ATM because of the influence of ATM on time saving
- Customers have positive attitude towards ATM service dimension i.e., faster, cheaper, easier and service oriented.
- Customers adopt ATM because of the influence of ATM on clarity of service instruction.
- Customers prefer ATM because of security of customer information by ATM
- Customers are satisfied with the service they are rendered.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

In the previous chapter, the researcher tries to describe and assess the major challenges of AT payment system of CBE Gubre branch. This chapter summarizes data presented and analyzed in the analysis part and forwards some recommendations in order to improve the performance of ATM payment system.

5.1. CONCLUSION

- The bank faces major challenges relating to low level of internet penetration and poor development of telecommunication infrastructure.
- The trend in power interruption shows the bank faces frequent power interruption that interrupts its day-to-day service provision. The current situation relating to this problem threatens the bank highly.
- The high level of illiteracy in the country also affects the provision and development of ATM payment system rendered by the bank
- There is lack of financial network that links different bank. This in turn affects the provision and implementation of ATM.
- The ATM payment system do not increase unemployment rather it improve the service quality, save time and increase the bank's competitive advantage.
- The ATM machine that the bank implements are secured and it has great advantage to its users. Because users have their own pin code or security, number to use it, the bank gave them their ATM card in secured manner for the individual that use only and it is protected by security camera no one is easily theft.

Finally, the ATM payment system rendered by the bank faces many challenges and it provides many benefits to its users and to the bank. It reduces printing, mailing and financial handling costs. It prevents fraud by using automatic control. It enhances payment security. At the end, it satisfies its bank's customers by providing fastest service, reliable transaction and more service oriented.

The ATM payment system rendered the bank also have prospects or opportunities because of Employees of the bank like the machine there is potential market in the country, users like the machine

5.2 RECOMMENDATION

Based on the findings, the following prioritized recommendations are proposed to address the key challenges and support future improvements:

1. **Address frequent power interruptions as a top priority**, as this was one of the most frequently cited and disruptive challenges. The bank should invest in cost-effective backup power solutions, such as solar energy or generators, to ensure uninterrupted ATM service.
2. **Form strategic partnerships with telecom providers** to improve internet connectivity and telecommunication infrastructure. Enhanced network stability will directly benefit ATM performance and reliability.
3. **Enhance the accessibility of ATM services** by simplifying user interfaces and incorporating multiple local languages such as Afaan Oromo and Somali. This would make the system more inclusive for users from diverse linguistic backgrounds.
4. **Promote public awareness and training programs** to educate customers, especially those unfamiliar with ATM usage. This can increase adoption, reduce pressure on in-branch staff, and build trust in digital banking systems.
5. **Expand the ATM network and upgrade machines** to offer additional functionalities beyond cash withdrawals, such as cash deposits and utility bill payments. This would align with customer needs and boost user engagement.
6. **Develop interbank collaboration** by creating a shared financial network with other institutions (e.g., Investment Bank). This would enhance transaction flexibility, reduce system limitations, and provide added convenience for customers.

By implementing these prioritized recommendations, the CBE Gubre Branch can significantly improve its ATM service delivery and maximize both customer satisfaction and operational efficiency.

REFERENCES

- *Abrazhevich, D., 2004.Electronic Payment Systems: a User-Centered Perspective and Interaction Design.*
- *Bank of Abyssinia, 2018.Annual Report 2017/1, Addis Ababa: Bank of Abyssinia.*
- *Bank of Abyssinia, 2019.Company Profile, Addis Ababa: Bank of Abyssinia.*
- *Batchelor, B., 2017. The History of E-Banking By: September 26, 2017. [Online] Available at: https://bizfluent.com/about-5109945-history-ebanking.html[Accessed Apr. 2019].*
- *Brown, 1998. Successful Project Management in a week, London: s.n.*
- *Brown, L. R. G. T. L., 2010. Mixing interview and questionnaire methods: Practical problems in aligning data. practical Assessment, Research & Evaluation, 1 January.Volume 15.*
- *Bultum, A. G., 2014. Factors Affecting Adoption of Electronic Banking System in Ethiopian Banking Industry. Journal of Management Information System and E-commerce, June .1(1).*
- *Carolyn B., P. N., 2006. Conducting In-Depth Interviews: A Guide for Designing and Conducting In-Depth Interviews for Evaluation Input. Pathfinder International, May.*
- *Chui-Yu C., S. C. C.-L. C., 2017. An Integrated Perspective of TOE Framework and Innovation Diffusion in Broadband Mobile Applications Adoption by Enterprises. International Journal of Management, Economics and Social Sciences, 6(1), p. 14 – 39.*
- *Claire A., P., 2010. Presenting and Evaluating Qualitative Research. American Journal of Pharmaceutical Education, 1(1).*

- *Cropley, A., 2019. Introduction to Qualitative Research Methods, Humburg: s.n.*
- *Dawson, C., 2002. Practical Research Methods A user-friendly guide to mastering research techniques and projects. Oxford: How to Books.*
- *Derso, B., 2018. Ethiopia: Legal Framework for Effective E-Banking Service. Addis Ababa: AllAfrica.*
- Gemechu, A., 2012. *Adoption of Electronic banking system in Ethiopian Banking industry: Barriers and Drivers.* Addis Ababa: s.n.
- Girma, K., 2016. *Challenges and Opportunities of Electronic Banking in Ethiopian Banking Industry.* Addis Ababa: s.n.
- Henok, A., 2015. Moblle Banking in Ethiopia Challenges and Prospects. *BIRRITU*, February, Volume 119, pp. 9-22.

APPENDICES

APENDEX-1

WOLKITE UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

Questionnaires

Dear respondents, this questionnaire is prepared to gather pertinent data from the employees of CBE for the preparation of research entitled assessment of challenges and prospects of ATM payment system in CBE of Gubre Branch .The research is conducted in a partial fulfillment of BA Degree in accounting and finance. And I strictly assure you that your response will be used only for academic purpose and safely and confidentially treated.

INSTRUCTON

I would like to inform you that writing your name is not necessary please tick a right sign the answer that you think it is appropriate, multiple answers are possible and write down the answer in the space provided. Thank you in advance for your kind cooperation your time.

Thank You.

Tsegaye Endale

Email. endaletsegaye27@gmail.com

1.Demographic characteristics of respondents

1. Gender

Male ☐ Female ☐

2. Department your are working

Credit

Trade and finance

Customer account and transaction (CAT)

3. Experience in the bank

Less than a year 6 to 15 years

1-5 years above 15 years

4. Work in position

5. Educational qualification

Diploma ☐

Degree master ☐

Any other place ☐

PART ONE

Challenges faced by the bank

1. Low Level of internet penetration and poorly developed telecommunication infrastructure affect development and improvement in ATM payment. ?

A Strongly disagree ☐ D Strongly Agree ☐

B Disagree ☐ E Agree ☐

C Neutral ☐

2. Frequent power interruptions affect your organization ATM system?

A Strongly disagree ☐ D Strongly Agree ☐

B Disagree ☐ E Agree ☐

C Neutral ☐

3Rate of illiteracy has a serious impediment for the adoption of ATM payment system?

A Strongly disagree ☐ D Strongly Agree ☐

B Disagree ☐ E Agree ☐

C Neutral ☐

4. Political instability in the country has negative impact on ATM payment system ?

A Strongly disagree ☐ D Strongly Agree ☐

B Disagree ☐ E Agree ☐

C Neutral ☐

PART 2

How the ATM helps the prospect of bank

5. Do you believe ATM increase unemployment?

A yes ☐ B No ☐

6. Do you think that ATM machine is secured?

A yes ☐ B No ☐

7. The ATM payment system reduces printing, mailing and financial handling costs associated with process transactions.

A strongly disagree ☐ D strongly agree ☐

B disagree ☐ E agree ☐

C neutral ☐

8. Does ATM payment system prevents fraud through automatic controls ?

A yes ☐ B No ☐

9. Does ATM machine enhances payment security by minimizing theft/loss?

A yes ☐ B No ☐

APENDIX-2

Questionnaires

Dear respondents, this questionnaire is prepared to gather pertinent data from the CUSTOMER of CBE for the preparation of research entitled assessment of challenges and prospects of ATM payment system in CBE of Gubre Branch .the research is conducted in a partial fulfillment of BA degree in management. In addition, I strictly assure you that your response will be used only for academic purpose safely and confidentially treated.

INSTRUCTION

I would like inform you that writing your name is not necessary please tick a right sign the answer that you think it is appropriate, multiple answers are possible and write down the answer in the space provided. Thank you in advance for your kind cooperation your time.

Demographic characteristics of respondents

1. Gender male female

2. Age 18-30 31-40 41-50 above 50

3. Education level

Primary to 10th complete Diploma

First degree Master and above

4. Frequency of using the bank

Daily ☐ Twice a week ☐

Weekly ☐ Monthly ☐

APPENDIX- 3

Part 3

Users attitude towards the use of ATM

1. Do you have adequate knowledge about ATM payment system?

A yes ☐ B No ☐

2. Dimension of ATM technology facilities that drive customer to adopt ATM: influence of ATM on time saving ?

A Very high ☐ B high ☐ C moderate ☐ D low ☐ E very low ☐

3. Customers have strongly positive attitude towards ATM service such as Faster, cheaper, easier and more service oriented.

A Strongly disagree ☐ D agree ☐

B Disagree ☐ E Strongly Agree ☐

C Moderate ☐

4. Dimension of ATM technology facilities that drive customers to adopt ATM; in influence of ATM on clarity of service instruction

A Very high ☐ B high ☐ C moderate ☐ D low ☐ E very low ☐

5. Customers prefer ATM because of security of customer information by ATM?

A Very high ☐ B high ☐ C moderate ☐ D low ☐ E very low ☐

6. Are you satisfied with ATM payment system service you are rendered?

A Highly satisfied ☐ B satisfied ☐ C Not satisfied ☐ D Undecided ☐

7. The ATM users adopt ATM because of the influence of ATM on speed of transaction

A. Very high ☐ B high ☐ C moderate ☐ D Low ☐ E very high ☐