

Addis Ababa
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COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF *MANAGEMENT*

(MSc in Management)

**The Impact of ATM Service Recovery on Customer Satisfaction in
Commercial Bank of Ethiopia: A Case Study on Addis Ababa City**

By: Gashaw Aschenek

Advisor: Dr. Ethiopia Legesse

A Thesis Submitted to Addis Ababa University College of Business and
Economics, Graduate Studies in Partial Fulfillment of the Requirements
for Degree of Master of science in Management

Addis Ababa, Ethiopia

June , 2020

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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of my advisor. All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

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Statement of Certification

This is to certify that the thesis prepared by Gashaw Aschenek entitled: “The Impact of ATM Service Recovery on Customer Satisfaction in Commercial Bank of Ethiopia: A case Study on Addis Ababa City” compiles with the regulations of the university and meets the accepted standards with respect to originality and quality.

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LIST OF ACRONYMS

ANOVA - Analysis of Variance

ATM- Automatic Teller Machine

CBE-Commercial Bank of Ethiopia

NBE- National Bank of Ethiopia

PSS-Premiere Switch Solutions

SBO-Senior Banking Officer

SPSS- Statistical Software Packages for Social Science: Version 20

TAM- Technology Adoption Model

ABSTRACT

This research focuses on investigating the impact of ATM (automated teller machine) service Recovery on Customer Satisfaction in Commercial Bank of Ethiopia in Addis Ababa City, and tries to answer how service failures in using ATM machine addressed in Commercial Bank of Ethiopia East Addis Ababa district. The study is based on both quantitative and qualitative research approach using case study research design. The study used primary data collected through questionnaires which were distributed to the ATM card users and conducted interviews with higher officials at E-payment and secondary data which was gathered from different literatures. The population of this research was active ATM users of commercial bank of Ethiopia East Addis Ababa district. A total 400 questionnaires were distributed to ATM users of CBE, 344 of the questionnaires were properly filled and returned for analysis. This paper can help management to understand the effect of service failure on customer satisfaction and how to develop effective service recovery system to mitigate service failure. CBE ATMs are experiencing frequent power cut offs and network failures leads service failure in using machines which in return negatively affects customer satisfaction.

Key terms

Service recovery, ATM, Customer satisfaction, Service failure, recovery risk

CHAPTER ONE

1.1 BACKGROUND OF THE STUDY

Service failures have been categorized as failure of the core service (service provider error), such as failure to get one's money from an ATM, or product and policy failures as attributable to the organization or the customers. There are various consequences of service failures, namely: dissatisfaction, a decline in customer confidence, negative word of mouth behavior, customer defection (Miller et al., 2000; Tronvoll, 2010), loss of revenue and increased costs, or a decrease in employee morale and performance. Service recovery has to do with those actions designed to resolve problems, alter negative attitudes of dissatisfied customers and to ultimately retain these customers (Miller et al., 2000, p. 38), includes situations in which a service failure occurs but no complaint is lodged by the customers, and has been expressed as seeking out and dealing with service failures (Smith et al., 1999, p. 359). The "seeking out" part of this distinguishes service recovery from complaint handling, as many dissatisfied customers do not complain (Michel et al., 2009).

The banking sector is essential for the Ethiopian economy and plays an important financial role therefore, its growth is very critical to the health of the general economy at large. In the quest to its services, retain customers and attract new customers commercial bank of Ethiopia has introduced innovative measures like extended business hours, ATM machines, mobile banking, internet banking and other improved banking facilities in the interest of enhancing customers comfort. These efforts which aim at bringing satisfaction to the customer seem to be futile unless the services are delivered by using the measures that the bank introduced. ATM service is one of

the services used by the bank which allows customers to withdraw money from their account using ATM card, to transfer money between accounts, to exchange currencies and enable customers to have an access of self-service banking 24hrs a day and 7 days a week.

In the last twenty years there has been a rapid increase in the activity of private banks in Ethiopia, and this has fostered repaid competitiveness among banks in Ethiopia. In the increasing world of business, the task of each bank operating to make more profits is becoming a challenge with each passing day. In order for an organization like commercial banks to operate optimally, it has to be able to measure its profitability with regards to its inputs and outputs. (Abinet, Y. 2010)

The technological revolution in banking started in the 1950s, with the installation of the first automated bookkeeping machines at bank. The first Automated Teller Machine (ATM) along with payment card system has been introduced in the USA in 1968 with only a cash dispenser (Consoli, 2005).

Automation in banking have become widespread over the past few decades as banks quickly realized that much of their labor intensive information-handling processes could be automated with the use of computers (Farhana, 2012). In our country the modern payment systems are almost non-existent. The country's economy is significantly cash based. Checks are also being used as an alternative payment mechanism but to a very limited extent. Commercial Bank of Ethiopia is the first bank to introduce Automated Teller Machine (ATM) in Ethiopia by using ATM card (debit card) in 2011. By using, Temenos software delivers all the functionality and efficiencies need to match a world class commercial bank. Using this software CBE is going to provide to its customers better services like E-banking (Mobile banking, internet banking etc).

Electronic payment system helps the user by reducing time, increasing reliability and confidentiality. In general, the system is performed by three basic components i.e. network, card reader device and electronic card. Electronic payment is mostly referred to automated payment or banking channels that allows delivery of banking services in an effective, efficient and convenient way via electronic channels such as Automatic Tellers Machine (ATM), Point of Sale (POS) terminals, Mobile phones, Internet, and Personal Computers. Electronic payment is the prospect for the advent of a cashless society (www.combanketh.com).

In using ATM machines, there are many customer complaints and dissatisfactions because of network failure, inaccessibility, lack of awareness creation by the bank to its customers and other reasons create dissatisfaction and discomfort for customers. Thus, the aim of this study is to assess the impact of service recovery on customer satisfaction; how customer complaints are handled and how failed ATM transactions are adjusted in CBE.

1.1.1. BACKGROUND OF CBE

Commercial bank of Ethiopia is established as the name of State Bank of Ethiopia by Emperor Haile Selassie after the Ethiopian victory over Fascist Italy in August 1942. In 1963, the State Bank of Ethiopia split into the National Bank of Ethiopia and the Commercial Bank of Ethiopia S.C. with the purpose of segregating the functions of central banking from those of commercial banking. Thus, until the end of 1974, there were state owned, foreign owned and Ethiopian owned banks in Ethiopia. The banks were established for different purposes: central banking, commercial banking, development banking and investment banking. Following the 1974 Revolution, on January 1, 1975 all private banks and 13 insurance companies were nationalized and along with state owned banks, placed under the coordination, supervision and control of the National Bank of

Ethiopia. Eventually in 1980 this bank was itself merged with the Commercial Bank of Ethiopia to form the “Commercial Bank of Ethiopia,” thereby creating a monopoly of commercial banking services in Ethiopia. (E-Payment Business Solutions Team of CBE 2015).

Now days, Commercial Bank of Ethiopia is the largest commercial bank in Ethiopia. As of March, 2019 CBE has over 1,340 branches positioned in the main cities and regions, around 20 million customers and above 33,000 employees and the total number of ATM and POS terminals deployed at various locations reached 2,524 and 9,384 respectively.

The banks vision and mission are “To become a world-class commercial bank by the year 2025” and “We are committed to best realize stakeholders' needs through enhanced financial intermediation globally and supporting national development priorities, by deploying highly motivated, skilled and disciplined employees as well as state of the art technology. We strongly believe that winning the public confidence is the basis of our success” respectively.

The payment card system in Ethiopia is not an area which has been used to its fullest potential and now in an environment where electronic payment is only at its earliest development stages.

The ATM issued by CBE is valid only in Ethiopia.

1.2 STATEMENT OF THE PROBLEM

An automated teller machine or automatic teller machine (ATM) is a computerized telecommunications device that provides the clients of a financial institution with access to financial transactions in a public space without the need for a cashier, human clerk or bank teller. Customers can also access their bank accounts in order to make cash withdrawals, check their account balances as well as purchase prepaid cell phone credit by using an ATM (Sultan Singh, Ms. Komal, 2009). According to Rahman (2008), among electronic banking systems ATM service is designed to give 24hour service, reliable service, error free service, continence service, efficient service, minimize carry bulk of paper money, to give personalized service to the customers.

John and Rotimi (2014) examined the effect of electronic banking on customer satisfaction in Nigeria. Using survey data, descriptive statistics and Chi-square test, they found that there is a significant relationship between electronic banking and customer satisfaction. The study further reveals that e-banking has become popular due to its convenience and flexibility; transportation related benefits like speed, efficiency and accessibility. In the same vein, Adeoye and Lawanson (2012) utilized primary data, descriptive and explanatory survey design methods to evaluate customer's satisfaction and its implications for banks performance in Nigeria. Findings reveal that although customers enjoy electronic banking services, they are not satisfied with the quality and efficiency of the services, judging from the number of times they physically visit banks and the length of time spent before the services are received. Similarly, Danlami and Mayowa (2014) carried out an empirical investigation of Automated Teller Machine (ATMs) and customer satisfaction in Nigeria, A case study of Ilorin Kwara State. In the study, three

commercial banks (First Bank of Nigeria Plc, Guaranty Trust Bank Plc and First City Monument Bank Plc) purposively selected and a sample size of 180, 60 from each bank selected randomly at the banks" ATM terminals during transaction while tables, percentages, charts and the Chi-square statistical tools were used to analyze the data collected. Findings reveal that there is a significant relationship between ATM usage and customer satisfaction.

The e-payment, especially ATM is operated by software based networks which is highly related with infrastructure. However, the issue of infrastructure, which is characterized by lack of networks, electric power supply, system failures, connection errors, claimed to have left the banking sector behind in making payments electronically. In addition, security issues, trust and related matters make the industry not to be a beneficiary of the trillions of transactions throughout the world e-commerce.

Based on 2016/2017 CBE report out of the total number of employees 2/3 of them work on branches and according to the reveal of the information each customers service officer work around 250-300 transaction per day it implies that customers still come into the banking hall for services such as cash withdrawals even when the amount may be withdrawn from the ATM, checking of account balances, printing of account mini statements, transferring of money which could be provided by using the ATM. Beside, CBE has spent huge capital of money to design, fabricate, install and maintain for the ATM banking delivery service, according to the information obtained from Bank card reports of 2016/2017 the usage rate of card is still lower than expected and remains smaller compared to the entire bank customer. For instance, the bank has managed to produce 1,512,000 cards to customers into use and out of the total produced card only 766,109 were actively used for the year of 2017. This implies some of customers did

not prefer to use the service again because of they are disappointed by the service of ATMs and slow response of the bank whenever they face service failure in using ATM machines.

So the existence of the above mentioned problems, the researcher would inspire to assess these service recovery issues in using ATMs which directly affects customer satisfaction.

1.3 RESEARCH QUESTIONS

The research would answer the following questions:

1. What is relationship between ATM Service Recovery and Customer Satisfaction in Commercial Bank of Ethiopia?
2. How long does it take to refund a customer's cash arising from ATM failed transactions?
3. What are the corrective measures taken by the bank to reduce customer complaints when ATM service failure occurs?
4. What is the satisfaction level of customers by the ATM service recovery process of CBE?

1.4 OBJECTIVE OF THE STUDY

1.4.1 GENERAL OBJECTIVE

The general objective of this research was to assess the impact of ATM service recovery on customer satisfaction in case of CBE in Addis Ababa city.

1.4.2 SPECIFIC OBJECTIVES

- To measure the impact of ATM service recovery on customer satisfaction in CBE.
- To analyze the time taken to refund customer's failed ATM transactions in CBE.

- To assess corrective measures taken by the bank to recover from ATM service failures.
- To measure the satisfaction level of customers by the service recovery process of the bank.

1.5 SIGNIFICANCE OF THE STUDY

The significance of this study lies on almost all the financial institutions especially for the commercial banks to keep up with the competitive nature of their environment which depend on the quality of product and services they offered e.g. the usage of the ATM and how fast they attend a refunds on failed transactions of their customer. It is also important for customers who are not aware/oriented on the refund of ATM failed transactions can be educated on the need to be so, because many customers have lost or for fit their fund on the cause by using the Automated Teller Machine. It is also significant because it provides the empirical information on the root cause of Automated Teller Machine failed transactions, and also sensitizes the bank the need to harmonize the ATM refund system with aim of prompt resolution of all customer complaints on failed transaction on ATM to avoid customer dissatisfactions. It also comes up with alternative solutions that enable the responsible body to increase customer satisfaction. Finally, it serves as a stepping stone for those who want to engage a study on the same issues.

1.6 SCOPE OF THE STUDY

The results of the research would be in a position to address the problem areas of all CBE ATM stations across Ethiopia, if it had been conducted on larger scale. However, as including all CBE ATM users in this study was practically impossible, the study used both quantitative and qualitative research method in which it confines itself to questionnaire survey on the study

delimited itself to CBE ATM card holders that exist in Addis Ababa city. The study covers the ATM service recovery and customer satisfaction aspects of the bank.

1.7 LIMITATIONS OF THE STUDY

The paper was conducted at one district of Addis Ababa because of lack of having sufficient time and budget to gather enough data from those the remaining four districts. Because of the data for this study was collected in commercial bank of Ethiopia in Addis Ababa city which have technologically different environment from some other places and other banks, one-time study and lack of available access for secondary data, the result may not represent the overall population or it is difficult to conclude the whole impact of ATM service recovery on customer satisfaction in Ethiopia.

1.8 ORGANIZATION OF THE STUDY

The study attempted to analyze the impact of ATM service recovery on customer satisfaction. Accordingly, it was organized in 5 chapters. The first chapter introduced the background of the study, statement of the problem, research questions, objectives of the study, significance of the study, scope of the study, limitations of the study and organization of study. The second chapter presents the detail review of theoretical and empirical literature on the topic. The third chapter is the methodology that was used in the study. The fourth chapter analyzes, discusses and interprets the data collected for the study. Finally, the conclusion and recommendations part presented on the fifth chapter.

CHAPTER TWO

2. LITERATURE REVIEWS

This section review related literatures, concepts and theories available from textbooks, journals, seminars papers and case studies in relation to the study and present a summary of significant relationship between technologies based self-service (automatic teller machine) ATM service failure, service recovery, refund system on failed transactions and its effects on customer's satisfaction and review of empirical works.

2.1. DEFINITIONS OF ATM

According to Sultan and Komal (2009) Automated Teller Machines (ATMs) were the first well-known machines to provide electronic access to customers. With advent of Automatic Teller Machines (ATM), banks are able to serve customers outside the banking hall. ATM is designed to perform the most important function of bank. It is operated by plastic card with its special features. The plastic card is replacing cheque, personal attendance of the customer, banking hour's restrictions and paper based verification. ATMs have made hard cash just seconds away all throughout the day at every corner of the globe. ATMs allow you to do a number of banking functions such as withdrawing cash from one's account, making balance inquiries and transferring money from one account to another using a plastic, magnetic-stripe card and personal identification number issued by the financial institution.

In (1993) O’Hanlon and Rocha found out that originally, banks offering an ATM service achieved an advantage over their competitors. There was scant understanding of the customer needs or expectations and the role of ATMs large in banks retail delivery system was vague. In the early market stage, O’Hanlon and Rocha enlighten that ATM was a product based on a radical technological innovation, and did not represent a solution to a customer need at that point in time. In the mid-1970s, features like cash balance inquiry, deposits and funds transfer that permitted these customers to conduct the majority of their routine transactions without visiting a bank branch.

2.2. SERVICE FAILURE AND RECOVERY

2.2.1 SERVICE FAILURE

Service failures unwanted, dissatisfying and an unexpected situation for any customer in the service process. There are two types of service failures: operational and behavioral. In case of operational failure, customer may complain to the authority, switch to another organization, may go in for negative publicity, may reduce the business or might not take any action altogether. These types of customers’ behavior are affected by many factors like control of service providers on failure situations, stability of service failure, magnitude of failure and past experiences of customers (Krishna et al. 2011). Customer’s perception and expectations towards service delivery varies from organization to organization (Swaretal. 2012). Organizations always plan from time to time different strategies to enhance customers purchase intention (Keillor et al. 2007). It increases involvement of customers in service creation process and they act as a partial employee (Keh, Teo, 2001). Customer’s level of tolerance and perceptions of the service quality during the

process of service delivery impacts customer's satisfaction (Johnston, 1995). In service organizations customer's satisfaction is a major concern area, especially when the cost of keeping a current customer satisfied is much less than the cost of attracting a new customer (Blodgett et al. 1994). To retain the existing customers and for satisfying their needs employees efforts of service recovery is very essential.

Apart from perceived employee proficiency, all other variables significantly developed perceived service recovery quality leading to recovery satisfaction. Initial negative feelings from a service failure failed to cause significant moderating effect on post recovery satisfaction. The most disturbing service failures in the automated service delivery environment are identified as technical failures such as delay in online transaction; issues related to ATMs and interrupted connectivity. The study will establish that excellent service recovery quality develops service recovery satisfaction and customers gain more confidence in the bank and perceive higher value in their association with the bank.

2.2.2 SERVICE RECOVERY

Service recovery refers to the actions taken by an organization in response to a service failure. Failure occur for all kinds of reasons-the service may be unavailable when promised, it may be delivered late or too slowly, the outcome may be incorrect or poorly executed, or employee may be rude or uncaring. Left unfixed, they can result in customers leaving, telling other customers about their negative experiences, and even challenging the organizations or legal channels (Lovelock and Wirtz, 2005:404).

Auto error recovery whenever the system encounters a detectable error condition, the ATM will go out of service with a specific error code, which is displayed to the screen and sent to Triton Connect. For some error conditions, it is possible that the error is intermittent and can be recovered automatically. When the system goes out of service with a recoverable error code, the ATM will attempt to reset the error automatically, including a self-restart if an error reset does not help. If the restart does not recover, the system will remain out of service until an administrator either from management functions or Triton Connect manually resets the system. The list of recoverable errors is programmed into each software release and may vary by software version.

2.2.3 SERVICE RECOVERY STRATEGIES

The importance of an effective service recovery strategy is for retaining customers and increasing positive word of mouth. Another major benefit of an effective service recovery strategy is the information it provides that can be useful for service improvement. Specific strategies that firms can use for service recovery are: -

1. Fail-safe your service dolt right the first time.

In this way recovery is unnecessary, customers get what they expect, and the cost of redoing the service and compensating for errors can be avoided.

2. Well come and Encourage complaints

Even in zero defections organization that aims for 100% service quality, failures occur. A critical component of a service recovery strategy is thus to welcome and encourage complaints. It should be anticipated, encouraged, and tracked. The complaining customer should be viewed as a friend.

3. Act quickly

Complaining customers want quick responses. Thus if the company welcomes, even encourages, complaints, it must be prepared to act on them quickly. This requires systems and procedures that allow quick action, as well as empowered employees.

4. Treat customers fairly

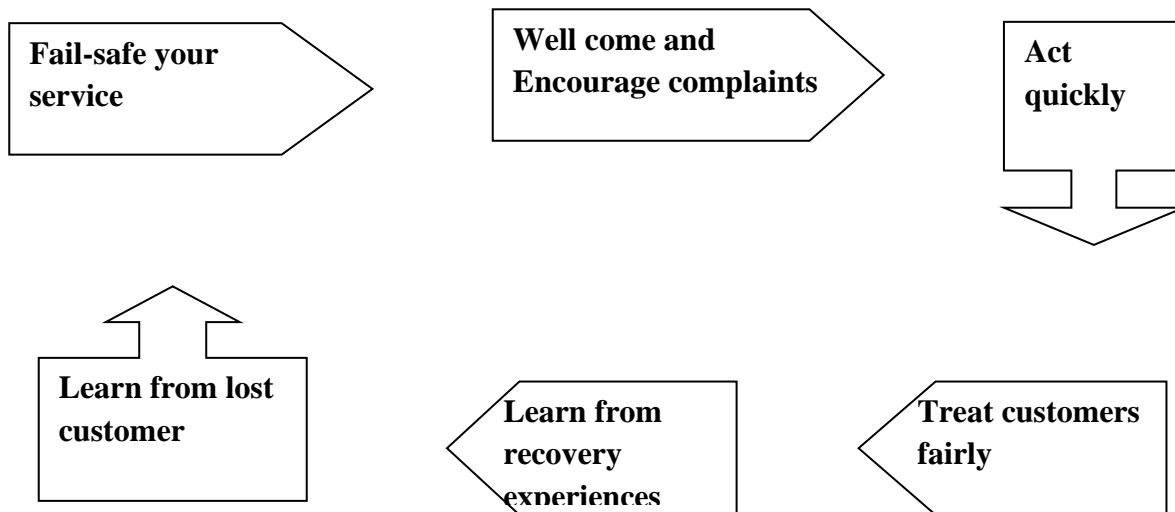
In responding quickly, it is also critical to treat each customer fairly, customers expected to be treated fairly in terms of the outcome they receive, the process by which the service recovery takes place, and the inter personal treatment receive.

5. Learn from recovery experiences Problem-Resolution situation are than opportunities to fix defective services and strengthen ties with customers. They are also a valuable but frequently ignored or underutilized-source of diagnostic, prescriptive information for improving customer's service.

6. Learn from lost customer

Another key component of an effective service recovery strategy is to learn from customers who defect or decide to leave. Formal market research to discover the reasons customers have left can assist in preventing failures in the future. Not all companies are doing poorly at service recovery. Many have learned the importance of providing excellent recovery for disappointed customers. In this section we examine their strategies and share examples of benchmark companies and what they are doing. It will become clear that excellent service recovery is really a combination of a variety of strategies shown in the figure will be discussed, starting with the basic “do it right the first time” (Zeithmal and Bitner,2003:197-203).

Fig.2.1 service recovery strategies



Source: Zeithmal and Bitner, 2003:197

2.3 CAUSES OF ATM FAILED TRANSACTION

ATM failed transaction refers to one of the following or other similar events: -

(i) Account of the customer is debited with the amount of intended withdrawal but no cash is dispensed by the ATM.

(ii) Account of the customer is debited with the amount of intended withdrawal but the entire amount of transaction is not dispensed by the ATM e.g. the account debited with 10,000 but only 5,000 one dispensed by the ATM.

(iii) Account of the customer is debited with the amount of intended withdrawal but the customer leaves the ATM before collecting the cash and the cash is either retracted by the ATM or is collected by another person after the customer has left the ATM.

(iv)The customer make a withdrawal (say 5,000 and his/her account gets debited with double the amount (say 10,000). Some ATM failed transactions automatically get credited bank into the account of the customers. These are the transactions that the ATM itself or the back-end server (called Switch) marks as failed or unsuccessful.

Other causes of ATM failed transaction can be as a result of the following reasons: -

- ATM may be out of cash but for some reasons, the ATM software fails to recognize the same because customers accounts are being debited before cash dispense processes is

prompted in such cases, obviously no cash will be dispensed but the transaction will get marked as successful.

- Wrong denomination of notes occurs when the cash handling agency or the bank staff put wrong denomination in the ATM cassette or tray. As CBE every ATM has 4 cassettes labeled 1 - 4 which takes different notes depending on branches interest. The cassette is configured to take different denomination say cassette 1 filled with hundred notes, cassette 2 with fifty note, cassette 3 with ten notes and cassette 4 filled with five notes of ETB. The ATM recognized denomination and pieces in the cassettes to know the amount requested and dispense. So if a birr 50 note is mistakenly put in cassette 1, from any withdrawal there will be half shortage to the customer and excess to the bank.
- The process flow of the ATM is that customers account is debited before cash is dispense when the customer's request for cash and his/her account debited and network or power failure occur before the ATM dispense cash, the transaction will be marked as successful in the system but no cash will be dispensed by the ATM.
- Technical/mechanical snag in the ATM. There may be a physical fault e.g. reject tray full, faulty rollers and clamps, dispensers and or software e.g. the front-end processed (FEP) fault in the ATM resulting in non-dispensation of cash after a success response from the switch.
- Use of unfit notes/mutilated notes. Bank use recycle note or mutilated notes in the ATM which filled up the reject trays while trying to count the requested amount by the customers which lead to a failed transaction.

2.4 ATM REFUND SYSTEMS

Automated Teller Machine (ATM) began operations at a branch of Barclays Bank in 1967. According to Peter, S.R. and Sylvia, C.H. (2008) an ATM combines a computer terminal record keeping system and cash vault in one unit permitting customer to use their plastic card using personal identification number (PIN) into a computer terminal link to the financial forms computerized records 24 hours a day and once accessed cash withdrawal may be made up to a limit allowed.

Today, there is hardly any bank without the Automated Teller Machine. The banks have also deployed the ATM's to other location such as supermarket, tertiary institutions, hospitals, hotels, airports, ministries and so on now have a machine situated in their premises. However, there is no doubt that the introduction of ATM's by banks is to reduce operation costs and to ensure that the customers are better served, but the ATM's has it challenges due to the fact that the infrastructures that support the machines are susceptible to abuse, misuse and failure in many ways causing customer's dissatisfaction and loss of confidence on the use of Automated Teller Machine. The infrastructures attributed to the failure of Automated Teller Machine are power failure, network problems; recycle notes, and ATM not loaded with cash. Customers face great challenges for the refund of the failed transaction. This is because there is no clear direction or policy by CBN on the means or ways to refund the transaction. The banks through inter switch network monitors failed transactions on other bank's ATM are to report and process their claim through their banks. Failed transaction of customer of the same ATM and card are to process through their claims in their banks.

The refund system is categorized into four. These are:

1. Automatic refund: is the refund that the transaction reversed itself if it was not successful (i.e. cash has not been dispensed by the ATM and it mostly occur when there is no cash in the ATM or network fluctuation).
2. On us refund system: this type of refund occurs when customer uses its bank ATM and the cash is trapped. If the transaction has not refunded automatically the refund is made after 24 hours using electronic journal (EJ) report which normally down loaded on the ATM.
3. Not on us (other Bank ATM level on another bank ATM machine): These types of refund system are handled by the customers' domiciled branch or Bank if the transaction does not reverse its self automatically.
4. Remote on us (mother Bank card on other ATM): These types of system are said to be remote on the ATM terminal because his account is not link directly to the ATM he is using the credit or his withdrawal or refund comes through inter switch.

Customer's suffers a lot because of the non-standardized means of refund. Customer's satisfaction is ultimately the result of the sum total of the customer's experience with every organization. According to John, T. (2008) "It isn't what you think you know is important. It's what customers think that matters even if they are illogical, uninformed or witless". Good services have to do with what customers believe it to be. Few employers truly understand what good services are, nor are they close enough to their own employees to understand how bad and inconsistent services are in their respective branches. Customers come back to a place that has provided a quality experience for them. This means managers need to focus not on tangibles as ends in them, but on how all the workers particularly combine to create a certain satisfying experience to the customer.

2.5 CUSTOMER SATISFACTION

Customer satisfaction is the extent to which a product's perceived performance matches a buyer's expectations Kotler (2006). It further argues customer satisfaction depends on the product's perceived performance relative to a buyer's expectations. If the product's performance falls short of expectations, the customer is dissatisfied. If performance matches expectations, the customer is satisfied and if performance exceeds expectations, the customer is highly satisfied or delighted (Kotler, 2006). Oliver (1997) defines customer satisfaction as the customer evaluation of a product in terms of whether that product has achieved their needs and expectations. If it fails to do so, dissatisfaction would occur. Outcomes of satisfaction feelings may involve intent to repurchase, word-of-mouth and complaints.

2.6 EMPIRICAL REVIEWS

The development of ATM banking service in Ethiopia is an evolutionary process and its appearance in Ethiopia moved back to the late 2001, when the largest state owned, Commercial Bank of Ethiopia (CBE) introduced ATM to deliver service to the local users (Gardachew, 2010). However, due to lack of modern technology, lack of awareness and appropriate infrastructure it failed to provide efficient service. In his study, Dashen Bank was the next bank that has been installed ATMs at convenient locations for its own customers' since 2006. Both banks tried to develop the ATM system by designing in the way to provide a secure electronic data-sharing gateway between clients, banks, and ECX, by facilitating a smooth transaction.

Abiy (2008) cited in Addis. (2015) in his study, Wegagen Bank has signed an agreement with Technology Associates (TA), a Kenyan based information technology (IT) firm, for the development of the solutions for the card payment system and installation of a network of ATMs on December 30, 2008.

Asrat (2010) cited in Addis. (2015) indicated that the previous ATM banking service offered an access to bank statements and exchange rate information, and one step ahead Zemen bank had been developed free account deposit transfer and corporate payroll uploading services offered for its customers for the first time in the country ATM banking system in the year 2010.

In February 2009, the three private commercial banks; Nib International Bank S.C., Awash International Bank S.C., and United Bank S.C, have established separate entity under the name of Premiere Switch Solutions (PSS) with 165 million Br capitals (Amanyehun, Addis fortune newspaper, 2008). It has currently six member banks, including the Addis International Bank, Berhan International Bank, and Cooperative Bank of Oromia S.C. The main objective of PSS formation is for the common ATM operational function and control (PSS card user guide, 2011). This strategy agreement signed to avoid possible underutilization of the ATM system and to improve electronic card payment system in Ethiopia. This agreement is the first significant cooperation between competing banks in Ethiopia, which others should be encouraged to follow as there is no single bank in Ethiopia that can afford to provide Extensive geographical coverage and access (Binyam, 2009).

National bank of Ethiopia (NBE) has embarked upon an important reform to expand technological advance banking service delivery products. Among these modern products, Automated Teller

Machines (ATMs) are expected to outreach self-banking services delivery to the nation in a broad range to cover the whole country (NBE Vision and Strategic Framework, May 2009).

According to Rahman (2008), the physical location of banks' delivery channels influence perception of customers about quality, Continuous (24 hours in per seven days in a week, responsiveness of employees to help customers problem, trustworthy processes, user-friendly line procedures, ease of use, ensure increased security and control over transaction cost, reduce fraud risk, performs higher volume of transactions with less time, presences of clear communication have positive and significant effect on service technology based service(automatic teller machine service).

As Anderson (2000) study indicates that ATM is an alternative self-electronic banking service delivery channels, rather than a branch teller, through the internet using secure protocols to outreach banking service and banks are allocating huge capital resource for modern technology to satisfaction of their customers demand for their better services delivery that are moving toward exciting new technologies to customers, which in turn fulfilling their clients with greater satisfaction for better services, and hence they can able to extend timeless automated services for their customers in the way to process financial transactions related with deposit, withdraw, and transfer funds, pay their bills, inquire about an account balance, and to order cheques preparation through the ATMs.

Bedman (2016) mentioned that the service fairness has a significant positive impact on the customer retention in the banking industry. Israel (2015) showed that high transaction fees, the

attractiveness of alternatives, the inconvenience of bank location, inability to respond to system failure quickly were statistically significant in the prediction of customer switching.

Younas and Jan., (2012) also found that prompt response, material compensation and politeness of employees play important roles in service recovery evaluations in the banking industry in Sweden.

Leins and Sotiris (2001) identified the important service failures in retail banking are lack of reliability, mistakes, delay in processing, poor interaction with a bank employee and insufficient branches. The customer expectations for service recovery are related to the length and financial importance of their relationship with the bank.

Spreng et al., (1995) found that service recovery performance influenced overall satisfaction and behavioral intentions such as word-of-mouth communications and repurchase. The satisfactory problem resolution is resulting in enhanced repurchases intentions.

Power (1992) stated that one of the most important benefits of effective service recovery is the prevention of customer defection to other providers. Customer retention is a significant business aim since it is now widely accepted that gaining new customer is more costly than keeping existing ones.

Jones and Sasser (1995) found that there is an ongoing relationship between the service provider and the customer. The customer satisfaction is based on an evaluation of multiple inter action. Satisfaction is considered as a composite of overall customer attitudes towards the service provider that incorporates some measures.

2.7 SERVICE RECOVERY FRAMEWORK

Miller and her colleagues (2000) established a service recovery framework through literature reviews and empirical analyses. These authors proposed three phases in the service recovery process. The first phase, the pre-recovery phase, occurs after the service fails but before the service provider is aware of it. After the service provider knows of the failure, service recovery compensates customers in the immediate recovery phase. After the customers have received fair compensation, the third phase, the follow up recovery phase, begins. Through these three phases, good service recovery practices lead to higher customer loyalty, satisfaction, and retention rates.

2.8 CONCEPTUAL MODEL

The conceptual framework this study is based on the principle of the Technology Adoption Model (TAM). David, W.H. (1986), TAM seeks to explain consciously intended behaviors across a wide range of end-user technology and user population. It is used because of the models used in information system to study the acceptance of technology TAM is arguably the most parsimonious and widely accepted. The failure of this transaction is mostly attributed to technological problems like the inter-bank connection electronic fund transactions for network, Bank payment switch or internal network communication which the banks are supposed to make sure that they are uninterrupted so that the end users does not suffer or experience non dispense of cash while trying to use the Automated Teller Machine as their alternate channel of transaction.

Poor network is causing the end customers transactions to slow down or fail but the operators does not know where the issue is they don't know how long the problem has exist, how many

transactions are being affected or whether the problem is related to a specific Automated Teller Machine terminal, an inter-bank connections, an electronic fund transfer network, perhaps it may be the banks payment switch or an internal network communications issue, the longer the guessing game goes on, the greater the impact on support cost, revenue generation and customers loyalty. The performance management strategy that combines deep due Automated Teller Machines performance metrics, transactions response times and real time analytics on the end customers experience is the key to cost effective management timely problem resolution and consistent end customer service reliability.

The variable of primary interest to this research is the dependent variable which is customer satisfaction. Independent variables are used in an attempt to explain the variance in customer satisfaction. These variables are responsiveness, employee commitment, reliability and efficient operation (time taken to refund failed ATM transactions). However, all these have to be measured basing on the customer's perception of the service rendered as satisfactory. The collective effect of these variables on customer satisfaction has been analyzed. This has been adopted from Khan M. (2010) with minor modifications.

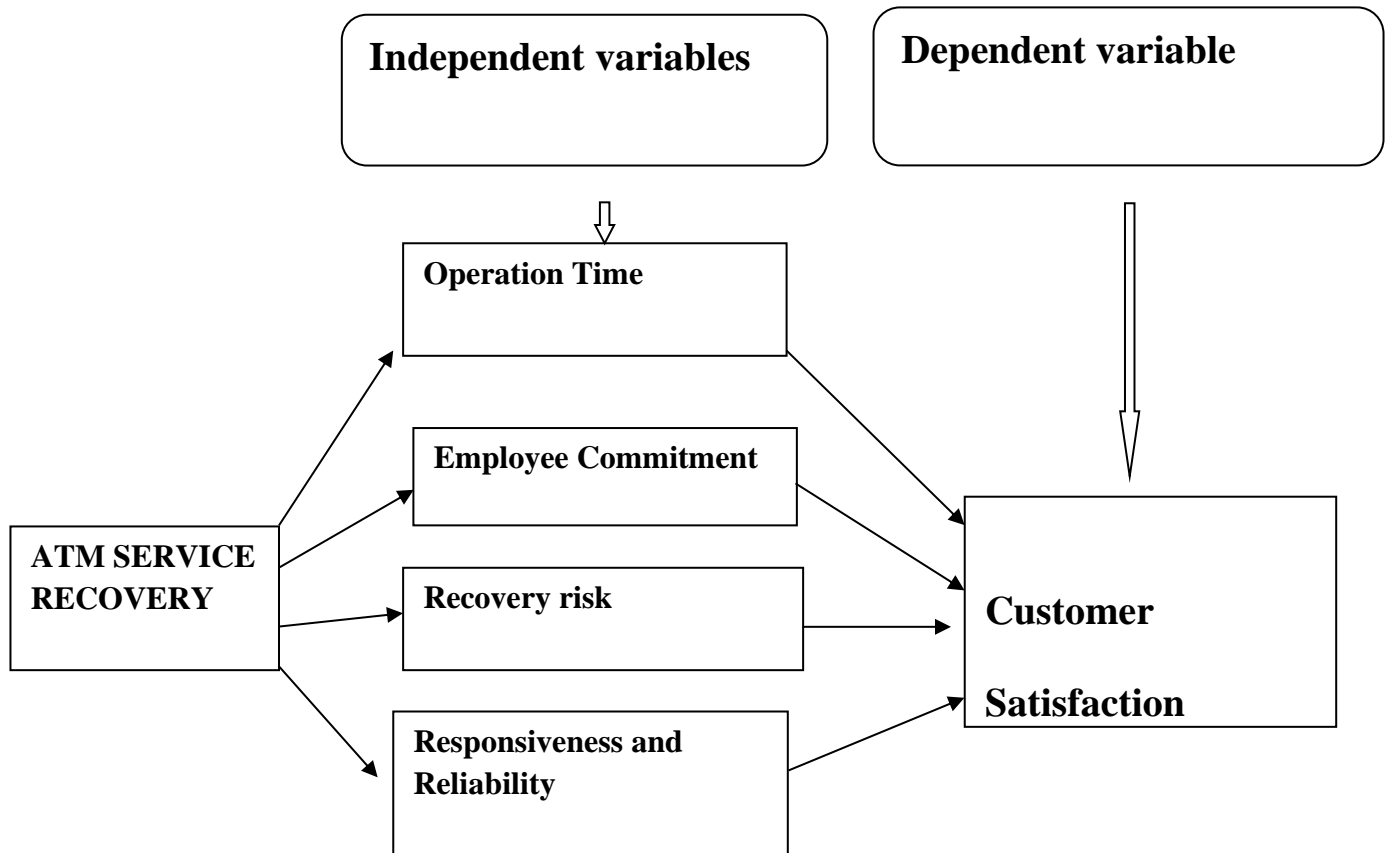


Fig.2.2 Conceptual model of ATM service recovery

CHAPTER THREE

3. RESEARCH METHODOLOGY

The study was based on both quantitative and qualitative research approach using case study research design with a primary purpose of examining the impact of ATM service recovery mechanisms of the bank on customer's satisfaction and how fast the bank is to take corrective actions when service failure occurs in relation to variables.

3.1 RESEARCH APPROACHES

There are three approaches to conduct any research: Qualitative, Quantitative and Mixed approaches. According to Saunders et. al. (2009) mixed method approach is the general term for when both qualitative and quantitative data collection techniques and analysis procedures are used in research design. In this study mixed-method approach was employed to ensure effectiveness of the research process as the findings of the qualitative data enhance the findings of quantitative one and the vice versa and the research used mixed methods in this study for better understanding of the research problem than either of each alone. In quantitative research the researcher used numbers and ultimately describes an event by using figures. By using frequency and percentage, the researcher converted the data collected and ensures that the results

are not just a coincidence observation. On the other hand, in Qualitative research the researcher describes the kind and quality of a subject, while interpreting and attempting to understand the qualitative aspect of the study. By using narrative descriptions, the purpose of qualitative research is to give the reader of this paper a mental picture of what the researcher is seeing.

3.2 RESEARCH DESIGN

According to John CW (2009) research designs are plans and the procedure for research that san from broad assumptions to detailed methods of data collection and analysis. Research design usually refers to the blue print of the research. In this study case study sampling design will be used.

3.3 STUDY AREA

Even if CBE has many branches stretched throughout the country, due to time and financial constraints the research was conducted in Addis Ababa mainly Eastern A.A. Addis Ababa is divided in to four districts; East, West, North and South A.A. Eastern A.A district is selected on convenience base. So the research area of the study was Addis Ababa city.

3.4 TARGET POPULATION

Any person who is currently using CBE ATM card banking under East A.A district of the bank in Addis Ababa will be the target population of this study.

According to the data obtained from the CBE ATM e-payment department office at the end of 30, March, 2018 the total number of active ATM card holders under the East district of the bank is 248,754 which is the target population of this study.

3.5 SAMPLING TECHNIQUE AND SAMPLE SIZE DETERMINATION

The researcher used on-probable sampling technique for this research specifically convenience sampling technique. Although CBE classifies Addis Ababa in to four districts which is south, north, east and west, the researcher selects one of the districts which is East A.A district based on convenience sampling.

To determine the sample size, a formula

$$n = \frac{N}{1+N(e)^2} \quad \text{will be applied}$$

Where, n= Sample size

N= Total Population

e= Sampling error (10%) at 90% of level of confidence.i.e

$$= \frac{248,754}{1+248,754 (.01)^2}$$

= 400 is the sample size of the study.

3.6 DATA SOURCES

To collect valid and reliable data for this research, the researcher used both data sources (primary and secondary source of data). Primary source of data was mainly using questionnaires which were filled by ATM users and interview with higher official at e-payment department. Whereas secondary sources were gathered from different kind of resource such as report of commercial bank of Ethiopia, brochures, e-commerce books, service marketing books, journals, company website and internet.

3.7 VALIDITY AND RELIABILITY

To ensure consistency and reliabilities of the scales used in the data collection instrument validity and reliability was tested after coding and entry of data into SPSS software.

3.7.1 VALIDITY

According to (Cresswell, 2009), Validity is the extent to which a measurement represents characteristics that exist in the phenomenon under investigation. The scales that are used for this study are valid scales adopted from different previous researches. Validity determines whether the measuring instrument truly measures what it was intended to measure or how truthful the research results are. To measure the validity of results, we consider the theory and the measuring instrument used.

3.7.2 RELIABILITY

Reliability is the extent to which a measurement reproduces consistent results if the process of measurement were to be repeated (Malhotra & Birks, 2007). It is clear that when we measure

anything there is always a chance for errors. In fact, the goal of error free measurements may not duplicate each other exactly even if we repeated the same study with the same sample. Typically, it was done by using Cronbach-alpha a widely used in educational research when instrument for gathering data have items that are scored on a range of values, i.e. different items have different scoring points or attitude scales in which the item responses are in continuum. This coefficient varies from 0 to 1, and a value less 0.6 indicates unsatisfactory level of internal consistency (Malhotra & Birks, 2007).

3.8 DATA ANALYSIS METHODS

The researcher was applied both quantitative and qualitative data. Quantitative data was collected through close ended questionnaires. Qualitative data was collected open ended questionnaires and interview. After the relevant data were collected through the above mentioned tools, the researcher has coded, cleaned and then entered in to SPSS (Statistical Package for Social Sciences) version 20. It used to compute and analyze the data. The statistical tests that are used in the analysis of data included frequencies by using tables, percentages and interpretation.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4. INTRODUCTION

This chapter deals with the Presentation, Analysis and Interpretation of the gathered data from Commercial Bank of Ethiopia customers and the data were obtained through distribution of questionnaires to customers of Commercial Bank of Ethiopia who actively uses ATM as well as conducting an interview with e-payment department especially with employees on the position of ATM reconciliation and adjustment. The research tries to assess the degree of service recovery from customer point of view in Commercial Bank of Ethiopia in East A.A district especially at Megenagna and Diaspora Adebabay branch. Accordingly, various questions were posed to sample respondents mainly related to customer complaint handling mechanism, service failure, and service recovery. The target population for this study was the ATM card holders of the bank and a sample size of 400 ATM card users were conveniently selected. To that 400 representative questionnaires were prepared and distributed to the respondents but only 344 (three hundred forty-four) were returned. This means 86% of customers have filled and returned the questionnaire. So the Analysis is presented based on the response gathered from the Commercial Bank of Ethiopia customer and summarized by using descriptive statistic method, where by the raw data is computed in percentage form followed by detail explanation and critical interpretation of the data that is made to show implication of the major findings.

4.1 PRESENTATION OF DATA

As stated above, data presentation was made based on thematic rearrangement of the items on the questionnaire; demographic characteristics of respondents, employee commitment, operation time, recovery risk, responsiveness and reliability, respondents' awareness of ATM refund systems, the nature of the refund system; respondents' perception of the efficiency of the refund system; effects of ATM service failure on the respondents and respondents' level of satisfaction with the service recovery system following ATM service failure in CBE.

4.2 GENERAL CHARACTERISTICS OF THE RESPONDENTS

Table 1 describes the Demographic Characteristics of the respondents including sex, age, marital status, educational Level, occupation, monthly income and for how many years' customers have been using cards of Commercial Bank of Ethiopia.

Table 4.1 Background information of respondents

Variables	Classification of variables	Frequency	Percentage(%)
Gender	Male	236	68.6
	Female	108	31.4
	Total	344	100
Age	14-19	11	3.2
	20-29	131	38.1
	30-39	106	30.81

	40-59	79	22.97
	>60	17	4.93
	Total	344	100
Marital status	Single	141	40.99
	Married	154	44.77
	Divorced	49	14.24
	Total	344	100
Educational level	10th /12th complete	103	29.94
	Diploma	97	28.2
	BA degree	108	31.4
	Masters &above	36	10.46
	Total	344	100
Occupation	Student	71	20.64
	Self-employed	104	30.23
	Employed	127	36.92
	Unemployed	42	12.21
	Total	344	100
Monthly income (ETB)	2,000-5,000	56	16.28
	5,001-7,000	109	31.69
	7,001-10,000	93	27.03
	10,001-15,000	49	14.24
	>15,001	37	10.76
	Total	344	100

For how long to use the bank's ATM (yrs)	< 1	26	7.55
	1-2	42	12.21
	3	76	22.10
	4	88	25.58
	>5	112	32.56
	Total	344	100

Source: Questionnaire

One of the sections of the questionnaire was related to the demographic information of the respondents. It includes age, gender, educational level, marital status, Occupation and Period of ATM service usage. The general demographics of the respondents illustrated in the table above shows that out of the 344 complete responses received, 236 or 68.6% were male and 108 or 31.4% were female.

From the table, 131 or 38.1% of the respondents falls within the age group of 20- 29, followed by the age group of 30-39, which represents 106 people or 30.81% of the total respondents. 79 or 22.97% of the respondents are among the age group of 40-59 and 17 or 4.93% of the respondents are above 60 years and the remaining 11 or 3.2% grouped under 14-19 years.

Education level was another section of the questionnaires. 108 or 31.40% of the respondents are BA degree holders, whereas 103 or 29.94% of them are 10/12th completed, followed by 97 or 28.20% ,36 or 10.46% of the respondents are diploma holders and Master & above respectively.

Occupational background of the respondents is another sections of demographic part and 127 or 36.92% of the respondents are employed whereas 104 or 30.23% of respondents are self-employed followed by 71 or 20.64% of respondents are students, the remaining 42 or 12.21% of the respondents are unemployed.

On the monthly income section of the respondents, 109 or 31.69% of the respondents' income is 5,001-7,000 birr, 93 or 27.03 % of the respondent earns 7,001-10,000 whereas 56 or 16.28% of the respondent's income is between 2,000 to 5,000 and 49 or 14.24% of the respondents earn 10,001 to 15,000 the remaining 37 or 10.76% of the respondent's income is more than 15,001birr per month.

Period of ATM services usage was the last section of demographic part. 112 or 32.56% of the respondents use ATM service facilities for more than 5 years whereas 88 or 25.58% of them use the services for 4 years and 76 or 22.10% of the respondents use for 3 years. The other 42 or 12.21 % of the respondents use services for 1-2 years and the remaining 26 or 7.55% of the respondents use the service for less than a year.

To summarize the implication of demographic variables, the highest percentage of participants in this study was males which consisted 68.60% of respondents. In the case of classification of respondents by age the highest percentage of participants are young (20-29 years old) who form 38.10% of total respondents followed by the age group of 30-39 which is 30.81%. Regarding the educational level of the participants, the highest percentage of them has Bachelor degree that form 31.40% of total participants followed by 10/12th completed which is 29.94%. This implies that most of ATM card users are highly qualified to perceive all the questionnaires. The largest

percentage of participants was employed by governmental or non-governmental organizations that form 36.92% of the total respondents. On the other hand, the highest percentage of participants has used the ATM card for four years and more than five years and their percentage are 25.58% & 32.56% respectively. This also indicates that most respondents have an experience to perceive the ATM service recovery used by the bank.

Thus, the ATM users of Commercial Bank of Ethiopia in Eastern Addis Ababa district are mainly male, young, employed and have been using for more than five years.

4.3 General overview of customers on ATM service recovery

This research study tries to investigate the overall ATM service recovery practice of commercial bank of Ethiopia at East Addis Ababa district from customer's point of the recovery response were presented, analyzed and interpreted in the form of percentage and presented as follows:

Table 4.2 General overview of customers on the bank’s ATM service recovery

No.	Item		
		Frequency	Percentage (%)
1.	Did you experience a difference from other banks’ treatment of ATM service failure?		
	a. Yes	192	55.81
	b. No	152	44.19
	Total	344	100
2.	If “Yes,” what is the nature of the different treatment received?		
	a. Instant transaction reversal	158	45.93
	b. Delayed transaction reversal	186	54.07
	Total	344	100
3.	How did you feel following an ATM service failure?		
	a. Disappointed	152	44.19
	b. Upset	97	28.19
	c. Feel nothing	95	27.62
	Total	344	100
4.	How long does it take to refund failed ATM transaction?		
	a. Automatic	111	32.27
	b. After 24 hours	141	40.99
	c. After more than 24 hours	92	26.74

	Total	344	100
5.	I ever lost money to failed ATM transaction?		
	a. Yes	202	58.72
	b. No	116	33.72
	c. Cannot recall	26	7.56
	Total	344	100
6.	Are you satisfied with the bank ATM refund system?		
	a. Yes	215	62.50
	b. No	97	28.20
	c. Not sure	32	9.30
	Total	344	100
7.	Have you ever surprised by an automatically reversed ATM failure?		
	a. Yes	151	43.89
	b. No	150	43.60
	c. Cannot recall	43	12.50
	Total	344	100
8.	Did you have cash at hand that cushioned an ATM transaction failure?		
	a. Yes	207	60.17

	b. No	138	39.83
	Total	344	100
9.	How do you rate the overall service recovery of the Bank?		
	a. Very good	46	13.37
	b. Good	197	57.27
	c. Poor	77	22.38
	d. Very poor	24	6.98
	Total	344	100

Source: Questionnaire, 2020

As depicted in table 2 of item 1 concerning ATM service recovery of respondents with that of other private banks, out of the total respondents 192(55.81%) replied as yes which shows as there is a deference experience of service recovery in CBE. The remaining 152(44.19%) replied as no. Based on the survey the nature of the service what they experienced in other banks was that instant transaction reversal of failed ATM transactions which covers 186 or 54.07% of the respondents.

Regarding to the feeling of respondents after service failure, out of the total respondents 152 or 44.19 % replied as they were disappointed when the ATM service failed. The remaining 97 or 28.19% and 94 or 26.2% were upset and feel nothing when service failure occurs respectively.

With regard to the time taken to refund failed ATM transactions, out of the total respondents 142 or 40.99% were agreed on 24hrs needed to refund the cash whereas 111 or 32.27% replied as there is an automatic transaction refund system in CBE, the remaining 92 or 26.74% replied as the refund system requires more than 24 hrs.

For the question whether the customers are satisfied with the overall refund system of the bank, 215 or 62.5% replied as they were satisfied and 97 or 28.20 were not satisfied and 32 or 9.30% where neither satisfied nor dissatisfied. For the statement whether the customers have sufficient cash on hand when service failure take place or not most of the respondents 207(60.17%) replied as they have enough cash till they get back their money through adjustment made by the bank and the remaining 138(39.83) replied no.

The overall service recovery of the bank was rated by most of the customers as good which covers 197 or 57.27% of the total respondents whereas 77 or 22.38% replied for the service recovery as poor and 46 or 13.37% and 24 or 6.98% replied as very good and very poor respectively.

In summary, the customers of CBE do not experience instant ATM service recovery system comparing to other banks. Rather they experience delayed transaction reversal. It requires 24 hours to refund the cash. Even though most of the respondents replied as they were disappointed when the ATM service transaction failure, the overall satisfaction level of customers was rated as good.

4.4 CORRELATION ANALYSIS

The correlation matrix with the dependent and independent variables allows the researcher to assess the strength of the association between the variables of interest. The correlation matrix for the overall sample is provided below. Pearson correlation analysis that lies between -1&1 was used to provide evidence of convergent validity. Correlations are perhaps the most basic and most useful measure of association between two or more variables (Marczyk, et al, 2005).

To determine the existence and level of association, the researcher used correlation. The absolute value of the coefficient measures how closely the variables are related. The closer it is to 1 the closer the relationship and the closer to -1 the more negatively correlated are the variables. The Pearson's correlation coefficient (r) was used to conduct the correlation analysis to find the level and direction of the relationships between ATM service recoveries (employee commitment, recovery risk, operation time, responsiveness and reliability) and customer satisfaction. The general guideline for correlations indicates 0.10 to 0.30 are considered weak, correlations of 0.30 to 0.70 are considered moderate, and correlation coefficient over 0.7 indicates a strong correlation between the two variables. Zero correlation coefficient also indicates no correlation between the variables.

Table 4.3: Pair-wise correlation among variables

Variables	CUSSAT	EMPCOM	OPRTIM	RECRIS	RESREL
CUSSAT	1	.798**	.779**	.652**	.590**
EMPCOM	.798**	1	.679**	.549**	.693**
OPRTIM	.779**	.679**	1	.781**	.767**
RECRIS	.652**	.549**	.781**	1	.630**
RESREL	.590**	.693**	.767**	.630**	1

** Correlation is significant at the 0.01 level (2-tailed).

Source: Own Survey, 2020

NB: CUSSA, EMPCOM, OPRTIM, RECRIS, AND RESREL stands for customer satisfaction, employee commitment, recovery risk, operation time, responsiveness and reliability respectively.

4.5 MULTICOLLINEARITY

Multicollinearity is tested in this study using the variance inflation factor (VIF) which quantifies the severity of multicollinearity in regression analysis. The VIF factor should not exceed 10, and should ideally be close to one. The above table 4.6 shows there is no multicollinearity exists.

Tolerance is an indicator of how much of the variability of the specified independent variable is not explained by the other independent variables in the model. If this value is very small (less than 0.10), it indicates that the multiple correlation with other variables is high, suggesting the possibility of multicollinearity (Marczyk, et al., 2005).

According to Cooper and Schindler (2009) a correlation coefficient that is above 0.8 in explanatory variables is a symptom of creating multicollinearity problem. Similarly, Hair et al. (2006) argued that correlation coefficient below 0.9 may not cause serious multicollinearity problem. The correlation matrix table above shows there is no variables that have the correlation coefficient above 0.8. Thus, it is possible to conclude there is no multicollinearity problem in the explanatory variable.

4.6 MULTIPLE REGRESSION ANALYSES

After the study met the regression assumptions multiple regressions have been used to test the research hypotheses and examine the effect of ATM service recovery, the independent variables on customer satisfaction the dependent variable. Multiple regressions have been used to examine the effect of service recovery on customer satisfaction. The strength of the relationship between variables has been measured by the coefficient of determination. It measures and indicates the degree of goodness of fit the estimated regression equation. The coefficient of determination can be interpreted as how good a predictor your regression equation is likely to be (Saunders, et al., 2009).

Table 4.4: R square level of the study

Model	R	R square	Adjusted Rsquare	Std. Error of the Estimate	Durbin- Watson
1	.698	0.616	0.596	.572	1.661

a. Predictors: (Constant), RESREL, RECRIS, OPRTIM, EMPCOM

Source: Own Survey, 2020

The result of regression analysis of the independent variables (employee commitment, operation time, recovery risk, reliability and responsiveness) on the dependent variable customer satisfaction indicates existence of positive and statistically significant effect on customer satisfaction. The model summary table R-Square value measures the proportion of the variation in a dependent variable that can be explained statistically by the independent variables and it takes on any value between 0 and 1. The R-square value of the model is 0.616 which means that over 61% of the customer's satisfaction was explained by the regression model.

As McDaniel and Gates (2013), stated the adjusted R² statistic which takes into account the number of independent variables in regression equation is preferred by some researchers as it helps to avoid overestimating the impact of adding an independent variable on the amount of variability explained by the estimated regression equation.

Table 4.5: ANOVA Result (significance of the model)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	7827.208	4	1956.802	98.584	.000 ^b
Residual	99.557	339	25.294		
Total	7926.765	343			

a. Dependent Variable: CUSSAT *Source: Own Survey, 2020*

b. Predictors: (Constant), RESREL, RECRIS, OPRTIM, EMPCOM

On the other hand, the ANOVA tells us whether the model, overall, results in a significantly good degree of prediction of the outcome variable (Field, 2005). Since the significance result on the ANOVA table is 0.000 which is $p < 0.05$, the regression analysis proved the presence of a good degree of prediction. In general, as we can see from the above table, the F value, which is used to test how well the regression model fits the data, is given by 98.584 with significance level of 0.00. Since the observed significance is less than 0.05, there is a linear relationship between the independent and dependent variables. The contribution of each independent variable can be seen from the results of multiple regressions in the coefficient table below.

Table 4.6: Coefficient of relationship of ATM refund system on customer satisfaction

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error				Beta	Tolerance
(Constant)	1.190	.143		8.304	.000		
EMPCOM	.585	.027	.998	28.638	.000	.009	5.5
OPRTIM	.397	.046	.059	2.106	.036	.013	4.433
RECRIS	.160	.038	.080	4.256	.000	.030	3.262
RESREL	.226	.033	.018	.610	.042	.012	0.185

Dependent Variable: CUSSAT *Source: Own Survey, 2020.*

From the above table 4.6 looking at the significance levels, the study established that there is a significant relationship between customer satisfaction and the four independent variables at 5% significance level. This means that these four dimensions account for the greatest contributions on the attainment of the customer satisfaction on ATM service recovery.

According to the above table, the coefficient (beta) of the variable EMPCOM is about .78. The results showed the presence of a statistically significant positive relationship between employee commitment in ATM service recovery process and customer satisfaction. In other word the finding tell us a 100% change in employee commitment will result in 58% change in customer satisfaction. Similarly table 4.6 above shows OPRTIM has a coefficient (beta) of .397. This indicated that operation time positively affected the customer satisfaction levels, and a 100% increment in this factor would lead to a consequent increment in 39.7% on customer satisfaction.

Further as it is shown on the above table Customer satisfaction and RECRIS has a regression weight of .160 as the beta for RECRIS is concerned.

. The table also describes that RESREL has a beta of .226 with sig, of .042. The results of the model test show a positive and statistically significant relationship between responsiveness and reliability with customer satisfaction. In other word when there is a 100% increment on responsiveness and reliability in ATM service there would a 22.6% increment in the customer satisfaction.

4.7 NORMALITY

In terms of this assumption, a check for normality of the error term is conducted by a visual examination of the normal probability plots of the residuals. The plots are different from residuals plots in that the standardized residuals are compared with the normal distribution. In general, the normal distribution makes a straight diagonal line, and the plotted residuals are compared with the diagonal. The closer the dots lie to the diagonal line, the closer to normal the residuals are distributed. The normality plot of this study fit with the assumption

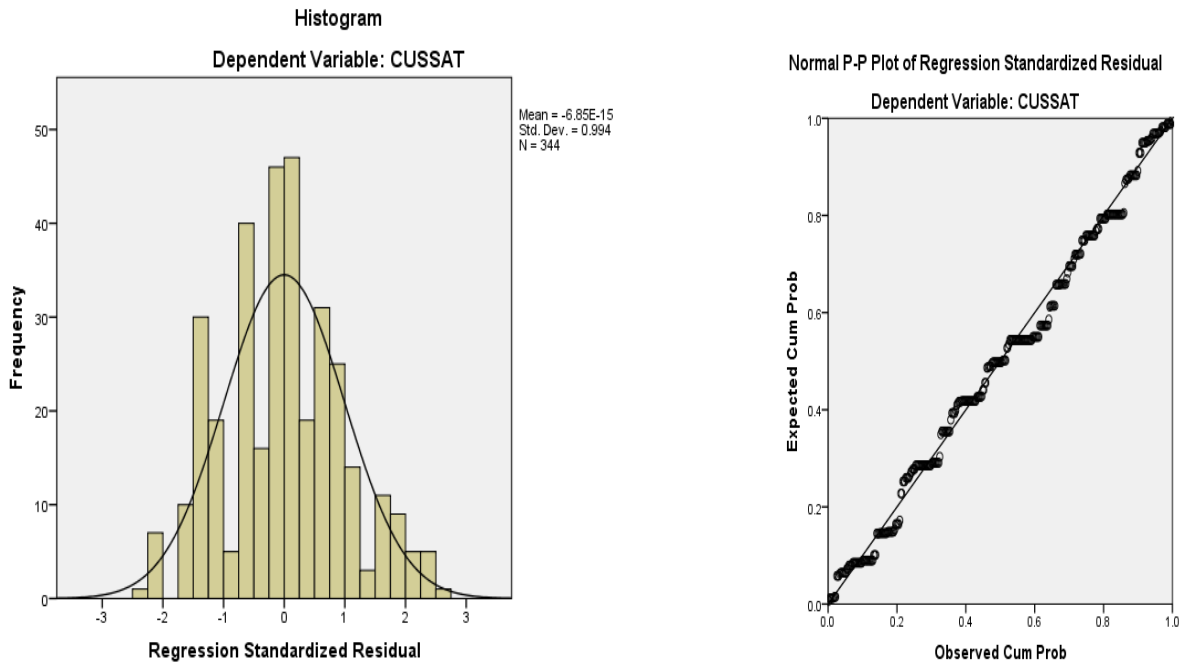


Figure 4.3: Histogram and P-P plots of standard Residuals

The histogram in above figure looks normal and in P-P plots the dots are reasonably closer to the normal line. The combination of both inspections support that the residuals are normally distributed.

4.8 HOMOSCEDASTICITY

The variability in scores for independent variables should be similar at all values of the dependent variable. The scatter plot should show a fairly even rectangular shape along its length. There should be homoscedasticity before running multiple regression analysis. This means that the residuals between the values of the observed and predicted dependent variable are normally distributed, and that the residuals have constant variance (Burns & Burns, 2008). If the

assumption of homoscedasticity is violated (i.e. there is hetero scedasticity). The graph has demonstrated homoscedasticity of the study.

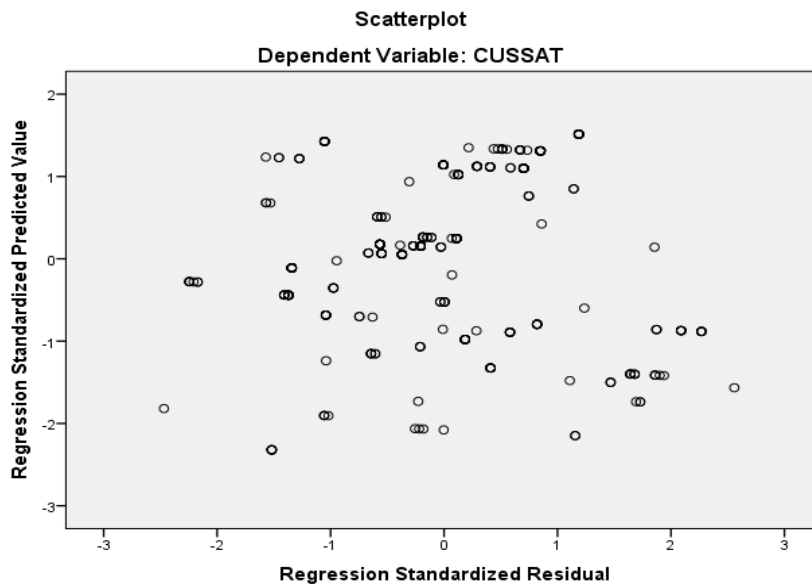


Fig: 4.4. Scatter plot

4.9 ISSUE RELATED TO RESPONDENTS PERSONAL OPINION

For the open ended question on the questionnaire the respondents suggest the following main points; The respondents give a chance to forward their suggestions, comments and opinions related to the service recovery and their point are arranged and listed as follows: -

- The service recovery is weak because always employees are busy.
- Employees didn't give attention to the customer's complaint.
- Commercial Bank of Ethiopia money refund system is very late as compared as private banks.

- The bank should use its network system rather than Ethio telecom.
- The bank is too late for service recovery. It takes long duration of time which creates customer dissatisfaction and complaint.
- The bank management should be proactive whenever service failure occurs.
- The bank has to handle customer complaints.
- The bank must use new and advanced technology.

Some others give their suggestion on capture of ATM cards by the machine. Sometimes the ATM captures cards due to its technical failure, customer error in entering their PIN and un-readability of card. This time the bank should give prompt concern about returning back the card to the customer. While the customers use inter-branch ATMs the bank send the card to the originating branch so that the customer could easily access it.

4.10 INTERVIEW WITH E-PAYMENT AND RECONCILIATION STAFFS

Q1. What are the main reasons of ATM failed transactions in your bank?

According to their explanations, the main reasons for ATM transaction failures are mainly come from three sides:

1. Customer side: since CBE has too many customers and most of them have not well informed and aware about how to use the machine, timing and security, they may wrongly press invalid key. In between the transaction fails.

2. Bank side: power interruption during transaction, since there are not enough and active UPSs on machines by which the machine will automatically be switched off which in turn leads to transaction failure. The other reason is that the bank system (Temonus) sometime becomes slow or totally out of service, in between the transaction will fail.

Improper sorting of old and damaged birr notes before lodging to ATM machines is the other reason for service failure. The birr notes that lodged to the machine affects the good functioning of the machine, which means when the chief cashier or SBO-cash (senior banking officer-cash) replenish cash to ATMs damaged and old birr notes may be lodged with. In this case when the machine tries to dispense cash to the customer the damaged note will not be able to reach to the customer. At this time the transaction will be failed.

3. Machine side: The machine itself has also a role on transaction failure. Thus, most machines in CBE are too old, slow to process transactions, failed to dispense money too fast and frequent physical damage on parts of the machine leads to transaction failure.

Q2. How did you react with customer dissatisfaction of ATM service?

When the customer comes to office, to inform that his/her transaction was failed, first check the customer's account whether the system automatically reversed the transaction or not. If it is not reversed, they will accept the customer's information until the necessary reports (EJ report, financial report, and excess cash on ATM) are available.

We Believe Fairness are typically the biggest concern of our customers who have lodged service complaint. Because a service failure implies unfair treatment of the customer, service recovery

has to re-establish justice from the customer's perspective. Say our customer requests a receipt from an Automated Teller Machine but the machine fails to print one. The customer becomes worried and goes to one of the bank Customer service officer. The Customer Service Office checks the account, and assures the customer that there is no problem, that the deposit was made. But if the teller only focuses on the fact that the account was credited, he or she has ignored what in the customer's view was the most severe and critical aspect of the service failure: the worry initially felt, and the extra time it took to verify the deposit. Our Customers often want to know within a reasonable time not only that their problem has been resolved, but how the failure occurred and what the Bank is doing to make sure it doesn't happen again.

A customer's faith can be restored using this kind of approach once. We have even noted something referred to as a "recovery paradox," in which customers can be more delighted by a skillful service recovery than they are by service that was failure-free to start with. But there is a flip side to this as well: in our experience customers have more tolerance for poor service than for poor service recovery. And if a customer experiences a second failure of the same service, there is no recovery strategy that can work well. In all likelihood, that customer will be lost forever. Our experience shows that after a failed service recovery, what annoys and even angers customers is not that they weren't satisfied, but that they believe the system remains unchanged and likely to fail again.

Q3. How long did it take to respond to customer complaint of failed ATM transactions?

As the bank standard 24hr are enough to refund failed transactions. But actually it depends. At least the following reports are needed to refund.

Activity (financial) report: To check the account details of the customer

EJ (electronic journal) report: To check the transaction details. It shows the time that the transaction takes place, the denominations that the customer took and from which cassette he/she took. EJ report is mandatory, because individuals may report failure of transactions after taking their cash. Sometimes there may be other customers take the order of the previous customer. This happens when the customer slow down to dispenser the cash or the customer may lack patience. So if the customer service officers (reconciliation officer) get these reports he or she can make adjustment easily.

Q4. As a bank what are the corrective measures you took so far to avoid these problems?

Currently the bank is replacing old ATM machines by the new ones. The bank is also introducing a system that indicates whether the machines at a branch working properly or not so that the concerned person will be informed to repair the machine.

Regarding to the old and deteriorated notes the bank is distributing automatic sorting machine to all branches, which enable the chief cashier to have sorted and clean money available at any time which replaces the manual sorting at tables. There is also a call center (951) that everybody can call and get full information regarding to what to do, how customers report after service failure and how many hours/days required to refund the cash for free.

Commercial Bank of Ethiopia has three major divisions or departments working to facilitate or smooth the interaction between the customer with the ATM card and the ATMs itself. This division is technical, business and operational. The technical wing is available at any time to fix

ATMs when they fail to operate mechanically, the second one, the business wing, which takes the promotional task that struggle to awake the unbanked people and to increase the number of ATM card users. The last one, operational wing, carries the responsibilities of replenishing cash to the machines and handle the whole transactions. As these three divisions takes the lions share in providing smooth and uninterrupted services for ATM cardholders, they need to be qualified and responsive for the problems which may arise. The technical divisions of Commercial Bank of Ethiopia is addressing more mechanical problems such as machines failures using skilled man power who are good enough for problems of such a kind. If some problems are found to be beyond these employee's skills, Commercial Bank of Ethiopia has technical support from the local agents of the supplier company. As the bank stated, mechanical problems are totally managed. However, the rest business and operational wings have big assignments regarding customer awareness and transactions handling respectively. The former one takes the awareness raising assignment to promote and change the unbanked population to banked one and use ATM cards. The Commercial Bank of Ethiopia still believes there is much left to do in the market in terms of promotion to make the 95% of customers to be ATM card users and create the cashless society in addition to turning the unbanked people in to banked ones through the power of promotion and advertising. The latter one deal with some significant tasks such as filling up the ATMs with money and checking before the amount the machine has totally depleted and handle transaction related problems. This part, most of the time, receives complaints like when a customer passes through all required processes with the machines such as feeding the card and pressing keys for password, the machines starts to count money. However, the output will be nil. In addition, the machines automatically decreases the amount requested at the right moment from

the balance without putting the cash in the hands of the customer. Actually, it does not necessarily mean the customer will not recover it. He/she is expected to appear at branches of Commercial Bank Ethiopia and write application letter to get the balance as it used to be. This critical problem necessarily creates customer dissatisfactions of wasting of time and effort for the problem the ATMs created. Sometimes machines are empty on weekends when all Commercial Bank of Ethiopia are closed; these time problems get severe as it seriously affects the customers' interest.

Q5. Do you think that your customers are satisfied with the ATM service recovery systems of the bank?

Most of the times a lot of customers are dissatisfied by the bank ATM service recovery system. Sometimes customers may have no additional money in their account or their pocket when transaction failed. Others may need the money for urgent purpose. Due to these reasons customer dissatisfaction on ATM service recovery will happen.

CHAPTER FIVE

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF FINDINGS

Electronic payment systems especially ATMs are relatively a recent experience in Ethiopian Banking Industry, having different problems like power cut offs, network failures, low customer awareness, large number of unbanked nation, lack of skilled man power, etc. Commercial Bank of Ethiopia is the first bank that provide ATM services to its customers in the banking environment of low customer awareness, limited number of ATMs, frequent network failures, power cut offs, low skilled manpower to install and maintain ATMs, low software supplies, etc. The bank is doing its business facing challenges while using ATMs so as to facilitate customer services, minimize cost, alleviate branch burdens, earn foreign exchange, etc. The bank is also looking into the future to increase access to its customers using their ATM machines together, use latest technologies by importing more ATMs and by making deals with Ethiopian Telecom to give special attention to stay all the time connected, raise awareness level and make the unbanked nation ATM card users and create cashless banking society.

5.2 CONCLUSIONS

The following conclusions are made based on the analysis and findings of the study.

- The majority of ATM users are male, the age range is from 20-29 and 30-39 and most of them are married. Concerning to their educational status most of the respondents are BA degree holders and 10/12th completed.
- Most of the respondents are employed by governmental or non-governmental organizations that form 36.92% of the total respondents.
- The majority of the ATM users used ATM for more than 5 years.
- The finding of the study reveals operation time, employee commitment, recovery risk and employee responsiveness and reliability have significant positive impact on customer satisfaction.

In addition the finding from the regression result indicates all the stated variables have a positive significant effect on customer satisfaction and 58% (employee commitment) is the dominant variable which affects customer satisfaction in the ATM service recovery process of CBE. Thus the findings are important to enable the bank to have a better understanding of customers perception of service recovery and consequently of how to improve their satisfaction with respect to aspects of these variables.

The interview response indicated that the bank has problem related with infrastructure like breakdown of network and power supply, and also problem with customers' attitude and knowledge in using ATMs.

5.3 RECOMMENDATIONS

Respondents' recommended service recovery measures in the event of ATM service failure; the bank is expected to deploy some recovery measures not only to avoid litigation from customers but also to remain competitive in the industry. The respondents to this survey recommended the most pressing concern is to see an effective and efficient ATM service in CBE in order to mitigate the suffering of long queues and failed transactions. To this end, the most important recommendations are to ensure efficient network connectivity, maintenance of ATMs to avoid fail transaction, faithfully implementation of ATM refund guideline, reduced lead time in the refund process, prompt and polite attention to customers complain, improve on the inter switch for various card types and sustained sensitization company on the refund system.

- ❖ There is a need to replenish operational staff member's ATMs and be responsive to customers on time when transactional problems arise.
- ❖ The bank should increase its effort by working closely with Ethiopian Telecommunication Corporation to solve network related problems which is the most external and challenging factor for ATM banking services.
- ❖ It is advisable to commercial bank of Ethiopia to improve the designed service recovery program. Because most respondent's customers' needs quick resolution of their problems. So that the recovery practice program should allow quick response and match the individual customers' circumstances
- ❖ The ATMs which are to be imported should consider the growing demands for more numbers and different service preferences and its expensiveness.

- ❖ The bank is advised to manage mechanical failures through skilled man power from within and local agents of the supplier company.
- ❖ It shall control frequent power cut offs using UPS batteries and generators.
- ❖ It is better to deal with Ethiopian Telecommunication to get special services to avoid frequent network interruptions. And the bank is trying to purchase international web site which is independent from Ethiopian Telecommunication

In addition the following recommendations are given.

- ✓ CBE (the district) should increase the number of employees who works in reconciliation and adjustment at branch level.
- ✓ There should be a certain body that will be responsible to handle customer complaints.
- ✓ The ATM machines must be repaired on time through continuous monitoring.
- ✓ Even though the networking problem from Ethio telecom is short period problem, it leads to many customers dissatisfaction on the ATM service. So the bank should create strong relation at least to minimize network failure.
- ✓ Sometimes the machine may deduct customers account without dispensing the cash to them. But the card holder may not notice this incidence and make another transaction without checking their balance. Therefore the customers must be aware of this and the bank is better to give more attention on this.
- ✓ To reduce customer complaints and bring customer satisfaction the bank needs to update its machine and system constantly.

5.4 RECOMMENDATIONS FOR FUTURE RESEARCH

This study examined service failure, service recovery and recovery outcomes in CBE from the customer's perspective. Future studies may be conducted from the banks and their employees' perspectives, to ascertain whether they have any formal recovery strategies and guidelines in place to be implemented in cases of service failure, and whether these strategies have been leading to customer satisfaction. Furthermore, future researcher may consider incorporating moderating or mediating variables in the relationship between service recovery and customer satisfaction. A number of studies have used corporate image, failure severity and brand equity as a moderator. Future research also should test this framework in order to contribute to new theory whereby it can be referred by practitioners.

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Appendix

Addis Ababa University

Faculty of Business and Economics

Management department

Msc in Management

Dear respondents,

I am currently doing research on the impact of ATM service recovery on customer satisfaction in commercial bank of Ethiopia in case of A.A city as a partial fulfillment of the requirement for Masters of Science in Management program at Addis Ababa University. You are kindly requested to take some time and answer these questions to help me get a way forward in my academic career. Your responses will be kept highly confidential.

Thank you in advance for your time.

Section A

Respondent Background Information

Please indicate the appropriate response by putting (✓) in the given boxes.

1. Age

14-19 20-29 30-39 40-59 >60

2. Gender

Male Female

3. Marital status

Single Married Divorced

4) Educational Background

12 complete Bachelor Degree

Diploma Master & above

5) Occupation –

Student Employed

Self-employed Unemployed

6. Monthly Income

2,000– 5,000 5,001-7,000 7,001-10,000 10,001- 15,000 > 15,001

7. For how long have you dealt with this Bank?

Less than a year 1-2 years Two years

Three years Four years More than five years

9. Did you experience a difference from other banks' treatment of ATM service failure?

Yes No

10. If "Yes," what is the nature of the different treatment received?

Instant transaction reversal Delayed transaction reversal

11. How did you feel following an ATM service failure?

Disappointed Upset Feel nothing

12. How long does it take to refund failed ATM transaction?

Automatic After 24 hours After more than 24 hours

13. I ever lost money to failed ATM transaction?

Yes No Cannot recall

14. Are you satisfied with the bank ATM refund system?

Yes No Not sure

15. Have you ever surprised by an automatically reversed ATM failure?

Yes No Cannot recall

16. Did you have cash at hand that cushioned an ATM transaction failure?

Yes No

17. How do you rate the overall service recovery of the Bank?

Very good Good Poor Very poor

Section B.

Please indicate the appropriate response from strongly agree to strongly disagree

SA = Strongly Agree A=Agree N=Neutral D= Disagree SD =Strongly Disagree

1. Customer satisfaction

No.	Item	SD	DA	N	A	SA
1.	The bank usually tries to make an effort to ensure that customers are handled well by employees.					
2.	The bank usually not notice the complaint made by the customers.					
3.	I am satisfied with the service provided by the bank as promised related to ATM service (Error free transaction).					

4.	I am now a much more loyal customer of bank as a result of the way and manner the bank resolve problems.					
5.	I am not considering switching to another bank.					
6.	I have been talking to my friends and relatives on the good way and manner the bank employee resolve problems.					
7	The bank is usually willing to make compensation for the mistakes/faults made.					
8	The Bank is usually willing to compensate/apologize whenever a complaint is made.					
9	After considering everything, I am extremely satisfied with Bank.					

2. Employee commitment

No.	Item	SD	D	N	A	SA
1	Employees give individual attention to every customer.					
2.	Employee has bad attitude to customer concerns.					
3.	Employees are courteous in handling customer's queries.					
4.	Employees give prompt service in the service recovery process.					
5.	When handling complaints, the employees have the customer's best interests at heart.					
6.	Employees are never too busy in responding to customer's complaints.					
7.	Employees try to solve complaints before they create conflicts.					
8.	Employees provide accurate information in service recovery process.					
9.	The bank shows sincere interest in solving customer service problems.					
10.	Employees keep their promises of solving customer complaints when handling complaints.					
11.	Employees tell customers exactly when the service recovery will be performed.					

3. Operation Time

No.	Item	SD	D	N	A	SA
1	The bank takes adequate time to respond to customer complaint.					
2.	It doesn't take too long time to refund failed ATM transactions when ever faced.					
3.	The bank experiences slow service recovery process.					
4.	It gives prompt and polite attention to customer complains.					
5.	The bank responds fast in resolving ATM service failures.					
6.	The bank gives prompt and polite attention to customer complains.					
7.	It does not take a lot of time to fix payment error when carrying out my transaction over ATM.					

4. Recovery risk

No.	Item	SD	D	N	A	SA
1	ATM service failure affect my willingness to patronize the bank again					
2.	I am satisfied with the time limit an ATM service failure treated.					
3.	ATM service failure made me think of switching to another bank					
4.	ATM failure discourages one from recommending the bank to others.					

5. Responsiveness and Reliability

No.	Item	SD	D	N	A	SA
1	The bank performs the service right the first time.					
2.	Employees show sincere interest in solving customers' problems.					
3.	They showed me concern for my problem.					
4.	They kept me informed of what they were doing to resolve the problem					
5.	They gave me some form of compensation for my troubles.					
6.	They asked if I was satisfied with what they had done to resolve the problem.					
7.	The bank provides services at the time promised.					
8.	Employees are always willing to help customers.					

Finally, after experiencing problems with the ATMs of the bank, are you happy with the overall service recovery procedures? Please write some points.

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Addis Ababa University
Faculty of Business and Economics
Management Department
MSc in Management

Interview Guide

These interview questions were prepared for employees of Commercial Bank of Ethiopia who works at e-payment and ATM reconciliation department to know ATM service recovery practices and customer satisfactions from their side.

1. What are the main reasons of ATM failed transactions in your bank?
2. How did you react with customer dissatisfaction of ATM service?
3. How long did it take to respond to customer complaint of failed ATM transactions?
4. As a bank what are the corrective measures you took so far to avoid these problems?
5. Do you think that your customers are satisfied with the ATM service recovery systems of the bank?

Thank you for your time