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**ASSESSMENT OF SERVICE QUALITY AND CUSTOMER
SATISFACTION
(In the Case of Commercial Bank of Ethiopia ATM Service)**

**By
Amaha Tesfaye**

**Addis Ababa University
School of Commerce -Graduate Studies Program
Department of Marketing Management**

**May, 2014
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IN THE CASE OF COMMERCIAL BANK OF ETHIOPIA ATM SERVICE**

By: Amaha Tesfaye

Advisor: Mehret Berhanu(Asst.Prof)

**A Thesis Submitted to the Graduate Studies of Addis Ababa University
School of Commerce in Partial fulfillment of the requirements for the Degree
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Approved by Board of Examiner

Advisor	Signature	Date
Examiner	Signature	Date
Examiner	Signature	Date

DECLARATION

I, Amaha Tesfaye, hereby declare that this Master Thesis titled “**Assessment of Service Quality and Customer Satisfaction: The Case of: Automated Teller Machine (ATM) Service of Commercial Bank of Ethiopia.**” is an original work. I have carried out the present study independently with the guidance and support of the research advisor, Mehret Berhanu (Asst. Prof). Any other research or academic sources used here in this study have been duly acknowledged. Moreover, this study has not been submitted for the award of any Degree or Diploma Program in this or any other institution.

Amaha Tesfaye

Signature

Date

Confirmation by Advisor

Mehret Berhanu (Asst. Prof)

Signature

Date

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List of Acronyms and Abbreviations

CBE: Commercial bank of Ethiopia.

ATM: Automated teller machine

SPSS: Statistical package for social science.

E-banking: Electronic banking

E-service quality: Electronic service quality

E-service: Electronic services

ABSTRACT

The main goal of this study is the assessment of customer satisfaction and service quality of Commercial Bank of Ethiopia's automated teller service. To this end, user's level of customer satisfaction and their perception of the quality of service being provided by the bank were investigated. To accomplish this, a questionnaire survey was conducted by taking the most important ATM service quality dimensions that were identified by several researchers from literature. The data from the questionnaires were analyzed through mean and standard deviation as well as through correlation analysis with the help of SPSS statistical software program. According to the findings customers found, the ATM service to be exceptionally easy to use and highly secure from fraud. However, responsiveness and reliability of the ATM service were found to be low on customer's perception. The major problems faced by customers while using the service include ATM not functioning all the time, ATM not being able to provide accurate and consistent services, cash not being available inside the ATMs and ATM network not always being available, ATM contact person not being available, breakdown of ATMs not being fixed promptly and the recovery speed of the ATM being slow when there is a failure. The findings also show that all of the selected service quality dimensions have a significant and positive relationship with customer satisfaction. When the respondents were asked to rate their overall satisfaction with the ATM service, most of the respondents stated that they were satisfied with the service. Finally, this paper will help Commercial Bank of Ethiopia understand what its customers perception is towards its ATM service. This will in turn help it focus on the dimensions that customers believe its ATM service is performing weakly and which service dimensions it should build and improve on. This study only focused on the ATM services of CBE situated in Addis Ababa and used convenience sampling method to reach its target population.

Key words: *Service quality, customer satisfaction, ATM service quality.*

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Service industry is the lifeline for the social economic growth of a country. At present it is the largest and fastest growing sector globally contributing more to the global output and employing more people than any other sector. For most countries around the world, services are the largest part of their economy. The real reason for the growth of the service sector is due to the increase in urbanization, privatization and more demand for intermediate and final consumer services. Availability of quality services is vital for the well being of the economy. (Chillimuntha, (2011).

Service has been defined in many ways by various scholars through time. Still there is no universal definition of service. But these are well known definitions of service. A service is any act or performance that one party can offer to another that is essentially intangible and does not result in ownership of anything. Its production may or may not be tied to a physical product (Kotler & Keller, 2012). Alternatively, Gronröos, (2001) defined service as an activity or series of activities of more or less intangible nature that normally, but not necessarily, take place in interactions between the customer and service employees and/or systems of the service provider, which are provided as solutions to customer problems.

Furthermore, a service is an act or performance offered by one party to another. Although the process may be tied to a physical product, the performance is essentially intangible and does not normally result in ownership of any of the factors of production. Services are economic activities that create value and provide benefits for customers at specific times and places as a result of bringing about a desired change in the recipient of the service (Lovelock & Wright, 1999). In addition, services are deeds, processes, and performances. Services are not tangible things that can be touched, seen, and felt, but rather are intangible deeds and performances (Zeithaml & Bitner, 2004).

The major concepts of service quality that are mentioned in various books and articles are four: intangibility, heterogeneity, inseparability and perishability. According to the definition of Kotler & Armstrong, (2012), the four service quality dimensions service intangibility that cannot be seen, tasted, felt, heard, or smelled before they are bought; service inseparability: service is produced and consumed at the same time and cannot be separated from its providers; service heterogeneity (variability) is also the quality of services may vary greatly depending on who provides them and when, where, and how. Finally, service perishability is a services that cannot be stored for later sale or use.

Service quality is of utmost importance in analyzing the performance of service organizations. Likewise, banks as one service rendering organization, their survival depends on high service quality levels they provide (Portela & Thanassolis, 2005).Service quality in banks is critical for satisfaction and retention of customers (Jabnoun & AlTamimi, 2003). An organization that consistently satisfies its customers can enjoy higher retention level and greater profitability due to increased customer loyalty (Wicks & Roethlein, 2009). The payoff resulted from satisfying customers with improving service quality and other marketing activities is also extensively studied and proven to be true through different marketing researches.

As one study stated that a major trend currently shaping the field and profoundly influencing the practice of services or service marketing is technology, specifically information technology. (Bitner, 2001). It is resulting in tremendous potential for new service offerings, offerings not imaginable even a decade ago. Technology is radically changing how services are delivered, and it is enabling customers and employees to get and provide better, more efficient and standardized services. For example, automated voice mail, interactive voice response systems, FAX machines, ATMs, and other commonplace services were only possible because of new technologies (Bitner, 2001).

Ethiopia as adapter of the new technology of ATM, the bank service users are enjoying with promptness of the service. Mauri,(2003) stated that the banking industry in Ethiopia remained traditional for a long time until the agreement that was reached between Emperor Minilik II and Mr.Ma Gillivary, representative of the British owned National Bank of Egypt in 1906.

A bank is an institution that deals in money and its substitutes and provides other money-related services. In its role as a financial intermediary, a bank accepts deposits and makes loans. It derives a profit from the difference between the costs (including interest payments) of attracting and servicing deposits and the income it receives through interest charged to borrowers or earned through securities. Many banks provide related services such as financial management and products such as mutual funds and credit cards. Some bank liabilities also serve as money—that is, as generally accepted means of payment and exchange (Bank, 2014).

Banks use computers and telecommunications to enable banking transactions to be done by telephone or computer rather than through human interaction. Its features include electronic funds transfer for retail purchases, automatic teller machines (ATMs), and automatic payroll deposits and bill payments. Some banks offer home banking, whereby a person with a personal computer can make transactions, either via a direct connection or by accessing a Web site. Electronic banking has vastly reduced the physical transfer of paper money and coinage from one place to another or even from one person to another (Electronic banking, 2014).

One of the latest and widely accepted distribution channels to be used in the financial services organizations is electronic banking; it was established in the mid 1990s, after that steadily becoming more imperative (Allen et al, 2001). Researchers have classified the electronic banking into three sections, Internet Banking, Telephone Banking and Automated Teller Machine (Joseph and Stone, 2003).

Further, many innovations have influenced the way organizations operate. Foremost among these innovations are electronic self-service technologies which are defined as services driven by information technology that enable customers to acquire a service without direct employee involvement, an example of which is automatic teller machines (ATM's) (Kantono, 2009).

ATM is an innovative electronic delivery channel, which offers different financial services like cash withdrawal, payments of utility bills, and transfer of funds etc (Pawa & Saxena, 2011).

Commercial Bank of Ethiopia (CBE), despite, being the pioneer in introducing ATM based payment system; it lagged behind private commercial bank, Dashen Bank, which worked

aggressively to maintain its lead in electronic payment systems (Worku, 2010). Currently Commercial Bank of Ethiopia, Dashen Bank, Wegagen Bank and Premier Switch Solutions (PSS) members - Awash, United , Nib and are the ones providing card banking and ATM services in Ethiopia (ATM Marketplace, 2013).

ATM Marketplace, (2013) reported that Commercial Bank of Ethiopia currently operates the largest number of terminals, at around 120, but has purchased and plans to install about 350 more. CBE provides about 80 percent of the banking services in Ethiopia. The next largest ATM operator is Dashen Bank with 105, followed by Zemen with 35 and Wegagen with 27. Collaborating with each other Nib, United, AIB have established Premier Switch Solutions S.C., for implementation and joint operation of the ATMs. The three-bank consortium, established in 2010, has so far installed 20 ATMs out of a planned 60. This shows that there is high customer demand for ATM's for the above banks to invest so much money into this form of service delivery method.

Therefore, this study focuses on the assessment of customer's perception towards ATMs service quality and customer satisfaction by choosing CBE as a case to study since CBE has the largest number of ATM terminals that need a continuous assessment than any of the other banks in Ethiopia. This study will go a long way in helping CBE understand what its customers think of the quality of service provided by the ATM's as well as help them to develop improved service to their ATM customers in order to satisfy and retain them.

1.2 Description of the study domain

In order to fully understand this study, it is necessary to know about the background and history of the selected bank for this study and the following will give a brief overview of CBE.

The Commercial Bank of Ethiopia (CBE) is the largest commercial bank in Ethiopia. In 1963, the Ethiopian government split the State Bank of Ethiopia into the National Bank of Ethiopia, the central bank, and the Commercial Bank of Ethiopia (CBE). In 1958, the State Bank of Ethiopia established a branch in Sudan that the Sudanese government nationalized in 1970. The government later merged Addis Bank into the Commercial Bank of Ethiopia in 1980 to make CBE the sole commercial bank in the country (Mauri, 2008).

CBE was a pioneer in introducing modern banking to the country. It has 780 branches stretched across the country as of January 6, 2014 with assets of 158.11 billion Birr as on June 30th2013.

CBE plays a catalytic role in the economic progress & development of the country and it was the first bank in Ethiopia to introduce ATM service for local users. Currently CBE has more than 7 million account holders. It has strong correspondent relationship with more than 50 renowned foreign banks like Commerz Bank A.G., Royal Bank of Canada, City Bank, HSBC Bank and others. CBE has a bilateral arrangement with more than 700 others banks across the world (Commercial Bank of Ethiopia, 2014).

CBE combines a wide capital base with more than 18,000 talented and committed employees.

The company has opened two branches in South Sudan and has been in the business since June 2009 and it has a reliable and longstanding relationship with many internationally acclaimed banks throughout the world (Commercial Bank of Ethiopia, 2014).

1.3 Statement of the problem

The banking industry in Ethiopia has come a long way since then but Ethiopian banking system is still underdeveloped compared to the rest of the world. In Ethiopia cash is still the most dominant medium of exchange and electronic payment systems are at an infant stage. E-banking offers numerous benefits to both banks and their retail customers. Using alternative e-banking channels banks can provide their customers with convenient, inexpensive access to their services 24 hours a day, seven days a week. Anguelov et al. (2004) stated that such technologies as direct deposit, automated teller machines, and debit cards can speed processing and reduce costs. Using e-banking technologies, consumers can conduct fast and convenient financial transaction activities and obtain their account information (Lee & Lee, 2000).

Mekonnen, (2013) reported that ATM's have their own share of problems associated with them, such as the system that lets them function is not always available, internal system connection, lack of customer training in relation to ATMs, unavailability of cash and break down of ATMs are the main challenges facing ATM's in Addis Ababa. The current environment of competition in the Ethiopian banking industry is intense, with new financial service providers emerging all the time. Quality of service is seen more and more than ever as a key differentiation in the marketplace and as means of outshining competitors and satisfying customers.

In today's age of self-service technologies taking the place of human contact services, it is imperative for organization to understand the effect their e-banking service quality has on customer satisfaction in order for these companies to succeed in the marketplace.

Therefore, this study attempted to assess ATM service quality and customer satisfaction by choosing CBE which has the largest number of ATM's as stated in the background of the study.

1.4 Research questions

To address the above problems, this study attempted to answer the following research questions:

- a. What are the major problems faced by customers in using ATM service?
- b. Which service dimension is dominant in customer's perception?
- c. What is the relationship between service dimensions and customer satisfaction?
- d. What is the current overall customer satisfaction with the ATM service?

1.5 Objectives of the study

The following sections comprise general and specific objectives.

1.5.1 General Objective

The general objective of this study is assessing ATM service quality and customer satisfaction by taking the case of CBE.

1.5.2 Specific Objectives

The specific objectives of the study are the following:

- To identify the major problems faced by customers in using ATM service.
- To describe which service dimension is dominant in customer's perception.
- To examine the relationship between the service quality dimensions and customer satisfaction.
- To know the current overall customer satisfaction with the ATM service.
- To assist CBE in identifying the gaps which affect the quality of service and to suggest possible corrective measures

1.6 Hypothesis

In order to test the relationship between the six service quality dimensions and customer satisfaction, the following hypotheses have been developed:

H1: Reliability has a significant and positive relationship with customer satisfaction.

H2: Responsiveness has a significant and positive relationship with customer satisfaction.

H3: Ease of use has a significant and positive relationship with customer satisfaction.

H4: Convenience has a significant and positive relationship with customer satisfaction.

H5: Fulfillment has a significant and positive relationship with customer satisfaction.

H6: Security has a significant and positive relationship with customer satisfaction.

1.7 Significance of the study

Introduction of new technologies in the banking industry has led to the introduction of e-banking and other modern banking services in the Ethiopian banking industry. One of these new channels of service outlets is ATM banking and banks are racing each other by investing huge amounts of money to enhance their technological infrastructure in order to provide these types of services to their customers. But not too many studies have been conducted that assessed customers perception of ATM service quality and customer satisfaction. This study will aid CBE understand what its customers' think of the level of service quality that it is currently providing and this will in turn help them to design and execute better services and marketing strategies that will help improve their customer's satisfaction inevitably leading to better customer retention, loyalty and trust. It will also aid other researchers in the field of service quality in e-banking.

1.8 Scope/Delimitation of the study

Though recent years have witnessed the introduction of various e-banking services, this study focused on the assessment of ATM service quality and customer satisfaction. The study is confined to assess the service quality and customer satisfaction of CBE from the view point of customers who use its ATM's.

1.9 Limitation of the study

Although the researcher originally tried to study the same theme on internet banking it was hampered by the lack of access to internet banking customers' availability. Geographically, the study is limited to customers of CBE ATM cardholders in Addis Ababa that may not be the sample representative of the whole ATM bank service of the country. This is because of time and financial constraints. Therefore, the result may not generalize the performance of other banks in country.

1.10 Organization of the study

The study is organized under 5 chapters. Chapter one includes background of the study, statement of the problem, basic research questions, objectives of the study, hypothesis, definition of terms, significance of the study, delimitations/scope of the study and limitations of the study. Chapter two includes review of relevant related literature.

Chapter three encompasses research design and methodology which mainly includes the type and design of the research; conceptual framework taken or adapted from previous studies, the subject or participant of the study, the sources of data, the data collection methods that were employed, the procedures of data collection and the method of data analysis that were used. Chapter four includes results and discussion which entail summarized results of the study and interpretation of the results.

The last chapter which is chapter five is on summary, conclusions and recommendations. The summary of the findings were taken from the results discussed under chapter four. The conclusions were drawn from the summary of findings. Finally practical recommendations were forwarded.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter aims to provide a review of related literature. In line with the objectives of this study, this chapter covers concepts related to service, service quality, service quality dimensions, e-banking, e-service quality and customer satisfaction.

2.2 Service

Service industries are playing an increasingly important role in the overall economies of the countries of developed and developing countries. The 21st century is considered to be as the service industry. Researchers have tried to define service and to explain what service constitutes. There are many definitions regarding the concepts of service. Services are deeds, processes, and performances (Parasuraman et al., 1985).

Gronroos, (1984) defined service as an activity or series of activities of more or less intangibles nature that normally, but not necessarily, take place in interactions between the customer and service employees and/or physical resources or goods and I or systems of service provider, which are provided as solutions to customer problems. Similarly Kotler,(2000) defined service as any activity or benefit that one party offers to another which is essentially intangible and does not result in the ownership of anything, and it may or may not be tied to a physical product.

The above two definitions of service state that services include all economic activities which are intangible, not physically apparent like products, which provide value to the customer. Service has become very crucial in all business industries due to the transformation from agriculture to industrial sector, increase number of aged people, double income, and a need for leisure time (Clow and kurtz, 2002). Services are now seen in almost every part of our life, starting from the most essential demands, like eating to other entertainment activities, such as sport, travelling, etc.

Service is found on all companies strategic tools for gaining a competitive advantage. Nowadays products heavily rely on its services to acquire competitive advantage, and to satisfy customers' needs (Kotler & Armstrong, 2012)

2.3 Service quality

Service quality has become a major area of attention during the past few decades for managers, researchers, practitioners because of its huge impact on business performance of firms.

Customers judge service quality relative to what they want by comparing their perceptions of service experiences with their expectations of what the service performance should be. Marketers described and measured only quality with tangible goods, where as quality in services was largely undefined and not researched (Parasuraman, et.al., 1985).

Service quality has become a key strategic factor for companies to differentiate their products and services from other competitors by using service quality as a process that customers evaluate. Many researchers suggest that customers' assess service quality by comparing what they feel a seller should offer and compare it against the seller's actual service performance (Gronroos, 1984). The importance of quality to firms and customers is unequivocal because of its benefits contributing to market share and return on investment (Parasuraman, et al., 1985).

Service quality has been defined in literature as an overall assessment of service by the customer. Perceived service quality is believed to be resulting from comparison between customers' prior expectations about the service and their perceptions after actual experience of service performance (Parasuraman et al., 1985). Service quality has been increasingly recognized as a critical factor in the success of any business (Parasuraman, Zeitham & Berry, 1998). Also Ladhari (2008) supported the role of service quality and stated that it is considered as an important tool for a firm's struggle to differentiate itself from its competitors.

Service quality has been defined by many researchers through time. Parasuraman et al, (1985) defined service quality as a function of the differences between expectations and performance along the quality dimensions. Roest and Pieters' (1997) also share a similar definition that service

quality is a relativistic and cognitive discrepancy between experience based norms and performance concerning service benefits. Another definition of service quality is by Bitner et al, (1994) stated that service quality as the consumer's overall impression of the relative inferiority/superiority of the organization and its services.

Parasuraman et al., (1985) stated that service quality is more difficult for the consumer to evaluate than goods quality, service quality perceptions result from a comparison of consumer expectations with actual service performance and that quality evaluations are not made solely on the outcome of a service, they also involve evaluations of the process of service delivery.

According to Gronroos (1994) there are three types of service quality outcome, the technical quality, the function quality and the corporate image:

1. The technical quality, which involves what the core service received by customer from the service delivery.

2. Functional quality, which involves the manner in which the service is delivered. This concerns the psychological interaction between the buyer and the seller and is perceived in a very subjective way, and would include elements such as:

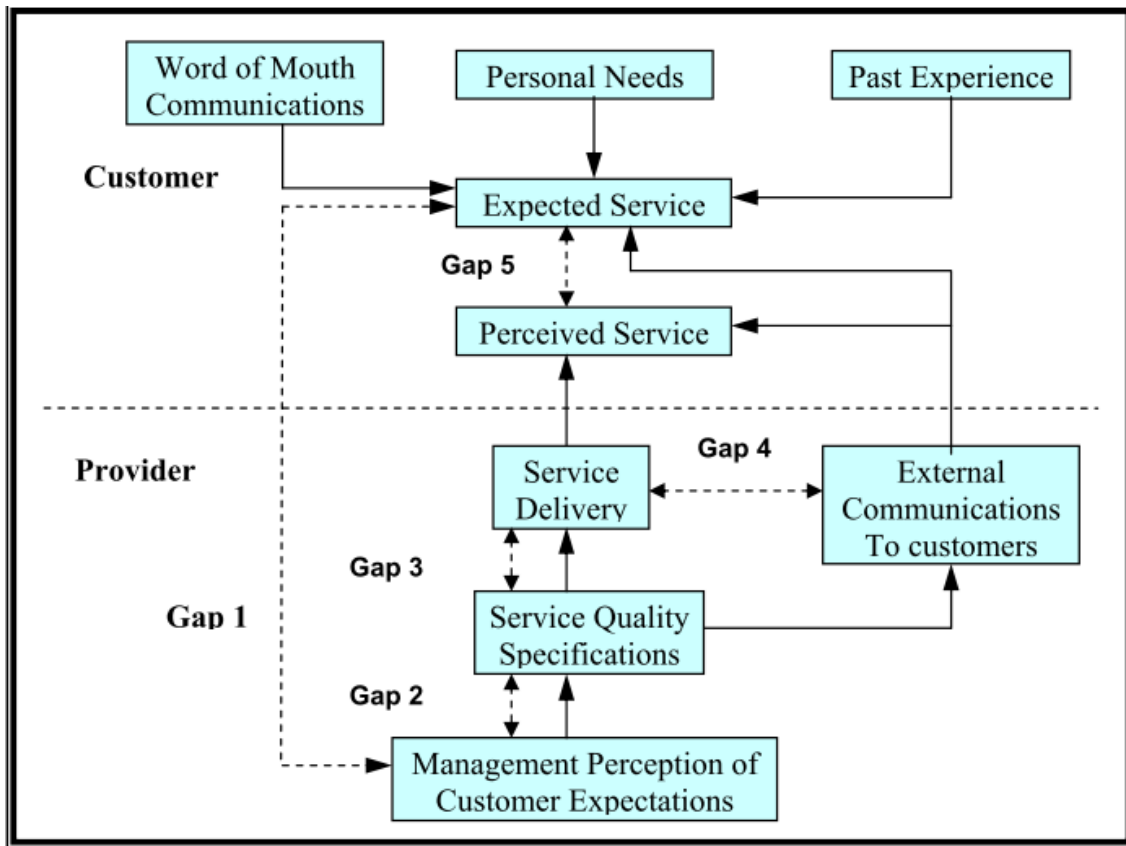
- Attitudes and behavior of employees;
- Approachability of service personnel;
- Accessibility of service;
- Appearance and personality of personnel;
- Relationship between employees, and;
- Interrelationships between employees and customers.

3. Corporate image dimension of quality is the result how consumers perceive the firm, and it is expected to be built up mainly by the technical and functional quality of its services, and will eventually affect service perceptions.

Similarly, Lehtinen & Lehtinen J.R (1991) offered another model with three dimensions of service quality: physical, interactive and corporate. Physical quality is about the quality of

physical products involved in service delivery and consumption. Interactive dimension refers to the interaction between the customers and the service organization employees. Corporate quality refers to the corporate image as perceived by the customer.

Parasuraman et al. (1985) suggested the “Gap Model” in order to serve as a framework for further research.



Source: Parasuraman et al., (1985)

Fig 2.1 Service quality gaps model

Five gaps are listed below:

Gap 1, consumer expectation-management perception gap:

Management may have inaccurate perceptions of what consumers actually expect. It requires the appropriate management processes, market analysis tools and attitude.

Gap 2, service quality specification gap:

There may be an inability on the part of the management to translate customer expectations into services quality specifications. This gap relates to aspects of service design.

Gap 3, service delivery gap:

Guidelines for service delivery do not guarantee high-quality service delivery of performance. Reasons for this include lack of sufficient support for the frontline staff, process problems, or frontline/contact staff performance variability.

Gap 4, external communication gap:

Consumer expectations are fashioned by the external communications of an organization.

Gap 5, expected service-perceived service gap:

Perceived quality of service depends on the size and direction of Gap5, which in turn depends on the nature of the gaps associated with marketing, design and delivery of services

2.4 Service Quality Dimensions

According to Parasuraman et al.'s (1985), ten detailed dimensions of service quality through focus group studies are listed as: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, competence, understanding the customer and tangibles. Among these ten services quality determinants, reliability is the most important dimension. Detailed explanation will be described below.

Reliability: It means that the firm performs the service right the first time and the firm honors its promises.

Responsiveness: It concerns the willingness or readiness of employees to provide service.

Competence: It means that possession of the required skills and knowledge to perform the service.

Access: It involves approachability and easy of contact.

Courtesy: It involves politeness, respect, consideration, and friendliness of contact personnel.

Communication: It means keeping customers informed in language they can understand and listening to them.

Credibility: It involves trustworthiness, believability, honesty.

Security: It is the freedom from danger, risk or doubt.

Understanding: Knowing the customer involves making effort to understand the customer's needs.

Tangibles: It includes the physical evidence of the services. (Parasuraman et.al., 1985)

In their following research (Parasuraman, Zeithaml, and Berry, 1988), then they purified and distilled the ten dimensions to five: reliability, tangibles, responsiveness, assurance, and empathy, which constitute the base of global measure for service quality SERVQUAL. Based on these five dimensions listed above, the researchers developed 22 item scale with a set of service quality dimensions to quantify a customer's assessment of a company's service quality. However, the traditional service quality dimensions cannot directly apply to ATM banking, because it represents a different and unique service delivery process. Nevertheless, the studies of Parasuraman (1988) offer particularly strong service quality dimensions for measuring traditional services and could be serve as a good starting point for further research.

2.5 E-banking

Banks and other financial institutions have always tried to utilize technology initially for internal use and communication and then as a vehicle for external communication and transactions with their customers (Giannakoudi, 1999). In the early 1990s, banks turned their interest to computer technology, and were able to offer services through personal computers owned and operated by customers at their convenience through the use of intranet propriety software. The users of these services were, however, mainly corporate customers rather than retail ones (Giannakoudi, 1999).

The terms PC banking, online banking, internet banking, telephone banking and mobile banking refer to a number of ways in which customers can access their banks without having to be physically present in the bank branch (Leow, 1999). E-banking services have provided numerous benefits for both banks and customers. From the bank's perspective, the main benefits for the

banks who offer e-banking services are cost savings, reaching new segments of the population, efficiency, enhancement of the bank's reputation and better customer service and satisfaction (Brogdon, 1999). But, the most important driving force behind the implementation of full e-banking services by banks is the need to create powerful barriers to customer exiting or leaving the bank. (Sheshunoff, 2000).

E-banking also offers new values to customers. From customers' perspectives, the greatest benefit of e-banking is that it is cheap or even free to customers (Sathye, 1999). E-banking in general is not tied to time or place. It has also been argued that e-banks are more likely to change in response to customers demands (Brogdon, 1999). E-banking has the advantage that the customer avoids traveling to and from a bank branch. In this way, e-banking saves time and money, provides convenience and accessibility, and has a positive impact on customer satisfaction (Mols, 1998). Customers can manage their banking affairs when they want, and they can enjoy more privacy while interacting with their bank. It has been claimed that e-banking offers the customer more benefits at lower costs (Mols, 1998). But these benefits are not without risks.

The risks associated with e-banking activities include: strategic, operational, technological, reputation, and legal risks. Strategic risks are the risks that are associated with board and management decisions (Basel Committee on Banking Supervision, 2000). The second category of risk is operation risk which arises from fraud, processing errors, system disruptions, or other unanticipated events resulting in the institution's inability to deliver products or services. The third category of risk is technology risks which are the risks that are associated with systems failures, processing errors, software defects, operating mistakes, hardware breakdowns, capacity inadequacies, network vulnerabilities, control weaknesses, security shortcomings, malicious attacks, hacking incidents, fraudulent actions, and inadequate recovery capabilities (Basel Committee on Banking Supervision, 2000). Reputation risk is the fourth category; this is the risk of significant negative public opinion that results in a critical loss of funding or customers (Basel Committee on Banking Supervision, 2000). It may arise when systems or products do not work as expected and cause widespread negative public reaction.

The last category of risk is the legal risk which arises from violations of, or non-conformance with laws, rules, regulations, or prescribed practices, or when the legal rights and obligations of parties to a transaction are not well established (Basel Committee on Banking Supervision, 2000).

2.6 Traditional service Versus E- service

The following part will explain why the traditional service quality concepts cannot directly be applied to e-service quality by showing the main differences between these two services. There are some key differences between traditional and e-services. There are also differences between self-service and e-service.

The differences between traditional and e-services are as follows (Surjadjaja, Ghosh & Anthony, 2003) stated that in a traditional service, only the employees are involved in the interface of the service encounter. In e-service, on the other hand, ICT (Information communication technology) or employees are involved in the interface, through the power the Internet. Moreover, during an e-service encounter, the customers are restricted to hearing and viewing however, in traditional services, customers can experience the service by using all their senses. Traditional service is restricted by distance and opening hours, whereas e-service has substantially removed these barriers.

The differences between self-service and e-service relate to the following aspects. In self-service operations, the customer has to go to ICT centre, for example cash point, to receive the service. In e-service, a customer can conveniently receive the service through the Internet at home or other places. E-service is more flexible than self-service which is constrained by the location. Also in self-service the functionality of ICT is mostly customized with little personalization. In e-service, the functionality of the ICT is modified to offer personalized service.

2.7 E-service quality

Over the past decade, there has been a growing body of work focusing on conceptualizing, measuring, and managing service quality and its effects in electronic environments. The conception of “e-service” emerged upon the growth of the internet (Loonam and O’Loughlin, 2008).

Researchers have postulated that electronic service quality is a key determinant in differentiating service offers and building competitive advantage because the cost of comparing alternatives are relatively low in online environments (Santos, 2003). For a start, Zeithaml et al. (2002) defined electronic service quality as “the extent to which a web site facilitates efficient and effective shopping, purchasing and delivery of products and services”. Bressolles and Nantel (2004) argued that the definition covers both pre- and post-service delivery experiences on the web. Bauer et al. (2005) postulate that the most important step in providing a sophisticated level of service through e-banking portals is to identify and measure the dimensions of portal quality.

Research into electronic service quality has progressed through two major routes. Some researchers have used the traditional service quality dimensions to progress their studies into electronic service quality while other researchers argue that electronic service environment is completely different, dominated by people-machine interface, and requires a new set of quality dimensions (Lee and Lin, 2005).

Research into the quality dimensions of e-banking started recently and is still ongoing. There seems to be consensus that traditional service quality dimensions cannot be totally imported to measure electronic service quality.

Following this line of thought, Gefen (2002) modified Parasuraman et al.’s SERVQUAL scale to measure online service quality and found a three-factor assessment scale with tangibles appearing as the most important in the measurement. Lee and Lee (2002) also modified the SERVQUAL scale to identify the main factors that influence customer’s perception of electronic service quality of online sites. The study found design, reliability, responsiveness and trust as

dimensions of online store quality. Among the researchers who developed new models were Loiacono et al. (2002) who developed the Webqual for rating the quality of web sites. The 12 dimensions identified in their scale included informational-fit-to-task, interaction, trust, response time, design, intuitiveness, visual appeal, integrated communication, innovativeness, flow, emotional appeal, business processes and viable substitute. Criticizing the scale, Parasuraman et al. (2005) argued that the purpose of the scale was not to measure service quality but to generate information for web site developers. Received wisdom from electronic quality research indicates that the perceptions of customer's quality Service quality in ATMs and providers or designer's quality are both necessary and essential for the understanding of online site quality.

In addition, Parasuraman et al. (2005) developed what is called a comprehensive model known as E-S-QUAL to measure service quality of web sites. The E-S-QUAL consisted of two parts, the first part which measured service quality and the other part which measured service recovery. The four dimensions that measured service quality are efficiency, fulfillment, system availability and privacy. The model also recognizes the importance of service recovery in online transactions and developed the E-RecS-QUAL consisting of responsiveness, compensation and contact. The study concluded that efficiency and fulfillment dimensions were the most critical and equally important facets of web site quality. Boshoff (2007) stated that researchers need to explore the concept of reliability as a construct in measuring electronic service quality. The model was exclusively developed for online shoppers and therefore could not apply to e-banking, thereby creating the need for further studies to design models that address the needs of the various electronic channels.

The differences in frameworks and findings on online service quality research above points to one conclusion which is that there is no quick end to the issues of electronic service quality research. It is also significant to note that most of the e-service scales were developed for online sites. For e-banking, due to the different channels available, this study focuses on the service quality of ATMs provided by CBE.

2.8 Customer satisfaction

Customer satisfaction is a critical issue in the success of any business system, let alone a business in the financial sector. In a highly competitive environment such as the banking sector in Ethiopia, CBE needs to understand how to satisfy its customers in order to sustain growth and market share since customer satisfaction is critical for establishing long term client relationships. It is evidenced by the fact that over the last five years, customer satisfaction surveys have become common in many financial institutions.

To understand satisfaction, we need to have a clear understanding of what is meant by customer satisfaction. Customer satisfaction is defined as a result of a cognitive and affective evaluation, where some comparison standard is compared to the actually perceived performance. If the perceived performance is less than expected, customers will be dissatisfied. On the other hand, if the perceived performance exceeds expectations, customer will be satisfied (Lee and Lee, 2003).

Most researchers agree that satisfaction is an attitude or evaluation that is formed by the customer comparing their pre-purchase expectations of what they would receive from the product to their subjective perceptions of the performance they actually did receive (Oliver, 1980).

Several authors have defined satisfaction in a different way. The following definitions of customer satisfaction will try to give us a clearer idea about customer satisfaction concept. Kotler, (2000) defined it as Satisfaction is a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) in relation to his or her expectation. Yi, (1990) defined Customer satisfaction as a collective outcome of perception, evaluation and psychological reactions to the consumption experience with a product/service.

The more customers are satisfied with products or services offered, the more are chances for any successful business as customer satisfaction leads to repeat purchase, brand loyalty, and positive word of mouth marketing. Customer satisfaction leads to repeat purchases, loyalty and to customer retention (Zairi, 2000).

Satisfied customers are more likely to repeat buying products or services. They will also tend to say good things and to recommend the product or service to others. On the other hand dissatisfied customers respond differently. Dissatisfied customers may try to reduce the dissonance by abandoning or returning the product, or they may try to reduce the dissonance by seeking information that might confirm its high value (Kotler, 2000).

Researchers contend that service quality has a direct link with customer satisfaction (Parasuraman et al., 1988). Strong evidence exists in literature about customers' satisfaction from ATM services (Leblanc, 1990). Literature finds a large number of studies that highlight the satisfaction of customers with ATMs (Moutinho & Brownlie, 1989, Wan et al., 2005, Komal & Singh, 2009; Mobarek, 2007).

The current stiff competition and sophisticated marketing environment has urged service organizations to shift focus from profitability to customer satisfaction. Better service will assure customer satisfaction. Delighted customers will stay loyal and in return it will increase revenue. Thus, the service quality impacts customer satisfaction in many organizations and maintaining customer satisfaction is the key to retaining customers and profitability (Palmer & Cole, 1995).

2.9 Relationship between Service Quality and Customer Satisfaction

Service quality has been the subject of considerable interest by both practitioners and researchers in recent years (Parasuraman et al., 1985). An important reason for the interest in service quality by practitioners results from the belief that this has an effect on bottom-line performance for the firm as stated in previous parts of the literature review. Most experts agree that customer satisfaction is short-term, transaction specific measure, whereas Service quality is an attitude formed by a long-term, overall evaluation of a performance (Oliver 1980).

Regarding the relationship between customer satisfaction and service quality, Oliver (1980) first suggested that service quality would be antecedent to customer satisfaction regardless of whether these constructs were cumulative or transaction-specific. Some researchers have found empirical

supports for the view of the point mentioned above (Fornell et al 1996, Spreng & Macky 1996) where customer satisfaction came as a result of service quality.

Researchers have been more precise about the meaning and measurements of satisfaction and service quality. Satisfaction and service quality have certain things in common, but satisfaction generally is a broader concept, whereas service quality focuses specifically on dimensions of service. (Wilson et al., 2008). Although it is stated that other factors such as price and product quality can affect customer satisfaction, perceived service quality is a component of customer satisfaction (Zeithaml et al., 2006). This theory complies with the idea of Wilson et al. (2008) and has been confirmed by the definition of customer satisfaction presented by other researchers.

Research has found that service quality in banks is critical for satisfaction and retention of customers (Jabnoun & AlTamimi, 2003). Keeping in view the significance of service quality as a means of competitive advantage and organizational sustainability, the banks are pursuing multidimensional approaches to improvement in service quality to attract and retain customers (Newman, 2001).

2.10 ATM Service quality

The use of ATM's has become extremely popular among customers as convenient mode of transactions. The technological innovation has transformed the banking business. Banks are aggressively adopting this mode. The advantages of using ATM's have given new momentum in dimensions of service quality and banks are offering new choices to customers.

Anguelov et al. (2004) stated that such technologies as direct deposit, automated teller machines, and debit cards can speed processing and reduce costs. This acts as a motive to banks to install and add new ATM to the existing network.

A number of marketing scholars identify ATM, internet and telephone banking as the principal e-banking channels (Joseph and Stone, 2003). In the banking sector, customers tend to use these three different automated service delivery channels in a complementary way (Santos 2003). Santos (2003) also defined e-banking service quality as the consumers' overall evaluation and

judgment of excellence and quality of electronic service offering in the virtual market place. This definition includes all the broad groups of e-banking service delivery channels such as internet banking, telephone banking and ATM. This study focuses on ATM because of its distinctiveness, continued popularity and usage in banking.

This study defines ATM as an electronic device which allows customers to deposit, withdraw, transfer money and perform other financial transactions without the aid of a branch representative or a teller. It is argued that ATM is the electronic version of the brick-and-mortar banking halls and customers visit the ATM to perform financial transactions. The ability of the ATM to perform these functions to the satisfaction of customers will measure customer perceptions of ATM service quality. This study therefore defines ATM service quality as the customers' overall evaluation and judgment of services provided through ATM channels.

Research has shown that service quality, whether through traditional or electronic channels, have different dimensions (Joseph and Stone, 2003). Even though studies such as Joseph and Stone identified the dimensions of e-banking channels such as internet banking, ATM and PC banking in a single study, not much attention has been paid to the quality dimensions of the individual technologies. Recently researchers have started to address ATM service quality dimensions.

General details of studies on ATM banking service quality conducted in different countries across the world over a period of years are elaborated below in order to give a better understanding of the study.

Lovelock (2000) mentioned that effective service delivery in ATM system guarantees quality excellence and superior performance and provide autonomy to the customers. He identified secure and convenient location, adequate number of ATMs, user-friendly system, and functionality of ATM as dimensions of ATM banking service quality.

Joseph and Stone (2003) investigated some of the various roles technology plays in the US banking sector and how technology in general impacts the delivery of banking service. The authors developed a grid for bank managers when making decisions concerning the priority of

implementation of service-oriented technology. Authors conducted an empirical evaluation of US bank customer perceptions of the impact of technology on service delivery in the banking sector. They examined the United States customers' perception of ATM quality and found that user-friendly, convenient locations, secure positions, and the numbers of ATM provided by the banks are essential dimensions of ATM service quality.

Al-Hawari et al. (2005) developed a comprehensive model of banking automated service quality taking into consideration the unique attributes of various delivery channels including ATM, Internet Banking, Telephone Banking and other dimensions that have a potential influence on quality issues. The proposed model was empirically tested for reliability, and validity using confirmatory factor analysis. They compiled a list of major dimensions of ATM service quality based on previous studies. The dimensions include secure locations, user friendliness of the ATM system, convenient location and functions of ATM. These dimensions were also tested by conducting an empirical study.

Khan (2010) investigated significant dimensions of ATM service quality and its effect on customer satisfaction in Pakistan. He used questionnaires to collect the data from a convenience sample of 500 customers of multinational and national Banks. Regression results indicated that convenience, efficient operation, security and privacy, reliability and responsiveness are significant dimensions of ATM service quality and that ATM service quality positively and significantly contributes toward customer satisfaction.

Narteh and Owusu-Frimpong (2011) conducted study in Ghana to determine the dimensions of ATM service quality and their relation with customer satisfaction. The survey employed a convenience and systematic sampling methods and a self completion questionnaire were administered to 650 ATM users of 15 banks in Ghana. The results generated by exploratory factor analysis method indicate that reliability, ease of use, accuracy, convenience and responsiveness are all significant dimensions of ATM service quality. Further analysis indicated that ATM service quality is positively related to customer service satisfaction. However, individually, only reliability, convenience and accuracy dimensions have a significant impact on customer satisfaction. The study therefore suggested that managers who intend to improve ATM

service experience of customers should focus on the reliability, convenience and accuracy dimensions of the ATMs.

Kumbhar(2011) conducted empirical study to identify key factors that have influence on customers satisfaction in ATM service provided by public and private sector banks. He identified various dimensions of ATM service quality as System Availability, Fulfillment and Efficiency, Security & Responsiveness, Easiness, Convenience, Cost Effectiveness and Problem Handling and Contact. For the purpose of finding factors affecting customer satisfaction primary data was collected using schedule. Results of factor analysis, correlation and regression analysis showed that a cost effectiveness, easy to use and security and responsiveness in ATM service were most important factors affecting customer satisfaction.

Katono (2011) identified the most important e-service quality evaluation dimensions in Uganda, focusing specifically on automatic teller machines (ATMs). The study employed a triangulation approach, using both qualitative and quantitative methods based on a convenience sample composed mainly of students at Uganda Christian University. Instrument development was based on the results of a qualitative study. The psychometric properties of this instrument were assessed using exploratory factor analysis followed by cross-validation using confirmatory factor analysis. This was followed by hierarchical linear regression to identify the most important dimensions of e-service quality. The study established that tangibles, card issues, reliability and location are the most important student service quality evaluation dimensions of ATMs in Uganda.

From the above mentioned studies we can realize that there is no agreement among researchers with regard to dimensions of ATM banking service quality. For the purpose of measurement of service quality of services involving face to face interactions between the service provider and the customer, SERVQUAL and SERVPERF scales are most commonly used. But there are no generally accepted dimensions and no such standard scale for measuring service quality in case of ATM banking.

Therefore this study used the most significant dimensions that were mostly used to measure ATM service quality by the above mentioned studies. It was reported in most of the studies that the most significant general dimensions that were mostly used and tested are reliability, responsiveness, ease of use, security and privacy, convenience and fulfillment. In line with this, the study measures ATM service quality of CBE and the level of customer satisfaction.

The definitions of the significant dimensions that were used to measure ATM service quality are as follows:

a. Reliability: The reliability dimension is critical because it embeds the dynamic capability to perform the promised service dependably and accurately.

b. Responsiveness: this dimension denotes how the ATM service recovers when there are problems.

c. Ease of use: denote the degree to which the customers expect the system to be free of effort or how the ATM ensures a hassle-free transaction for the customers.

d. Convenience: this dimension covers the issue of how closely the ATMs are located in respect to the customers, when they want to use it.

e. Fulfillment: is the extent to which the ATM performs outcomes which meet the customer's expectation.

f. Security: Addresses the issue of the protecting customers from fraud and financial loss.

2.11 Research framework

The following research framework is developed for this study based on the ideas and concepts reviewed in the literature.

ATM Service Quality

Dimensions

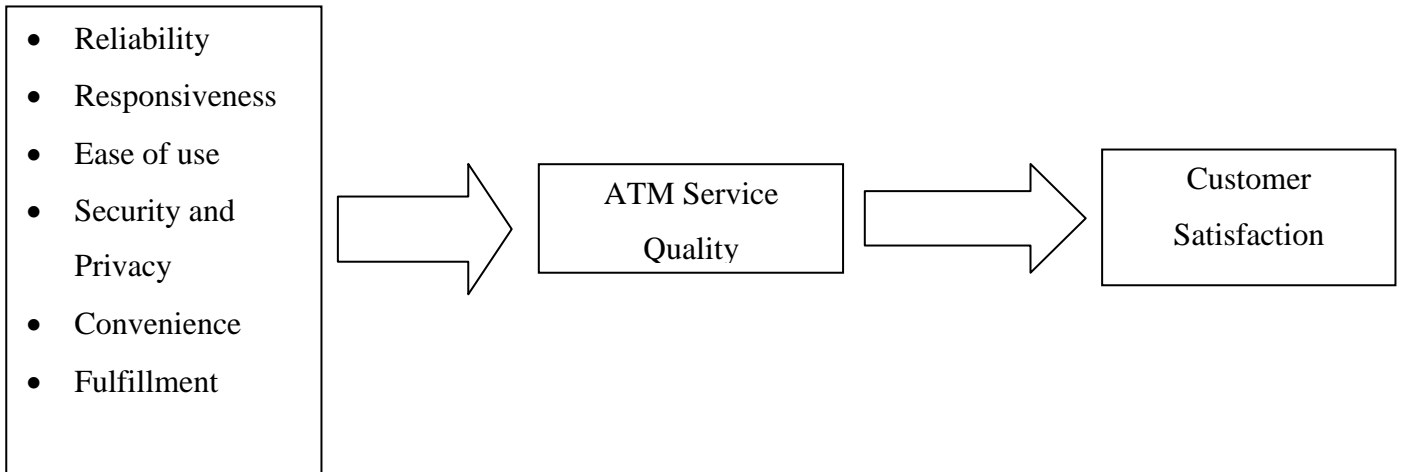


Fig 2.2 Conceptual framework of the study (own model)

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

The following explains the research design and methodology employed for the study. This part elaborates the research design, data type and source target population, sample size, data collection and data analysis. The methods selected below are found to be suitable because of their appropriateness for situations in the selected study area, analyzing major issues and forwarding sound recommendations.

3.2 Research Design

The research design that was applied for this study was a descriptive research design. It seeks to describe in detail the state of service quality and customer satisfaction of CBE ATMs thus giving an in depth understanding of the reality of customer perception on service quality and to better understand the relationship between ATM service quality and customer satisfaction. This study primarily adopted a quantitative approach.

In order to accomplish the study objectives and to answer the stated questions, descriptive statistics such as frequency, percentage and mean scores were used to assess ATM service quality and measure customer satisfaction of CBE ATMs service. Correlation was used to identify the relationship between ATM service quality dimensions and customer satisfaction.

3.3 Data Type and Source

Data was collected from primary and secondary data sources. Primary data was collected through the administration of close ended questionnaires to respondents that were selected through convenience sampling method. Secondary data was collected through published works, books,

magazines, journals and related articles that will contribute to a better understanding of service quality and customer satisfaction.

3.4 Target Population

The target population of the study was customers of CBE who use CBE ATMs in Addis Ababa. The study focuses on Addis Ababa because of the high density of CBE ATM users are located in the city as well as the highest numbers of CBE ATM's are also in Addis Ababa. According to the article written by Mekonnen (2013), CBE has 392,000 ATM cardholders. Therefore this study focuses on these cardholders that are situated in Addis Ababa.

3.5 Sampling Technique

The sampling technique that was employed for this study is non - probability sampling since the respondents don't have an equal chance of being selected. In non-probability sampling, since elements are chosen arbitrarily, there is no way to estimate the probability of any one element being included in the sample. Also, no assurance is given that each item has a chance of being included; it is quick, inexpensive and convenient. There are also other circumstances, such as in applied social research, when it is unfeasible or impractical to conduct probability sampling. This was done through convenience sampling in which members of the population are chosen based on their relative ease of access. To sample friends, co-workers, or shoppers at a single mall, are all examples of convenience sampling. The aforementioned method is chosen for this study because identifying and accessing a particular customer easily is difficult.

3.6 Sample Size

The sample size for this study is 384 given a population of 392,000 customers. This sample size was determined by using the table developed by Krejcie and Morgan (1970) using the formula for sample size determination when the population is known (Appendix c).

3.7 Data Collection

The primary data for this study was collected in the form of self administered questionnaires which comprised of close-ended questions that are clear and to the point and easy to understand for the respondents. The choice of questionnaire was chosen because it is a quick method to collect data, it is less time consuming and it offers assurance of anonymity. The questionnaire is divided into three parts.

Part one gathered basic demographic information about the respondents. Part two measured the service quality dimensions which include 28 items spread on six dimensions: four items on reliability, five items on responsiveness, six items on ease of use, three items on convenience, six items on fulfillment and five items on security were put on a five point likert scale. Part three covered overall respondents' satisfaction during their experience using the ATM's on a five point likert scale.

Before the main survey was conducted, a sample of 22 respondents was selected for pre testing the questionnaire. The major purpose of the pilot survey was to check the questionnaire clarity and understandability to the respondents and to identify and eliminate problems associated with question content and wording. Based on the feedback received from the test respondents few modifications were made in order to have a better response rate.

During the full scale survey, the questionnaire was administered to the target population through personal contact by the researcher and other collaborators who helped the researcher in data collection. Out of the total 384 distributed questionnaires 346 were successfully collected, this makes the response rate 90%. From the collected questionnaires 12 were eliminated or void because the respondents failed to completely fill out the questionnaires or they jumped a few questions. In the end a total of 334 questionnaires were taken to be analyzed.

3.8 Validity and Reliability

The precision with which things are measured in a study is expressed in terms of validity and reliability. These two are related because if a measure is valid then it is reliable. Validity represents how well a variable measures what it is supposed to measure. Reliability refers to the extent to which the data collection techniques or analysis procedure will yield consistent findings (Saunders et. al., 2003).

3.8.1 Reliability Test

Cronbach's alpha is used in this study to assess the internal consistency of the research instrument which is the questionnaire the researcher developed. Cronbach's α (alpha) is a coefficient of reliability used to measure the internal consistency of a test or scale; it resulted in a number between 0 and 1. As the result approaches to 1 the more the internal consistency of the items, which means all the items measure the same variable.

The result of the coefficient alpha for this study's instrument was found to be 0.894 (table 3.1). This can be seen as indication of acceptability of the scale for further analysis since all the six items of ATM service quality dimensions (reliability, responsiveness, ease of use, convenience, fulfillment, and security) measure the same variable which is ATM service quality. The items under each of the six ATM service quality dimensions are also tested to check if they measure the same dimension or not. All dimensions consistency results were greater than 0.7. Cronbach's alpha values greater than 0.7 indicate higher degrees of internal consistency (Henson, 2001). Since the results were deemed acceptable further analysis was conducted.

Table 3.1 Scale Reliability (Cronbach's alphas) - for service quality dimensions

Variables	Cronbach's alphas	No. of items
Reliability	0.805	4
Responsiveness	0.751	4
Ease of use	0.712	6
Convenience	0.720	3
Fulfillment	0.708	6
Security	0.765	5
All variables	0.894	28

Source: Survey Result (2014)

3.8.2 Validity Analysis

Validity is concerned with whether the findings are really about what they appear to be about (Saunders et. al., 2003). Validity defined as the extent to which data collection method or methods accurately measure what they were intended to measure (Saunders et. al., 2003). Validity is concerned with whether the findings are really about what they appear to be about.

A number of different steps were taken to ensure the validity of the study. First data was collected from reliable sources, from respondents who are more experience in using ATM banking; survey question were made based on literature review and frame of reference to ensure the validity of the result; questionnaire has been pre-tested by pilot test before starting the survey. Questionnaire was tested by 22 persons and data has been collected through two weeks, within this short period of time no major event has changed with the related participants.

3.9 Data Processing and Analysis

The data that was collected through self administered questionnaires was processed by using SPSS version 20.0. Only questionnaires that were returned and fully completed were be deemed valid and used in the analysis, but if the questionnaires were not returned or were not fully completed then they were deemed to be void.

As stated above out of the total 384 distributed questionnaires 346 were successfully collected, this makes the response rate 90%. From the collected questionnaires 12 were eliminated or void because the respondents failed to completely fill out the questionnaires or they jumped a few questions.

Once the questionnaires were valid they were coded and processed using the SPSS version 20.0 statistical software program. Afterwards descriptive analysis along with frequency tables, graphs, and frequency percentage were used to appropriately interpret, analyze and present the data that were collected from respondents with regards to the dimensions of ATM service quality measures and the level of customer satisfaction with the services provided. In addition, Pearson correlation coefficient was used to show the relationship between ATM service quality dimensions and customer satisfaction.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1 Introduction

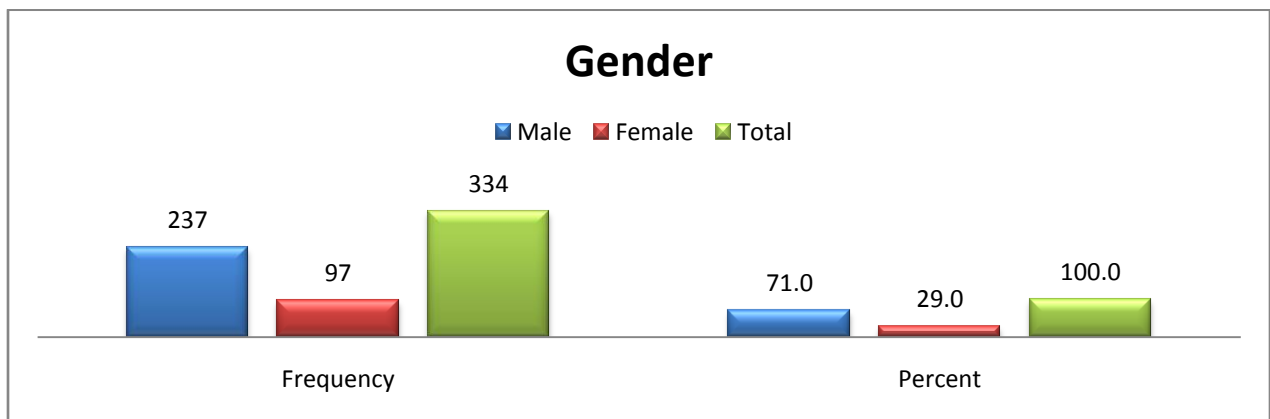
In this chapter, the collected data from the customers of CBE ATM card users of Addis Ababa are presented and analyzed in order to achieve the ultimate objective of the study. The aim of this study is to examine the service quality and customer satisfaction of the ATM service users. Accordingly, the demographic characteristics of the respondents, reason for choosing CBE ATM's, usage rate, types of accounts, service quality dimensions, customer satisfaction and other related issues are discussed.

4.2 Demographic characteristics of respondents

This section is designed to discuss the general demographic characteristics of respondents such as gender, age, education level, occupation and income per month of the respondents which was consisted in the first part of the questionnaire.

4.3 Respondent's gender

The following presents the gender of the respondents.



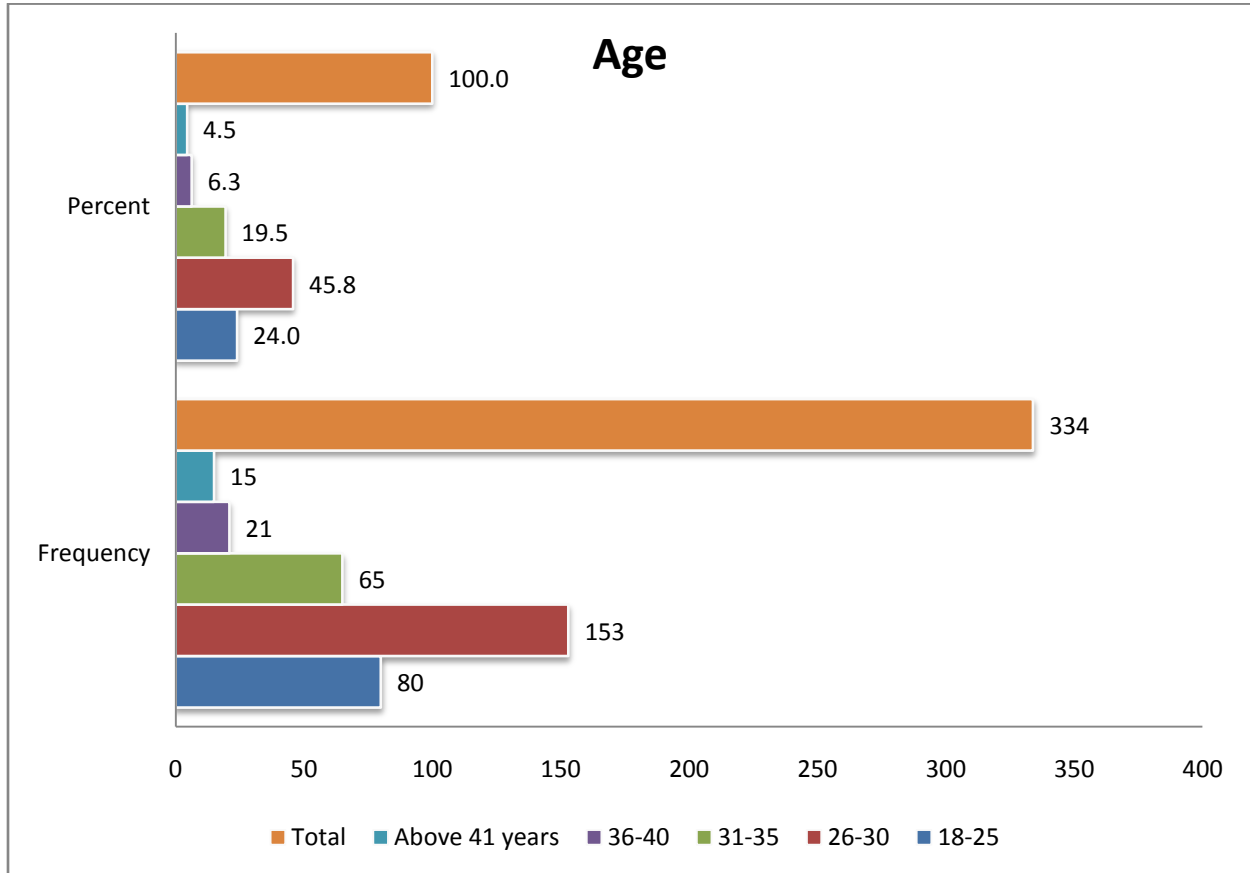
Source: Survey Result (2014)

Fig 4.1: Gender of respondents

From the above fig 4.1, the researcher note that, out of the total 334 respondents, it is dominated by male respondents with 71% while the female respondents constitute 29% of the total respondent's population. This means that most of the respondents were male ATM users.

4.4 Respondent's age

Below the respondents age distribution shall be presented in fig 4.2



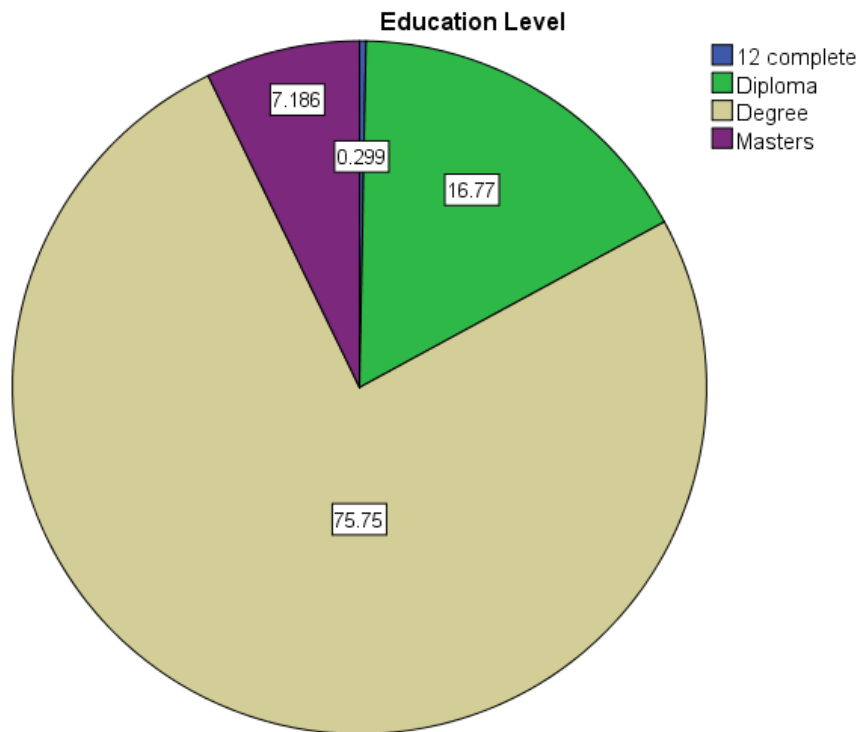
Source: Survey Result (2014)

Fig 4.2 Age of respondents

Figure 4.2 indicates the age group of the respondents. Accordingly, the age group of 26-30 dominates with 45.8% followed by 18-25 with 24% and coming in next is 31-35 with 19.5% followed by 36-40 and above 41 with 6.3% and 4.5% respectively. This implies that ATM users are dominated by males and the majority of age group of the ATM respondents is within 26-30 years. This means that most of the respondents are dominated by young males.

4.5 Respondent's educational level

Here we shall discuss how educated the respondents are by seeing their educational level demographics.



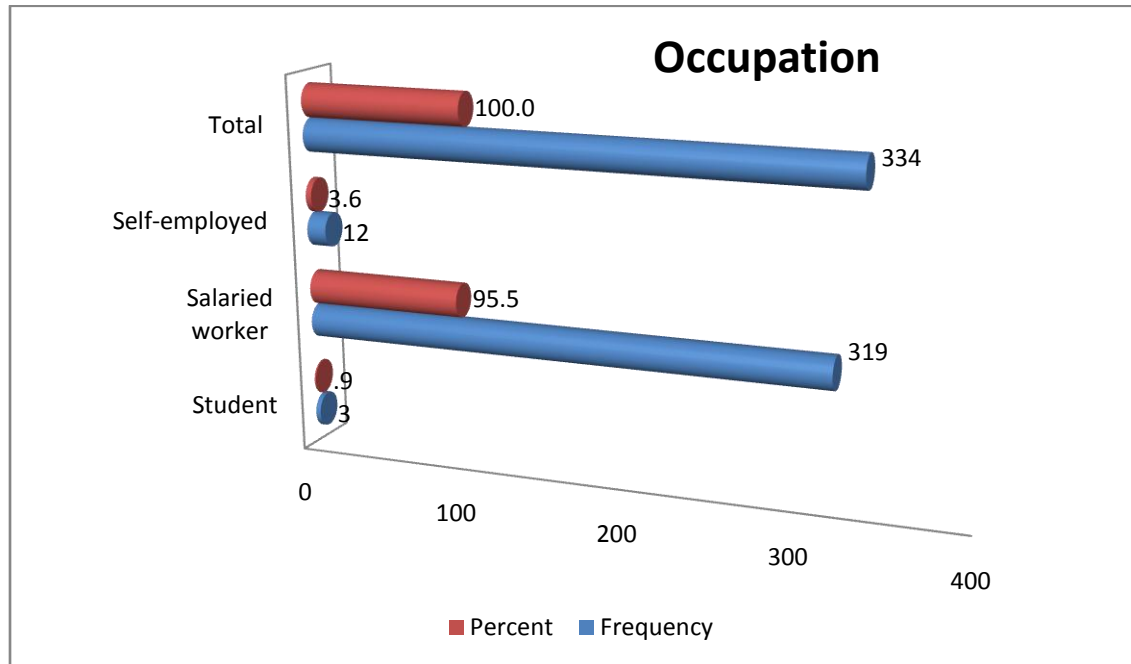
Source: Survey Result (2014)

Fig 4.3 Education level of respondents

The following question was regarding educational level of the respondents. From fig 4.3 we can see that the education level of most of the respondents is degree with 75.7% followed by diploma with 16.8% the remaining are masters and 12 complete with 7.2% and 0.3% respectively. This indicates that most of the respondents are educated with a degree level of education that helps the operation of the bank in communicating and using the service with low involvement of the bank employees.

4.6 Respondent's occupation

The respondent's type of occupation is presented in the following way.



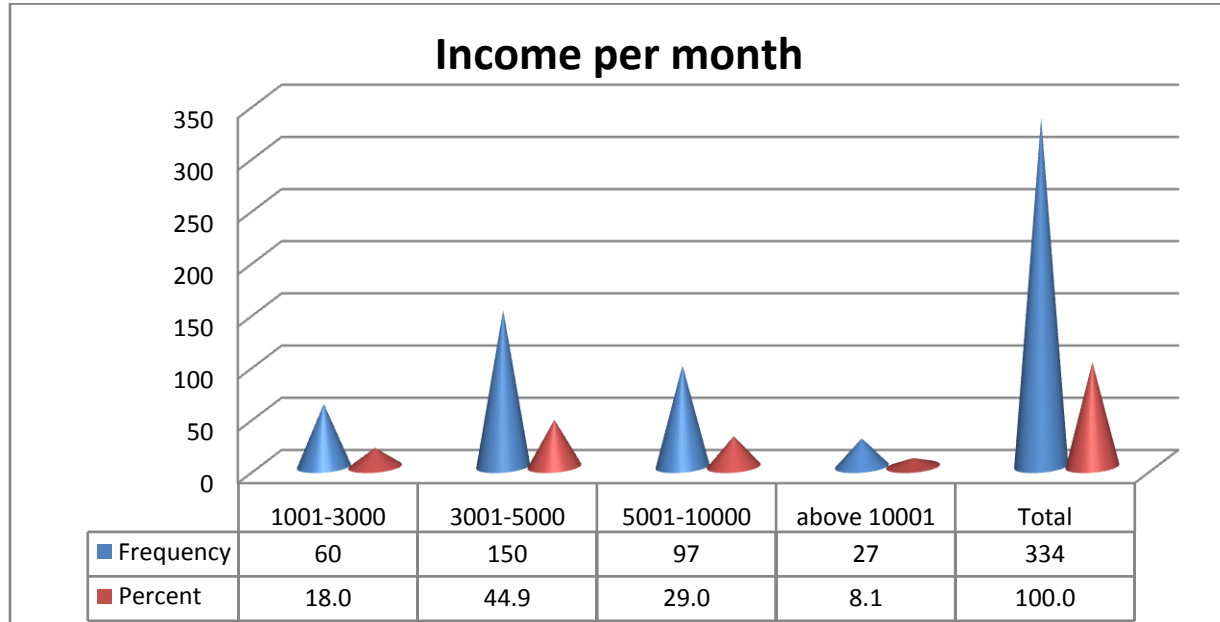
Source: Survey Result (2014)

Fig 4.4 Occupation of respondent's

When we look at the occupation of the respondents the majority of them with a 95.5% are salaried workers, 3.6% are self-employed and 0.3% is students. This means, the majority of the respondents are salaried workers. Therefore, the employees could be more beneficiaries from this type of service in withdrawing their salary any time as the need for cash arises.

4.7 Respondent's income per month.

The upcoming figure describes the amount of money these respondents earn per month.



Source: Survey Result (2014)

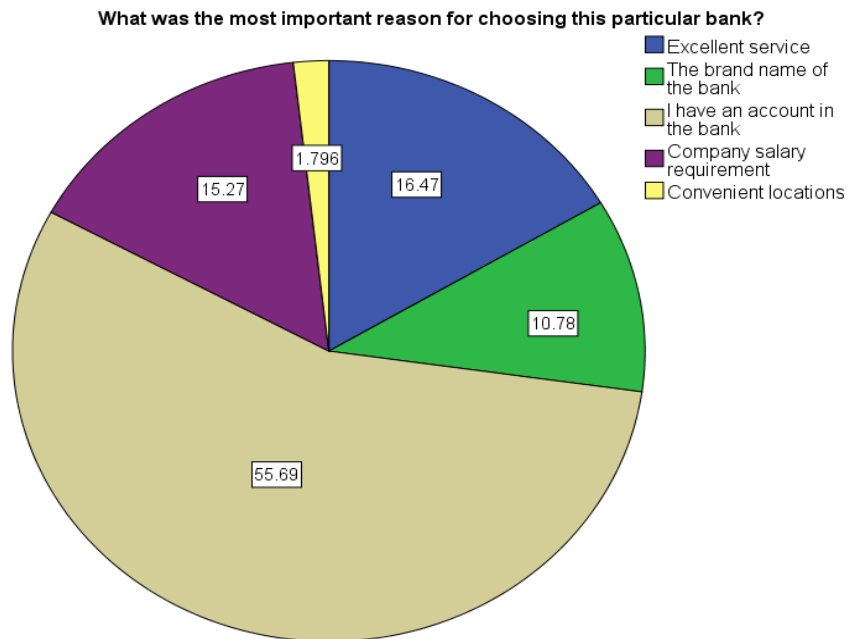
Fig 4.5 Income per month of respondents

The respondent's income per month (ETB) is dominated by 3001-5000 with 44.9%, 5001-10000 with 29% followed by 18% and 8.1% for 1001-3000 and above 10001 respectively. Most of the respondents have a degree level of education and are salaried workers earning around 3001-5000 ETB monthly.

From the entire demographics we can conclude that most of the respondents are young males between the ages of 26-30 who are educated and currently being employed by their respective organizations earning between 30001- 5000 ETB per month.

4.8 Respondents reason for choosing CBE ATM's

The following figure shows the reason behind why the respondents chose this particular bank ATM services. This is demonstrated by the chart below. This part of the questionnaire was included in part one but can't be analyzed as a demographic factor; therefore it is being analyzed separately. This is done for this question as well as respondent's usage rate and the type of account they possess in CBE.



Source: Survey Result (2014)

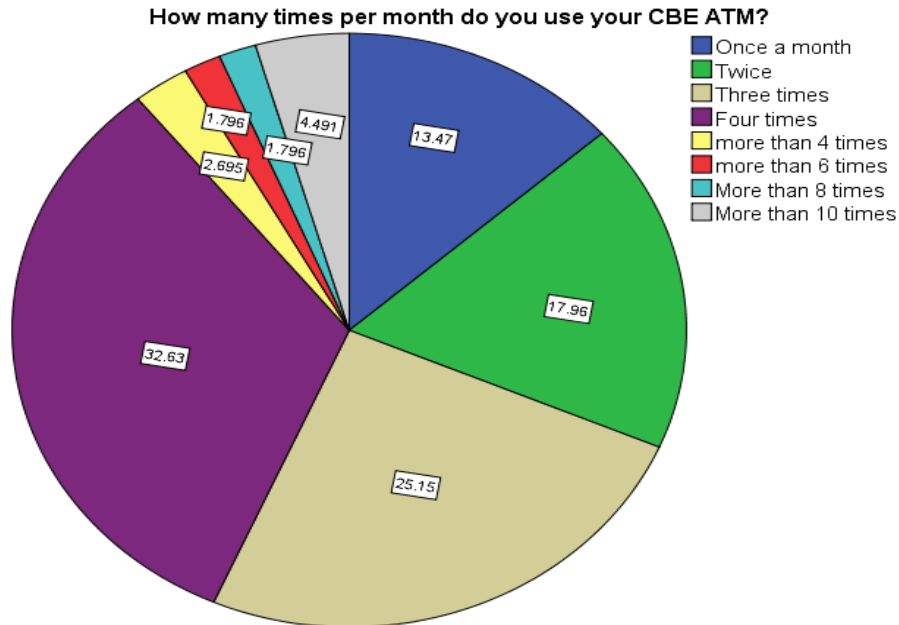
Fig 4.6 Reason for choosing CBE ATM service.

From figure 4.6 one can see that 55.69% of the respondents chose this bank because they already have an account in the bank; 16.7% of respondents replied because of the banks excellent service; 15.27% because salary payment facilitation and 1.79% convenient location respectively. Furthermore, the respondents add salary payment and convenience reasons other than the pre-stated possible reasons by the researcher even if they are counted lesser than the pre-determined

items. Therefore, long term relationship as a user of the bank service results loyalty and retention of customer.

4.9 Respondents usage rate of ATMs per month.

The following figure shows how many times per month the respondents use their ATM cards.



Source: Survey Result (2014)

Fig 4.7 Usage rate per month.

Figure 4.7 shows that 32.6% of the respondents use the ATM four times a month while 25.15% of the respondents use their ATM cards three times a month. 17.96% indicate they use the ATMs twice a month. 13.47% use the ATM once a month while rest of the respondents that use the ATM more than 10 times, more than 8 times, more than 6 times and more than 4 times hold 4.49%, 1.76%, 1.76% and 2.695% respectively. The answers of more than 4, 6, 8, and 10 times were chosen by the respondents where there was an option for them to write how many times per month they use CBE ATMs even if it was not specified in the choices of the question. This shows there is a healthy use of CBE ATMs by the respondents since it is dominated by respondents who use it four times a month, there is also a section of the respondents who say they use it more than four times a month. This means that the respondents are well experienced

with the ATM service that is available and since they use it this often they can also experience when the service experience does not go as planned or fails. This shows that the respondents are in a good position to judge the current level of the ATM service quality. This shows that CBE customers are using the ATM service often and this leads to cost reduction and satisfying the need of its customers to get cash quickly without going directly to the branches.

4.10 The type of account respondents possess in CBE.

The following table describes the type of account the respondents hold in CBE with respect to their ATM cards.

Table 4.1 The type of account the respondents possess in CBE

Items	Frequency	Percent	Valid Percent	Cumulative Percent
Saving account	271	81.1	81.1	81.1
Women account	9	2.7	2.7	83.8
Current account	51	15.3	15.3	99.1
Youth account	3	.9	.9	100.0
Total	334	100.0	100.0	

Source: Survey Result (2014)

We can observe that the overwhelming majority of the respondents possess a saving account as seen by the 81.1% they hold. 15.3% possess a current account. The remaining are those who own a woman account and youth account whose respondents percentages are 2.7% and 0.9% respectively. This result concurs with those who said they chose the bank's ATM service because they already had an account in the bank and also indicates that they are salaried workers, the type of bank account they have is dominated with a saving account.

4.11 ATM service quality dimensions

In order to analyze the service quality of CBE ATMs six dimensions were chosen. In these six dimensions 28 items were used in order to appropriately analyze the chosen dimensions. The analysis that is structured into two parts as presented below. The first part will include an analysis of the 28 items under the six main dimensions. The second part includes an analysis of

the overall six dimensions which are reliability, responsiveness, ease of use, convenience, fulfillment and security. The result in each part of the analysis is discussed below.

4.11.1 Analysis of each item in the service quality dimensions.

Analysis of each of the six service quality dimensions is discussed below regarding to every item of each service quality dimension. The highest and the lowest mean scores will be identified and presented with regard to every item of each service quality dimensions.

a. Analysis of Reliability

The reliability dimension holds within it four items which indicate CBE ATM's functionality, accuracy and consistency, availability of cash and availability of network connection. The customer's responses to the questions of reliability are analyzed below in table 4.2

Table 4.2 Analysis of Reliability

Items	N	Mean	Std. Deviation
CBE ATM functions all the time	334	2.46	1.105
CBE ATM provides accurate and consistent services	334	2.93	1.118
There is available cash in the CBE ATM at any time	334	2.71	1.089
CBE ATM network is available at any time	334	2.24	.843

Source: Survey Result (2014)

As table 4.2 illustrates, customer's response to the item CBE ATMs provide accurate and consistent services mean scored (2.93) which is the highest in this dimension. The lowest mean is scored by the item CBE network available at any time which shows with a lowest mean score of (2.24). The table shows that the respondents perceived all the items in the reliability dimension were not met. Therefore, this needs due attention by the bank in order to perform the service consistently with what it communicate to the users.

b. Analysis of Responsiveness

The second service quality dimension to be analyzed is responsiveness, this dimension also includes four items which indicate about the availability of a contact person when a problem arises with the ATM, the speed with which the ATMs are fixed, how quickly ATM cards are replaced when they are lost or misplaced and the recovery speed of the ATMs when there is an error or failure. Customer's responses regarding these questions are presented in the table below.

Table 4.3 Analysis of Responsiveness

Items	N	Mean	Std. Deviation
ATM contact person is available for redress of problem	334	2.85	1.107
Breakdown of CBE ATMs are fixed promptly	334	2.86	.955
CBE ATM cards are promptly replaced	334	2.90	1.023
Recovery speed while there is failure in ATMs is fast	334	2.76	.972

Source: Survey Result (2014)

From the above four items of responsiveness dimension shown on table 4.3, customers stated CBE ATMs being replaced promptly with a mean score of (2.90). Customer's response to the item ATM contact person is available for redress of any ATM issues and CBE ATMs are not fixed promptly when they break down, scored a mean of (2.85) and (2.86) respectively which are the lowest scores respective of the responsiveness dimension. We can observe that even though customers slightly agree that their cards are being replaced promptly they slightly disagree that the recovery speed of the ATM is fast enough, breakdowns are not fixed promptly and ATM contact person is not always available. This indicates that the overall perception of the customer on this particular dimension is moderate. Therefore, CBE should review its responsiveness service dimension because the customer's perception on responsiveness of the service needs to be strong since it is one of the ways in which an organization can differentiate its self from its competitors which leads to having a competitive advantage over competitors.

c. Analysis of Ease of Use

The following illustrates the dimension of ease of use and it is an indicator of how easy CBE ATM is to use and understand. The variable includes items like, how easy the CBE ATM instructions are, how simple and clear the language it use to communicate with users, if it provides education and direction of usage, the way it calculates any charge is clear and how its instructions enable customers to feel in control during a transaction. Table 4.4 presents customers response to the stated items when they use the CBE ATMs.

Table 4.4 Analysis of Ease of Use

Items	N	Mean	Std. Deviation
CBE ATMs are easy to use for transactions	334	4.16	.897
The CBE ATM uses simple and clear language	334	4.33	.713
CBE ATM provides graphics and adverts of bank services	334	4.00	.840
CBE ATM provides education and direction of usage	334	3.56	1.049
The way the CBE ATM machine/system calculates charges is clear	334	3.53	1.117
The CBE ATM instructions enable me to feel in control during a transaction	334	3.68	.864

Source: Survey Result (2014)

Regarding items of easiness to use the service, it can clearly be seen that customers agreed that CBE ATM uses simple and clear language with a mean score of (4.33), the way in which the CBE ATMs calculate charge is clear scored (3.53). This is closely followed by customer's response to the item "CBE ATM provides education and direction of usage." with a mean score of (3.56). This shows that within the easiness of use of service dimension most of the respondents have shown an agreement with all the items. Customers find that the ATM is easy from the simple and clear language it use to the clarity of the way it calculates charge. This means that customers find the ATMs as a hassle free medium that is simple and easy to use and understand which means they are happy with the ease of use of the ATM in general when they conduct their transactions. Hence, this leads to repeat usage and positive word of mouth of how

easy and simple the ATM is. This is a good advantage to relieve the frustrations because ATMs are relatively new technology for our country and new customers might fear using one for it being too complicated to operate.

d. Analysis of Convenience

One of the illustrated dimensions of the study is convenience. This dimensions items address the issues of ATMs being located in a convenient area, if the number of ATM stations in the area of the respondent's residence are adequate enough and if ATM waiting line in order to use the machine is acceptable. The table below presents customers response towards the three items of convenience.

Table 4.5 Analysis of Convenience

Items	N	Mean	Std. Deviation
CBE ATMs are conveniently located	334	3.54	1.092
There are adequate number of CBE ATM stations in the area I am living	334	3.18	1.332
CBE ATM waiting time is acceptable	334	3.66	1.020

Source: Survey Result (2014)

In Table 4.5 customers of CBE ATMs responded by giving the items of CBE ATMs waiting line time is acceptable with a highest mean of (3.66) from the given items. While CBE ATMs are conveniently located scored (3.54) and the number of ATM stations as being adequate in the area they are living in scored the lowest mean score as per the convenience dimension with (3.18). The respondents agreed with all the items in the convenience dimension though it was not a vast majority in the item there are adequate number of ATM stations where the customer is living. Customers expect e- banking type of services like ATMs to be available when and where they want to use them. The respondents were overall slightly agreed with the items of convenience of the ATMs and waiting time when they want to use them. This indicates that there are unsatisfied needs and they believe that CBE should install more ATMs in residential areas. Hence, CBE should conduct further study which can help it to find potential areas where there is high demand for ATMs in residential areas. This may lead its customers to become satisfied in terms of the

convenience level, and this leads to them becoming more loyal and in turn increase revenue since they might not change banks if CBE has more convenient locations than its competitors.

e. Analysis of fulfillment

The fulfillment dimension holds six items which try to explain if the amount of cash to be withdrawn within a day is adequate; fairness of the charges for the service; speed of the service; quality of the bank notes, denomination types for the money and transaction printing available for the customers. These items are analyzed in mean terms and presented in the table below.

Table 4.6 Analysis of Fulfillment

Item	N	Mean	Std. Deviation
Amount of cash limit to be withdrawn in a day is adequate	334	3.50	1.033
CBE ATM gives quality bank notes	334	3.69	1.042
The amount of charge paid on each transaction/amount is fair	334	3.72	1.028
CBE ATM provides fast services	334	3.74	1.048
All money denominations types are available	334	2.51	1.065
Transaction printing is available	334	3.10	1.253

Source: Survey Result (2014)

From the six items of fulfillment in table 4.6 it is clearly visible that two items or variables are the ones that the respondents mostly agree on. The questions asked were related to fast service of CBE ATM, the fairness of the charge for each transaction and the mean scores of (3.74) and (3.72) respectively. This shows that customers slightly agreed that CBE ATM provides fast services and the amount of charge for each transaction/amount is fair. On the other hand, they slightly disagree that all money denomination types are available with a mean score of (2.51). This indicate that the respondents were over all a little happy with most of the fulfillment dimensions as compared to all money denomination types such as 50, 10, 5 and 1 ETB being available. Customers want to choose in which denominations they want to receive the amount of money they want. Therefore, CBE should try to install a system where customers can choose which denominations they want.

f. Security

The security dimension is last on the list of dimensions that were asked on the questionnaire and this particular dimension has five items. The security dimension tries to assess the issues like: are CBE ATM machines locations in a highly secured place, is there customer discipline on CBE ATM locations, do customers feel safe during CBE ATM transactions, do customers trust CBE to handle their personal information and do they feel secure that no one else can see them when they enter their secret pin numbers into the CBE ATMs. The following table will present the analysis of these items in terms of mean scores.

Table 4.7 Analysis of Security

Items	N	Mean	Std. Deviation
CBE ATM machine locations are highly secured	334	3.59	1.089
There is customer discipline on CBE ATM locations	334	3.71	.938
I feel safe during CBE ATM transactions.	334	3.60	1.028
I trust CBE to handle my personal information	334	3.95	.794
I feel secure that no one else can see my pin when I use my CBE ATM.	334	3.68	1.102

Source: Survey Results (2014)

Table 4.7 indicates that customers agreed with the statement "I trust CBE to handle my personal information" within the security dimension with a mean score of (3.95). customers belief in the following items of CBE ATM machine locations are highly secured and they feel safe during CBE ATM transactions both ranked low with respect of the security dimension by scoring (3.59) and (3.60) respectively. In this dimension most of the respondents agreed with all the items in the security dimension. This means that customers feel safe from fraud and theft during ATM transactions and they feel safe in the fact that CBE can handle their personal ATM information from harm. This is a good result for CBE in a time when people around the world feel that their personal information is not safe because of some high profile personal information thefts heard about in the news. Therefore this kind of positive perception of security service leads to positive word of mouth and loyalty.

4.11.2 Analysis of all the service quality dimensions

In the previous section customers responses to the six ATM service quality dimension items were presented and analyzed in the form of mean scores. In this section customer responses to the six overall service quality dimensions in general will be presented and analyzed. The mean score of each of the 28 items were computed and converted to their respective dimensions.

The following table presents the summarized mean score of the six ATM service quality dimensions. The table includes the mean, standard deviation and interpretation of mean scores of the six main ATM service quality dimensions.

Table 4.8 Analysis of the six ATM service quality dimensions

Variables	N	Mean	Std. Deviation
Reliability	334	2.5846	.83004
Responsiveness	334	2.8436	.76844
Ease of use	334	3.8762	.55569
Convenience	334	3.4611	.92512
Fulfillment	334	3.3757	.68939
Security	334	3.7048	.71579

Source: Survey Result (2014)

Table 4.8 depicts that the ease of use dimension scored the highest from the six dimensions of ATM service quality perception with a mean score of (3.88). This means that most of the respondents agreed with that CBE ATMs use clear and simple language and CBE ATMs are easy to use for transactions. The second place score is recorded by the security dimension with a mean score of (3.70). This indicates most of the respondents have shown their agreement in CBE handling their personal information and that they believe there is customer discipline on CBE ATM locations.

The third and fourth scores came from the dimensions of convenience and fulfillment with mean scores of (3.46) and (3.37). The lowest scores came from the responsiveness and reliability dimensions respectively with mean scores of (2.84) and (2.58). This indicates customers moderate disagreement with the items inside the dimensions relating to responsiveness such as

ATM contact person being available for redress of problems and breakdown of ATMs are fixed promptly and others inside the responsiveness dimension.

In the reliability dimension respondents did not agree with items such as: ATM network being available all the time and CBE ATMs functioning all the time and the rest of the items as well. We can conclude that ease of use scored the highest in the customers perception of the ATM service while the lowest scores were responsiveness and reliability on customers perception relating to the ATM services respectively.

Therefore, CBE needs to re-evaluate the above aformentioned two dimensions and as a whole such as security, convenience and fullfilment, in order to find out the best methods and to improve contoinuously to make its customers happy and increase their positive perception towards its ATM service. If these areas of reliability and responsivess are not quickly adressed it may cause widespread negative word of mouth. In this highly competitive enviroment customers may switch to another bank and hamper the banks sustainablity and profitability in the longterm.

4.12 Analysis of overall customer satisfaction

In order to determine the level of customer satisfaction with the services provided by CBE ATMs, respondents were asked to rate their overall level of satisfaction using a 5 point likert scale. The level of customer satisfaction was analyzed with descriptive statistics (frequency distribution) this can be seen in table 4.9

Table 4.9 overall customer satisfaction levels.

Alternatives	Frequency	Percent	Valid Percent	Cumulative Percent
Highly dissatisfied	21	6.3	6.3	6.3
Dissatisfied	60	18.0	18.0	24.3
Neutral	63	18.9	18.9	43.1
Satisfied	171	51.2	51.2	94.3
Highly satisfied	19	5.7	5.7	100.0
Total	334	100.0	100.0	

Source: Survey Result (2014)

The results indicate that 51.2% of the respondents are satisfied with the overall service of CBE ATMs while 18% of the respondents indicate that they are dissatisfied. 5.7% are highly satisfied and 6.3% say they are highly dissatisfied. The remaining 18.9% rated their level of satisfaction as being neutral. Though most of the respondents are satisfied there are also those who are dissatisfied and those who fell neutral towards the ATM service, Therefore CBE should exert effort to improve continuously its service quality by hiring competent workforce, training for the existing employees, and rewards to provide adequate service.

4.13 Relationship between service quality dimensions and customer satisfaction through Correlation analysis

Correlation analysis deals with relationships among variables and helps to gain sight into the direction and strength of relation between the variables. Correlation coefficients take values between -1 and 1 these have the following meanings: -1 = negatively correlated, 0 = uncorrelated and 1 = positively correlated. The sign of the correlation coefficient defines the direction of the relationship. The absolute value indicates the strength of the correlation.

Dancey and Reidy (2004) state that a correlation result which is 0 indicates zero correlation, a result which is between 0.1 and 0.3 indicates a weak correlation among variables, a result which is between 0.4 and 0.6 shows a moderate correlation, a result between 0.7 and 0.9 indicates a strong correlation among variables, while a result which is equal to 1 indicates perfect correlation.

In order to assess the relationship between the 28 items with overall customer satisfaction as well as the main six ATM service quality dimensions with customer satisfaction, correlation analysis was conducted.

4.13.1 Correlation analysis between items of ATM service quality dimensions and customer satisfaction

The correlation between each items of service quality found in the six main ATM service quality dimensions is analyzed and presented below. In order to conserve space and bring about a better understanding of the presented results, the tables have been edited. For the full presentation of all the correlation tables appendix b can be inferred.

a. Correlation between items of reliability and customer satisfaction

The nature of relation between customer satisfaction and the four items of reliability which deal with CBE ATMs functionality, accuracy and consistency, availability of cash and ATM network availability are analyzed and presented in the table below.

Table 4.10 Correlation between items of reliability and customer satisfaction

Items	CBE ATM functions all the time	CBE ATM provides accurate and consistent services	There is available cash in the CBE ATM at any time	CBE ATM network is available at any time	Customer Satisfaction
CBE ATM functions all the time	1				
CBE ATM provides accurate and consistent services	.578**	1			
There is available cash in the CBE ATM at any time	.508**	.418**	1		
CBE ATM network is available at any time	.442**	.555**	.603**	1	
Customer Satisfaction	.639**	.624**	.553**	.595**	1

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

Source: Survey Result (2014)

As shown above in table 4.10, there exists a positive and moderate relationship with all reliability items and customer satisfaction which is also highly significant (P=0.000). CBE ATM being functional all the time and providing accurate and consistent services show a better correlation with customer satisfaction from the rest of the items and this can be seen by their respective correlation coefficients (0.693) and (0.624) within the reliability dimension.

The correlation of the four items of reliability dimension and customer satisfaction is moderate even if the relationship between network and cash availability with customer satisfaction score the lowest results of (0.553) and (0.595) respectively. Therefore since the aim of any organization is the satisfaction of its customers CBE needs to make its ATMs function all the time and provide accurate and consistent service in order to increase its customers satisfaction which leads to loyalty and increase in revenue.

b. Correlation results between items of responsiveness and customer satisfaction

The relation between items of responsiveness which deal with issues such as the availability of ATM contact person, the speed with which breakdown of ATMs are fixed, how quickly ATM cards are replaced and the recovery speed of the ATMs when there is a failure with customer satisfaction are analyzed using correlation and presented in table 4.11

Table 4.11 Correlation between items of responsiveness and customer satisfaction

Items	ATM contact person is available for redress of problem	Breakdown of CBE ATMs are fixed promptly	CBE ATM cards are promptly replaced	Recovery speed while there is failure in ATMs is fast	Customer satisfaction
ATM contact person is available for redress of problem	1				
Breakdown of CBE ATMs are fixed promptly	.384 ^{**}	1			
CBE ATM cards are promptly replaced	.308 ^{**}	.662 ^{**}	1		
Recovery speed while there is failure in ATMs is fast	.316 ^{**}	.475 ^{**}	.480 ^{**}	1	
Customer satisfaction	.546 ^{**}	.583 ^{**}	.564 ^{**}	.634 ^{**}	1

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

Source: Survey Result (2014)

In the table 4.11 we can see that there is a positive and moderate relation between all four items of responsiveness and customer satisfaction. The strongest relationship is the item which deals with recovery speed when there is failure which has a correlation coefficient of (0.634). The second place relation with customer satisfaction is breakdown of ATMs being fixed promptly with a result of (0.583). The weakest relation is seen between the items which deal with ATM cards being replaced promptly and availability of ATM contact person with customer satisfaction which have correlation coefficients of (0.564) and (0.546) respectively. This implies that

recovery speed and breakdown of ATMs should be improved to satisfy customers since it is a key player to repeat purchase and greater market share.

c. Correlation results between items of ease of use and customer satisfaction

Table 4.12 illustrates the nature of relationships between items of ease of use which deal with the overall ease by which customers can operate the ATMs and customer satisfaction. The ease of use dimension consists of six items. In Table 4.12 the items under ease of use were too many and took too much space for the entire statements to be written, so, the items have been given a short name of "E" corresponding with each of the items respectively. Therefore E1= CBE ATMs are easy to use for transactions, E2= The CBE ATM uses simple and clear language, E3= CBE ATM provides graphics and advertises bank services, E4= CBE ATM provides education and direction of usage, E5= The way the CBE ATM machine/system calculates charges is clear, and E6= The CBE ATM instructions enable me to feel in control during a transaction

Table 4.12 Correlation between items of ease of use and customer satisfaction

Items	CBE ATMs are easy to use for transactions (E1)	The CBE ATM uses simple and clear language (E2)	CBE ATM provides graphics and advertises bank services (E3)	CBE ATM provides education and direction of usage (E4)	The way the CBE ATM machine/system calculates charges is clear (E5)	The CBE ATM instructions enable me to feel in control during a transaction (E6)	Customer satisfaction
E1	1						
E2	.455**	1					
E3	.260**	.312**	1				
E4	.252**	.099	.220**	1			
E5	.207**	.062	.197**	.502**	1		
E6	.258**	.102	.094	.226**	.266**	1	
Customer Satisfaction	.454**	.298**	.296**	.441**	.436**	.371**	1

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

Source: Survey Result (2014)

Table 4.12 which shows the relation of ease of use items and customer satisfaction, it illustrates there is a positive and significant relationship between the above items and customer satisfaction. The strongest relation is observed with the item "CBE ATMs are easy to use for transactions" and customer satisfaction with a (0.454) coefficient. This shows a moderate correlation. The weakest correlation in this dimension is in items E6, E2 and E3 which have coefficients of (0.371), (0.298), and (0.296) respectively. Therefore, the easier the ATMs become for customers to use the higher the customer satisfaction.

d. Correlation between items of convenience and customer satisfaction

The nature of relation between items of convenience such as placement of ATMs at convenient locations, availability of adequate number of ATMs in the area where the respondent is living in and the acceptability of ATM waiting line with customer satisfaction are presented in the following table.

Table 4.13 Correlation between items of convenience and customer satisfaction

Items	CBE ATMs are conveniently located	There are adequate number of CBE ATM stations in the area I am living	CBE ATM waiting line time is acceptable	Customer satisfaction
CBE ATMs are conveniently located	1			
There are adequate number of CBE ATM stations in the area I am living	.580 ^{**}	1		
CBE ATM waiting time is acceptable	.446 ^{**}	.373 ^{**}	1	
Customer satisfaction	.608 ^{**}	.497 ^{**}	.524 ^{**}	1

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

Source: Survey Result (2014)

There is a significant, moderate and positive relation with all of the three items of convenience and customer satisfaction. The strongest relationship is between convenience of the location and

customer satisfaction (0.608) followed by the waiting time and customer satisfaction (0.524). The weaker of the relations is that of adequate number of ATM stations being located in the area where the customer lives and customer satisfaction which has a coefficient of (0.497). This implies that if the number of convenient location of ATMs is increased, the level of customers' satisfaction will most certainly increase. Therefore, CBE should wisely increase the number of its ATM locations in order to increase its customers satisfaction and if its ATM locations are more than that of competitors the more likely it will retain its customers.

e. Correlation between items of fulfillment and customer satisfaction

The nature of correlation between the six items of the fulfillment dimension and customer satisfaction is presented below. The items in fulfillment range from issues dealing with the limit on the amount of cash to be withdrawn in a day to the availability of transaction printing. The same logic applies to the naming of the items in this table as it did on table 4.12

Table 4.14 Correlation between items of fulfillment and customer satisfaction

Items	Amount of cash limit to be withdrawn in a day is adequate (F1)	CBE ATM gives quality bank notes (F2)	The amount of charge paid on each transaction/ amount is fair (F3)	CBE ATM provides fast services (F4)	All money denominations types are available (F6)	Transaction printing is available (F7)	Customer Satisfaction
F1	1						
F2	.226 ^{**}	1					
F3	.250 ^{**}	.542 ^{**}	1				
F4	.216 ^{**}	.350 ^{**}	.495 ^{**}	1			
F5	.078	.274 ^{**}	.298 ^{**}	.393 ^{**}	1		
F6	.056	.207 ^{**}	.355 ^{**}	.284 ^{**}	.362 ^{**}	1	
Customer Satisfaction	.342 ^{**}	.522 ^{**}	.631 ^{**}	.629 ^{**}	.453 ^{**}	.479 ^{**}	1

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

Source: Survey Result (2014)

From the correlation of fulfillment and customer satisfaction in table 4.14, it is illustrated that there is a positive and highly significant relation between items of fulfillment and customer satisfaction. Almost all the items have a moderate relation with customer satisfaction except in F1 (0.342) which relates to the item "Amount of cash limit to be withdrawn in a day is adequate" where the relation is considered to be weak.

The strongest relation is found in items F3 and F4 with coefficients of (0.631) and (0.629) respectively regarding the items of "The amount of charge paid on each transaction/amount is fair" and "CBE ATM provides fast services", this result shows that if CBE decreases the amount paid on each transaction and it increases the speed by which the ATMs give fast service then customer satisfaction will increase significantly.

Since customers expect the use of e - banking services to be very cheap or free and very quick, they want to put their card in and get the amount of money they want as fast as possible. Therefore decreasing the amount of charge and increasing the speed of the ATMs will lead to customer satisfaction and this will ultimately lead to higher retention rates, loyalty and profitability.

f. Correlation between items of security and customer satisfaction

The relationship between items of security which include: locations of ATMs being secured, customers discipline on ATM locations, if the customers feel safe during ATM transactions, customers trust in CBE to handle their personal information and how secure they feel that no one else can see them when they enter their pin into the ATM machines are related with customer satisfaction in the table below.

Table 4.15 Correlation between items of security and customer satisfaction

Items	CBE ATM machine locations are highly secured	There is customer discipline on CBE ATM locations	I feel safe during CBE ATM transactions.	I trust CBE to handle my personal information	I feel secure that no one else can see my pin when I use my CBE ATM.	Customer satisfaction
CBE ATM machine locations are highly secured	1					
There is customer discipline on CBE ATM locations	.431**	1				
I feel safe during CBE ATM transactions.	.587**	.506**	1			
I trust CBE to handle my personal information	.240**	.117*	.287**	1		
I feel secure that no one else can see my pin when I use my CBE ATM.	.471**	.338**	.533**	.324**	1	
Customer satisfaction	.542**	.308**	.543**	.600**	.456**	1

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

Source: Survey Result (2014)

In table 4.15 there is a positive and significant relationship between the five items of security and customer satisfaction with all the items scoring 0.308 and above in the correlation table. The strongest relation is seen between the item dealing with "I trust CBE to handle my personal information" and customer satisfaction. The weakest of the moderate relations is between the items "There is customer discipline on CBE ATM locations" and customer satisfaction with a score of 0.308. Therefore if CBE increases the way it keeps customers personal info confidential and avoids security breaches the higher customer's satisfaction will be. This as mentioned before is essential because customers do not want their personal ATM information at risk of fraud

which might lead to them losing a lot of money. Therefore, CBE needs to keep on increasing the safeguards by which it protects its customer's information because it leads to higher customer satisfaction and this eventually leads to positive word of mouth and customer loyalty.

4.13.2 Correlation analysis between the six service quality dimensions and customer satisfaction.

In the previous part we have seen that all of items have a positive and statistically significant relationship with customer satisfaction although the strength of their relationship varies across the different items of service quality dimensions. In this part the relationship between each of the six service quality dimensions and customer satisfaction is presented below.

Table 4.16 Correlation result of service quality dimensions and customer satisfaction

Variables	Reliability	Responsiveness	Ease of use	Convenience	Fulfillment	Security	Customer satisfaction
Reliability	1						
Responsiveness	.678**	1					
Ease of use	.355**	.457**	1				
Convenience	.359**	.318**	.255*	1			
Fulfillment	.452**	.464**	.523*	.479**	1		
Security	.341**	.377**	.378*	.309**	.570**	1	
Customer satisfaction	.756**	.766**	.642*	.670**	.795**	.675**	1

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

Source: Survey Result (2014)

It is clearly illustrated that there is a significant and positive relationship between all six dimensions of service quality and customer satisfaction. The strongest correlation is found between the fulfillment dimension and customer satisfaction (0.795). This result is closely followed by responsiveness and reliability with (0.766) and (0.756) respectively. The remaining 3 dimensions scored (0.675) and above. The strongest relationship in the remaining three dimensions is seen between security and customer satisfaction (0.675). The rest of the dimensions namely convenience and ease of use scored (0.670) and (0.642) respectively.

4.14 The hypothesis of the research analysis

H1: Reliability has a significant and positive relationship with customer satisfaction.

In the correlation analysis of the six service dimensions with customer satisfaction, it can be seen that the correlation value of reliability is 0.756**. The analysis also shows that the p value is 0.000, which is less than 0.01. With this regard the hypothesis is supported, and the relation between the two variables is strong ($r = 0.756^{**}$) in the case of CBE ATM users.

H2: Responsiveness has a significant and positive relationship with customer satisfaction.

From the correlation analysis it can be seen that the correlation valued of responsiveness is 0.766**. It can also be seen that the p value is 0.000, which is less than 0.01. In this regard the hypothesis is supported, and the relation between the two variables is strong ($r = 0.766^{**}$) with the case of CBE ATM users.

H3: Ease of use has a significant and positive relationship with customer satisfaction.

In the correlation analysis table it is illustrated that the correlation value of ease of use dimension scored 0.642**. From the same table we can see that the p value is 0.000, which is less than 0.01. Therefore, the hypothesis is supported, and the relation between the variables of ease of use and customer satisfaction is moderate ($r = 0.642^{**}$) in the case of CBE ATM users.

H4: Convenience has a significant and positive relationship with customer satisfaction.

From table 4.16 we can observe that the correlation result of the fulfillment dimension is 0.670**. We can also observe that the p value is 0.000, which is less than 0.01. This implies that the hypothesis is supported, and the relation between fulfillment and customer satisfaction is moderate and significant ($r = 0.670^{**}$) in the case of CBE ATM users.

H5: Fulfillment has a significant and positive relationship with customer satisfaction.

There is a positive relationship between fulfillment and customer satisfaction of CBE ATM users. In the correlation table of all the service dimensions, it can be seen that the correlation of fulfillment is 0.795** and the significance level is 0.01. The analysis shows that the p value is 0.000 which is less than 0.01. Therefore, the hypothesis is supported and that there is a strong positive ($r = 0.795^{**}$) relationship between fulfillment and customer satisfaction.

H6: Security has a significant and positive relationship with customer satisfaction.

There is a positive relationship between the security dimension and customer satisfaction of CBE ATM users. In the correlation analysis of table 4.16, it is illustrated that the correlation of security is 0.675** and the significance level is 0.01. From the same table it can be seen that the p value is 0.000 which is less than 0.01. Therefore, the hypothesis is supported, and it can be concluded that there is a medium and positive ($r = 0.675^{**}$) relationship between security and customer satisfaction.

Table 4.17 Hypothesis results based on correlation analysis

Hypothesis	Independent variables	Correlation value	Dependent variable	Result
H1	Reliability	0.756**	Customer Satisfaction	Supports
H2	Responsiveness	0.766**	Customer Satisfaction	Supports
H3	Ease of use	0.642**	Customer Satisfaction	Supports
H4	Convenience	0.670**	Customer Satisfaction	Supports
H5	Fulfillment	0.795**	Customer Satisfaction	Supports
H6	Security	0.675**	Customer Satisfaction	Supports

Source: Survey Result (2014)

Table 4.17 shows the variables that were tested by correlation analysis and the finding of the test supports that each of the above mentioned service quality dimensions have a positive and significant relationship with customer satisfaction.

Since there is a positive correlation between all the service quality dimensions and customer satisfaction, it is possible to state that the better the CBE ATM service quality the higher customer satisfaction becomes. Since there is a moderate and significant relationship with the all the service dimension CBE should always be looking for ways to improve and build on its ATM service dimensions since they have a positive and moderate relationship with customer satisfaction, and in this day and age the Ethiopian banking industry is highly competitive with many players offering similar ATM services, keeping customers satisfied is a primary objective. The more customers are satisfied with the ATM services of CBE the more chances for any successful organization to stay competent and in front of its competitors which leads to sustainability.

CHAPTER FIVE

SUMMARY FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Introduction

The final chapter of the study includes the conclusion and recommendation of the study. The first part covers the summary of findings which was obtained while answering the research questions is presented in the conclusion part. Based on these findings the proposed recommendation is presented. Finally, limitations and further area of study are presented.

5.1 Summary findings

The following are the findings of the study, which were obtained while answering the research questions:

One of the primary objectives of this study was to find out the current overall level of customer satisfaction with CBE ATM service. To fulfill the objectives, users of ATM card with different demographic profile were involved in providing items of information. Accordingly, the majority of respondent was dominated by males accounting for 71% of the respondents. Most of the respondents were young in the age range of 26-30 years old with a 45.8% of the total respondents followed by those who are between the ages of 18-25. This shows that respondents are mostly made up of young males. The largest amount of respondents had a degree level of education who are salaried workers earning 3001-5000 ETB per month with 75.7% and 95.5% and 44.9% of the entire respondents, respectively.. The reason the majority of these customers chose to use CBE ATM service is because they already had an account in the bank and most of them use their ATM cards four times a month, percentage wise these can be seen as 55.69% and 33.6% respectively. The type of account they had in CBE was a saving account with a majority of 81.1% of the respondents. This means that the majority of the respondents are male salaried workers who earn 3001-5000 ETB per month use their ATM cards for quick cash withdrawals when the need arises.

The highest dimension in customer's perception of the ATM service is the ease of use dimension followed by security with mean scores of (3.87), (3.70) respectively. This means that customers perceive the ATMs as being easy to operate and understand during their transactions. The second one is security which is related to how safe the ATM is from fraud and the personal security of the users when they are operating the machine which they stated with their agreement with its items. The third is the convenience dimension which is related with how close the ATM is from the customer's point of view when they want to do a transaction; in this dimension customers slightly agreed with a mean score of (3.46) which shows an unsatisfied need that CBE needs to install more ATM around the residential areas. The fourth rated perception of the ATM service is the fulfillment dimension with a mean score of (3.37). In this dimension respondents were a little happy as compared to their response that the ATMs should have all denomination types. This means CBE should come up with a system in which customers can choose in which denominations they want their cash to be. The fifth placed dimension in customers perception is responsiveness (2.84). In this dimension customers believe that items such as the speed with which breakdown of ATMs are fixed, availability of ATM contact person and the recovery speed of the ATMs should be improved. The last placed dimensions in customers perception of the ATM service is reliability with a mean score of (2.58). Customers slightly disagreed with all the items in this dimension which means CBE should give proper attention and carefully review its ATM service in this area so that it can consistently perform to the customers standards.

The respondents overall satisfaction with the ATM service is as follows. 51.2% of the respondents are satisfied with the overall service of CBE ATMs while 18% of the respondents indicate that they are dissatisfied. 5.7% are highly satisfied and 6.3% say they are highly dissatisfied. The remaining 18.9% rated their level of satisfaction as being neutral. Also 18.9% of the respondents were neutral towards the ATM service. This shows that most of the respondents are satisfied with the overall service of CBE ATMs even though they raised serious issues on the reliability dimension and need of improvements in the responsiveness dimension. This shows that CBE has to continuously provide excellent ATM service by developing new and innovative strategies to increase overall customer satisfaction.

Customers faced problems during their experience with ATM mainly relate to the issue of reliability and responsiveness. The majority of the respondents disagree with all of the items raised in the reliability dimension; this means that they face issues related with ATM not functioning all the time, ATM not being able to provide accurate and consistent services, unavailability of cash inside the ATMs and ATM network connection problems. In the responsiveness dimension even though the respondents overall perception to the items was moderate this shows that there is space for improvement.

Furthermore, the correlation between each items of service quality found in the six main ATM service quality dimensions was analyzed. Accordingly, the result indicated that there exists a positive and significant relationship between all six dimensions of service quality and customer satisfaction although the degree of the relationship varies. This finding is consistent with (Moutinho and Brownlie, 1989, Wan et al., 2005 and Komal and Singh, 2009). The highest correlation was found between fulfillment and customer satisfaction (0.795). Followed by responsiveness (0.766), reliability (0.756), security (0.675), convenience (0.670) and ease of use (0.642) respectively. The weakest correlation was found between ease of use and customer satisfaction.

The findings also indicate that there is a positive and statistically significant relationship between overall service quality and customer satisfaction. This means that better service will assure higher customer satisfaction which leads to delighted customers that lead to increased revenue since maintaining customer satisfaction is key in retaining customers and boosting the profitability of banks.

5.2 Conclusion

The highest dimension in customer's perception is ease of use, which means customers find the ATM as being very easy to operate and understand. The lowest scoring dimensions in customer's perception of the ATM service are responsiveness and reliability respectively. CBE has to look closely at its ATM reliability and responsiveness and build upon the rest of the service

dimensions in order to create loyalty, repeat usage and positive word of mouth. Most of the respondents stated that they were overall satisfied with CBE ATM service even though they raised serious issues with the ATMs reliability and responsiveness. There is a positive and significant relationship between all the service quality dimensions and customer satisfaction, therefore the better the services get the higher customer satisfaction will become and this is imperative for the sustainability and profitability of banks.

5.4 Recommendations

As presented above in the findings of the study all six ATM service quality dimensions have a positive and significant relationship with customer satisfaction. So working to improve these aspects will contribute to the overall customers' satisfaction and sustainability of the bank since the current customer satisfaction level can't be guarantee for the future. Based on the findings of the study the following recommendations are provided by the researcher to improve the quality of service and customer satisfaction of CBE ATMs.

- CBE should improve, change or update the graphic ads displayed on the ATMs regularly in order for the customers to notice them. Also, if the capacity of the bank permits sound should be built in the system. And finally it should make the ads more interactive in which the customer can participate in leading to for example a reduction on the amount of charge. This in turn will motivate the customers to become more interested and pay more attention to the ads.
- CBE should make the way it calculates charge even more clear by displaying the amount of charge on the ATM screen next to the amount of money the customer wishes to withdraw.
- Always conduct more market research and increase the number of ATMs around areas that have high customer usage. This will in turn decrease waiting line time even more than it already is and lead to more customer satisfaction.

- All money denomination types are not available in CBE ATMs unlike its pioneering Forex change ATMs in the country which hold all money denomination types because they need to be more accurate up to the cents level. Therefore, CBE should consider transferring its experience in educating customers in choosing the type of money denomination they want to withdraw their money from the ATM..
- CBE should make ATM contact person clearly available and it should be labeled or displayed on the ATMs which branches they are tied to. This will let customers know which branch to go and talk to. This can help customers state the problem they are having with the ATMs so that the right steps can be taken in order to solve the customer's problem.
- Even though CBE already has a separate department to deal with breakdown of the ATMs through the use of a task force, their numbers are not adequate enough and this can be seen from customers response that breakdown of ATMs are not fixed promptly. Therefore, the taskforce should be competent and adequate in number to deal with the ATM machine breakdowns more swiftly. The faster CBE can easily identify and solve the problem the better in order not to expose customers to unnecessary extra cost.
- CBE should create a system which one team in each branch is solely responsible to checking the amount of cash left inside the ATMs and creating a rule of refilling the ATMs when there is a certain amount of cash left.

5.5 Limitations and further area of study.

From the findings of this study it was confirmed that all six ATM service quality dimensions have a relation with customer satisfaction of CBE ATMs. However the researcher did not have sufficient time to conduct a further detailed research. The geographical area of the study only included Addis Ababa and this means it is difficult to generalize the study to all the other banks that use ATM machines. Other researchers can use more ATM service quality dimensions to gauge a better understanding and even ask customers which services they would like to see added to the current ATM services being provided. The study utilized a convenience sample of ATM card users. Given the current competition in the banking industry, a similar study needs to be conducted by using probabilistic sampling technique.

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APPENDIX

Appendix A: Questionnaire

**ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
MASTERS IN MARKETING MANAGEMENT
Questionnaire for customers of CBE**

Dear respondents,

This questionnaire is designed to obtain information about *Quality of ATM Service and Customer Satisfaction of Commercial Bank of Ethiopia service.*

The information shall be used by the researcher to fulfill partial requirement for obtaining MA in Marketing Management. The study is entirely for academic purpose and the information will be kept confidential.

Therefore, the researcher kindly requests you to provide to the best of your knowledge reliable, genuine, honest and prompt information, which will be a valuable input for the findings to meet the intended objective.

If you have any inquiry, please do not hesitate to contact me and I am available as per your convenience (Tel 0911-52-39-81 or e-mail 2amish@gmail.com)

General Instruction:-

- There is no need of writing your name
- In all cases where answer options are available please tick (✓)

Thank You, for your cooperation and timely response in advance.

Part I Demographic Profile

1. Gender

- a. Male b. Female

2. Age

- a. Under 18 Years c. 26-30 e. 36-40
b. 18-25 d. 31-35 f. Above 41 Years

3. Education level

- a. 10 complete c. Diploma e. Masters
b. 12 complete d. Degree f. Other please state _____

4. Occupation

- a. Student c. Self-employed
b. Salaried Worker d. Pensioner

5. Income per month (ETB)

- a. Below 1,000 c. 3,001-5,000 f. Above 10,001
b. 1,001-3,000 d. 5,001-10,000

6. What was the most important reason for choosing this particular bank? (you can tick more than one if you want)

- a. Excellent service c. I have an account in the bank
b. The brand name of the bank d. other, please specify _____

7. How many times per month do you use your CBE ATM?

- a. Once a month c. Three times
b. Twice d. Four times f. Other please state _____

8. What type of account do you have at CBE for your ATM card?

- a. Saving account c. Current account
b. Women account d. Youth account

Part II Specific questions.

Please indicate your level of agreement for the following questions.

No.	Dimensions and related items	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
Reliability						
1.	CBE ATM functions all the time					
2.	CBE ATM provides accurate and consistent services					
3.	There is available cash in the CBE ATM at any time					
4.	CBE ATM network is available at any time					
Responsiveness						
5.	ATM contact person is available for redress of problem					
6.	Breakdown of CBE ATMs are fixed promptly					
7.	CBE ATM cards are promptly replaced					
8.	Recovery speed while there is failure in ATMs is fast					
Ease of Use						
9.	CBE ATMs are easy to use for transactions					
10.	The CBE ATM uses simple and clear language					
11.	CBE ATM provides graphics and adverts of bank services					
12.	CBE ATM provides education and direction of usage					
13.	The way the CBE ATM machine/system calculates charges is clear					
14.	The CBE ATM instructions enable me to feel in control during a transaction					

No.	Dimensions and related items	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
	Convenience					
15.	CBE ATMs are conveniently located					
16.	There are adequate number of CBE ATM stations in the area I am living					
17.	CBE ATM waiting time is acceptable					
	Fulfillment					
18.	Amount of cash limit to be withdrawn in a day is adequate					
19.	CBE ATM gives quality bank notes					
20.	The amount of charge paid on each transaction/amount is fair					
21.	CBE ATM provides fast services					
22.	All money denominations types are available					
23.	Transaction printing is available					
	Security					
24.	CBE ATM machine locations are highly secured					
25.	There is customer discipline on CBE ATM locations					
26.	I feel safe during CBE ATM transactions.					
27.	I trust CBE to handle my personal information					
28.	I feel secure that no one else can see my pin when I use my CBE ATM.					

Part III Overall Customer Satisfaction

Please indicate your level of agreement on the below statement.

Statement	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied
Overall, how satisfied are you with Commercial Bank of Ethiopia's ATM service?					

Appendix B: Statistical Output

Correlation analysis - ATM service quality dimension items and customer satisfaction

Reliability correlation

		CBE ATM functions all the time	CBE ATM provides accurate and consistent services	There is available cash in the CBE ATM at any time	CBE ATM network is available at any time	Customer satisfaction
CBE ATM functions all the time	Pearson Correlation	1	.578**	.508**	.442**	.639**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	334	334	334	334	334
CBE ATM provides accurate and consistent services	Pearson Correlation	.578**	1	.418**	.555**	.624**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	334	334	334	334	334
There is available cash in the CBE ATM at any time	Pearson Correlation	.508**	.418**	1	.603**	.553**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	334	334	334	334	334
CBE ATM network is available at any time	Pearson Correlation	.442**	.555**	.603**	1	.595**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	334	334	334	334	334
Customer satisfaction	Pearson Correlation	.639**	.624**	.553**	.595**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	334	334	334	334	334

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

Responsiveness correlation

		ATM contact person is available for redress of problem	Breakdown of CBE ATMs are fixed promptly	CBE ATM cards are promptly replaced	Recovery speed while there is failure in ATMs is fast	Customer satisfaction
ATM contact person is available for redress of problem	Pearson Correlation	1	.384**	.308**	.316**	.546**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	334	334	334	334	334
Breakdown of CBE ATMs are fixed promptly	Pearson Correlation	.384**	1	.662**	.475**	.583**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	334	334	334	334	334
CBE ATM cards are promptly replaced	Pearson Correlation	.308**	.662**	1	.480**	.564**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	334	334	334	334	334
Recovery speed while there is failure in ATMs is fast	Pearson Correlation	.316**	.475**	.480**	1	.634**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	334	334	334	334	334
Customer satisfaction	Pearson Correlation	.546**	.583**	.564**	.634**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	334	334	334	334	334

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

Ease of use correlation

		CBE ATMs are easy to use for transactions	The CBE ATM uses simple and clear language	CBE ATM provides graphics and adverts of bank services	CBE ATM provides education and direction of usage	The way the CBE ATM machine/system calculates charges is clear	The CBE ATM instructions enable me to feel in control during a transaction	Customer satisfaction
CBE ATMs are easy to use for transactions	Pearson Correlation	1	.455**	.260**	.252**	.207**	.258**	.454**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	334	334	334	334	334	334	334
The CBE ATM uses simple and clear language	Pearson Correlation	.455**	1	.312**	.099	.062	.102	.298**
	Sig. (2-tailed)	.000		.000	.071	.255	.063	.000
	N	334	334	334	334	334	334	334
CBE ATM provides graphics and adverts of bank services	Pearson Correlation	.260**	.312**	1	.220**	.197**	.094	.296**
	Sig. (2-tailed)	.000	.000		.000	.000	.087	.000
	N	334	334	334	334	334	334	334
CBE ATM provides education and direction of usage	Pearson Correlation	.252**	.099	.220**	1	.502**	.226**	.441**
	Sig. (2-tailed)	.000	.071	.000		.000	.000	.000
	N	334	334	334	334	334	334	334
The way the CBE ATM machine/system calculates charges is clear	Pearson Correlation	.207**	.062	.197**	.502**	1	.266**	.436**
	Sig. (2-tailed)	.000	.255	.000	.000		.000	.000
	N	334	334	334	334	334	334	334
The CBE ATM instructions enable me to feel in control during a transaction	Pearson Correlation	.258**	.102	.094	.226**	.266**	1	.371**
	Sig. (2-tailed)	.000	.063	.087	.000	.000		.000
	N	334	334	334	334	334	334	334
Customer satisfaction	Pearson Correlation	.454**	.298**	.296**	.441**	.436**	.371**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	334	334	334	334	334	334	334

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

Convenience correlation

		CBE ATMs are conveniently located	There are adequate number of CBE ATM stations in the area I am living	CBE ATM waiting line time is acceptable	Customer satisfaction
CBE ATMs are conveniently located	Pearson Correlation	1	.580**	.446**	.608**
	Sig. (2-tailed)		.000	.000	.000
	N	334	334	334	334
There are adequate number of CBE ATM stations in the area I am living	Pearson Correlation	.580**	1	.373**	.497**
	Sig. (2-tailed)	.000		.000	.000
	N	334	334	334	334
CBE ATM waiting line time is acceptable	Pearson Correlation	.446**	.373**	1	.524**
	Sig. (2-tailed)	.000	.000		.000
	N	334	334	334	334
Customer Satisfaction	Pearson Correlation	.608**	.497**	.524**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	334	334	334	334

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

Fulfillment correlation

		Amount of cash limit to be withdrawn in a day is adequate	CBE ATM gives quality bank notes	The amount of charge paid on each transaction /amount is fair	CBE ATM provides fast services	All money denominations types are available	Transaction printing is available	Customers satisfaction
Amount of cash limit to be withdrawn in a day is adequate	Pearson Correlation	1	.226**	.250**	.216**	.078	.056	.342**
	Sig. (2-tailed)		.000	.000	.000	.156	.310	.000
	N	334	334	334	334	334	334	334
CBE ATM gives quality bank notes	Pearson Correlation	.226**	1	.542**	.350**	.274**	.207**	.522**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	334	334	334	334	334	334	334
The amount of charge paid on each transaction	Pearson Correlation	.250**	.542**	1	.495**	.298**	.355**	.631**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	334	334	334	334	334	334	334
CBE ATM provides fast services	Pearson Correlation	.216**	.350**	.495**	1	.393**	.284**	.629**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	334	334	334	334	334	334	334
All money denominations types are available	Pearson Correlation	.078	.274**	.298**	.393**	1	.362**	.453**
	Sig. (2-tailed)	.156	.000	.000	.000		.000	.000
	N	334	334	334	334	334	334	334
Transaction printing is available	Pearson Correlation	.056	.207**	.355**	.284**	.362**	1	.479**
	Sig. (2-tailed)	.310	.000	.000	.000	.000		.000
	N	334	334	334	334	334	334	334
Customers satisfaction	Pearson Correlation	.342**	.522**	.631**	.629**	.453**	.479**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	334	334	334	334	334	334	334

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

Security correlation

		CBE ATM machine locations are highly secured	There is customer discipline on CBE ATM locations	I feel safe during CBE ATM transactions.	I trust CBE to handle my personal information	I feel secure that no one else can see my pin when I use my CBE ATM.	Customer satisfaction
CBE ATM machine locations are highly secured	Pearson Correlation	1	.431**	.587**	.240**	.471**	.542**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	334	334	334	334	334	334
There is customer discipline on CBE ATM locations	Pearson Correlation	.431**	1	.506**	.117*	.338**	.308**
	Sig. (2-tailed)	.000		.000	.033	.000	.000
	N	334	334	334	334	334	334
I feel safe during CBE ATM transactions.	Pearson Correlation	.587**	.506**	1	.287**	.533**	.543**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	334	334	334	334	334	334
I trust CBE to handle my personal information	Pearson Correlation	.240**	.117*	.287**	1	.324**	.600**
	Sig. (2-tailed)	.000	.033	.000		.000	.000
	N	334	334	334	334	334	334
I feel secure that no one else can see my pin when I use my CBE ATM.	Pearson Correlation	.471**	.338**	.533**	.324**	1	.456**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	334	334	334	334	334	334
Customer satisfaction	Pearson Correlation	.542**	.308**	.543**	.600**	.456**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	334	334	334	334	334	334

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

Correlation Analysis - The six ATM service quality dimensions and customer satisfaction

		Reliability	Responsiveness	Ease of use	Convenience	Fulfillment	Security	Customer satisfaction
Reliability	Pearson Correlation	1	.678**	.355**	.359**	.452**	.341**	.756**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	334	334	334	334	334	334	334
Responsiveness	Pearson Correlation	.678**	1	.457**	.318**	.464**	.377**	.766**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	334	334	334	334	334	334	334
Ease of use	Pearson Correlation	.355**	.457**	1	.255**	.523**	.378**	.642**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	334	334	334	334	334	334	334
Convenience	Pearson Correlation	.359**	.318**	.255**	1	.479**	.309**	.670**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	334	334	334	334	334	334	334
Fulfillment	Pearson Correlation	.452**	.464**	.523**	.479**	1	.570**	.795**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	334	334	334	334	334	334	334
Security	Pearson Correlation	.341**	.377**	.378**	.309**	.570**	1	.675**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	334	334	334	334	334	334	334
Customer satisfaction	Pearson Correlation	.756**	.766**	.642**	.670**	.795**	.675**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	334	334	334	334	334	334	334

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

Appendix C: Krejcie and Morgan (1970) formula for sample size determination when the population is known.

$$s = X^2 NP(1 - P) \div d^2 (N - 1) + X^2 P(1 - P).$$

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

N = the population size.

P = the population proportion (assumed to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

TABLE 1
Table for Determining Sample Size from a Given Population

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357

100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.— N is population size.

S is sample size.