KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

INSTITUTE OF DISTANCE LEARNING

ASSESSMENT OF AUTOMATED TELLER MACHINE SERVICES AT AGRICULTURAL DEVELOPMENT BANK (ADB) - KOFORIDUA BRANCH

BY

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DECLARATION

I hereby declare that this submission is my own work towards the Commonwealth Executive Masters in Business Administration, and that to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the university except where due acknowledgment has been made in the text.

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DEDICATION

I dedicate this work to my Husband, Mr. Lawrence Hotsonyame who gave me the needed encouragement and financial support in undertaking his research work.

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ABSTRACT

The recent increase in the use of Automated Teller Machine (ATM) has created a new wave of competition in the banking industry. This affords customers more than enough options to choose their preferred banking institution, thereby compelling the banks to introduce a variety of quality services that satisfy their customers. The study assesses the use of Automated Teller Machine (ATM) at Agriculture Development Bank (ADB) Koforidua branch by examining the factors contributing to underutilization of ATM services, analysing the trend in subscription and the strategies adopted to promote ATM usage in the bank. A sample size of three hundred and twenty-two respondents was randomly selected within the New-Juabeng Municipality in the Eastern region. The survey method was employed to collect data from the 322 subscribers of ATM services using questionnaires. The stratified sampling methods were used to categorize subscribers according to their level of education. The study revealed that majority of the subscribers of the ATM prefer over the counter service. On the basis of these findings, the study concluded that; inadequate dispensing point, irregular network services and limited withdrawal of cash for a day are the main factors contributing to underutilization of ATM services at the bank. The study recommended an improvement in services connected to the use of ATMs such as increased in dispensing point, reliable network services and the raising of the limit of withdrawal of cash per day as measures stakeholders should put in place to enhance the use of the facility. Management of the bank has also adopted the following strategies; increase access points, acquire reliable internet services, introduce VISA card before the end of the year, reduce charges on ATM transactions, offer 24 hours services, and to improve education to subscribers at all branches including the Koforidua branch so as to enhance the quality of service.

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CHAPTER ONE

1.0 BACKGROUND OF THE STUDY

An automated Teller Machine (ATM) is known as cash point, cash machine or sometimes also known as hole in the wall is a computerized Telecommunication device that provides the client of financial institutions with access to financial transaction in a public space without the need of a cashier, human clerk or bank teller (Milligan 2007).

On most modern ATM's the customer is identify by inserting a plastic ATM card with a magnetic strip or a plastic smart card with a chip that contains a unique card number and some security information such as expiration date. Authentication is provided by the customer entering a personal identification number (PIN) (pacific stores 1966).

Using an ATM, customers can assess their bank accounts in order to make cash withdrawal, credit cash advances and check their accounts balance as well as purchase pre-paid cell-phone credit. If the currency being withdrawn from the ATM is different from that which the bank is denominated, then the money will be converted at a whole sale exchange rate. Thus ATM often provides the best possible exchange rate for foreign travellers ATMs are often used for this purpose as well. (Schlichter, 2007).

The first cash dispensing device was used in Tokyo in 1960. Although little is known of this first device, it seems to have been activated with a credit card rather than assessing account balances. In simultaneous and independent efforts, engineers in Sweden and in Britain developed their cash machines during the early 60's .The first of these that was put into use was by Barclays Bank in Enfield Town North London (Enfield cash Gift to the world 2007).

ATM's are placed not only near or inside the premises of Banks but also in location such as shopping malls, airports, grocery shops, gas station, restaurants or anywhere frequented by large number of people (Darch & Caltabiano, 2004) .

Most ATM are connected to inter-banks networks, enabling people to withdraw and deposit money from machines not belonging to the bank where they have their account and in the country their account are held. Many banks charge ATM usage fees, in some cases the fees are charged solely to users who are not customers of the bank where the ATM is installed: in other cases, they apply to all users.

1.1 STATEMENT OF THE PROBLEM

Within the past two decades electronic payments have gain popularity in the banking sector especially through electronic payments. This has been possible through breakthrough in ICT (Horvath, 2007). The use of ICT in electronic payments has a variety of platforms such as internet banking, telephone banking, P.C. banking where customers assess these services using an intelligent electronic device like the Personal Computer (PC), Personal Digital Assistance (P.D.A) and Automated Teller Machine (ATM) and Point of Sale (POS) (Horvath, 2007).

In Ghana the use of ATM is aimed at bringing efficiency in the Banking services by offering prompt payments through an electronic medium. It is also hoped that the use of the ATM will help decongest crowded banking halls during peak hours. This is with the hope that hours spent at the bank will be reduced, customers will be satisfied with the services received and the image of the bank in terms of efficiency will be enhanced.

Despite the numerous advantages to be derived from the use of ATM, most customers are yet to subscribe to ATM services, the few who have subscribed prefer over the counter services rather than the use of ATM. This situation had led to a small number of subscribers using ATM services irrespective of the huge sum the bank had invested in the establishment of ATM points. It is therefore necessary to determine the factors contributing to underutilization of ATM in the bank in order to find solutions to help decongest the banking hall.

1.2 OBJECTIVES OF THE STUDY

The specific objectives of the study are to:

1. Identify the factors contributing to underutilisation of ATM services in the bank.
2. Analyse the trend in ATM subscription in the Bank.
3. Determine management strategies adopted to prompt ATM usage in the bank.
4. Make recommendations as to how the ATM usage will be enhanced.

1.3 RESEARCH QUESTIONS

The study addressed the following Research Questions;

1. What are the factors contributing to underutilization of ATM services in the bank?

2. What is the trend of the ATM Subscription at the ADB Koforidua branch?

3. What are the management strategies adopted to prompt the ATM usage?

4. What are the recommended solutions to the problems of the ATM usage?

1.4 SIGNIFICANCE OF THE STUDY

The study of assessing ATM services is of great importance to the ADB Koforidua branch because it will help improve on efficiency of services. The main idea of introducing the ATMs services is to help decongest the bank especially at peak periods of the day between 9am – 12am and also at the end of the month. When the problems associated with underutilization of ATMs services are addressed, it will help improve access to ATM services and this problem will be solved.

The effective use of ATM service will help reduce waiting time of customers when assessing banking services using ATM. This study seeks to assess ATM use and analyse the problem militating against ATM usage and find solutions to such problems.

In addressing the problem associated with ATM services, the bank stands to gain because, its image will be enhanced and eventually lead to attracting more customers to the branch.

Customers' satisfaction on the services of ATM will also be enhanced through this study since all bottlenecks militating against customers satisfaction will all be addressed to help improve access to ATM services. This will eventually lead to an increased profitability of the bank.

1.5 SCOPE OF THE STUDY

Even though there are a number of ADB branches in Eastern region, the study is limited to the Koforidua branch. This branch has been chosen because; it is among the regional banks using ATM facility in Ghana. It is also a bank with a larger number of subscribers in the region. The study is limited to ATM services though there a number of problems with other

core operation in the bank. The choice of ATM services was made because of the problems associated with the introduction of E – banking in the bank.

1.6 LIMITATION OF THE STUDY

One of the major problems with the study was the difficulty in identifying ATM subscribers in the study population. The problem arose due to the bank unwillingness to release the list of ATM subscribers to the researcher even though an introductory letter was sent to the bank before the researcher began the study. To overcome this problem, the researcher has to construct her own sampling frame by taking down the particulars of ATM subscribers who visited the bank in order to create a database on them. Indifferent attitude of ATM subscribers to the study was another problem. The researcher found that in most of the time the ATM subscribers she contacted for interview were in hurry to leave the banking hall; as such they were not interested in the interview. This problems lead to delay in collecting primary data.

Another problem encountered is the difficulty of getting secondary data on ATM users in the form of report. Most of the report were classified information for exclusive use for bank officials, as such made data collection difficult for the researcher. To solve this problem the researcher wildered the scope of primary data collection by increasing the sample size also involving key personnel involved in ATM administration.

1.7 ORGANIZATION OF THE STUDY

The study will be divided into five chapters. Chapter one will comprise the introductory aspect of the study. It deals with the background of the study, the problem statement, the objectives of the study, the scope and limitation of the study, and the significance of the study.

Chapter two focuses on the review of existing literature on the subject matter. It covers areas such as ATM awareness and usage, ATM usage, Customer Satisfaction, ATM service quality and dimensions, ATM & Customer Satisfaction and ATM and the Generation

Chapter three focuses on research methodology which includes the research design, sources of data, study population, instruments of data collection, sampling procedure, methods of data presentation and analysis and ethical issues in research.

Chapter four is concerned with the presentation of result. It describes the data and outlines the evaluation approach

Chapter five presents the researcher's observation, recommendations and conclusions.

CHAPTER TWO

REVIEW OF LITERATURE

2.1 INTRODUCTION

This chapter looks at the review of related literature on the ATM Awareness and Usage, Problems Associated with ATM Usage, ATM Services, Strategies of Improving ATM Services, ATM Service Quality and Dimensions, Customer Satisfaction, ATM and Customer Satisfaction, ATM and the Generation and Benefits of Technology-Based Banking Services (TBBS) – ATMs.

2.2 ATM AWARENESS AND USAGE

In any service industry, it is important to investigate customers' awareness and usage in investigating customer behaviour. The assessment of customers' awareness and usage of products/service has become more important as banks must not rely solely on indigenous banking styles as a strategy to secure customers' allegiances but they should also emphasize providing quality and efficient product and services (Dusuki & Abdullah, 2007).

In a service business like banking, perception of quality emerges from both awareness and usage of the products/service. The reason is that unlike the quality of tangible products, quality of banking products/services depends on customers' experience with products/service. Banking products/services are experienced while they are produced (Metawa & Almossawi, 1998). In turn, service quality is highly related to (even though not equivalent to) customer satisfaction. Given the importance of awareness and usage in shaping

customer behaviour, Metawa and Almossawi (1998) measured customer awareness and usage of various Islamic bank products/services in context of Bahrain.

Organizations are aware that service quality provides strategic competitiveness in dynamic business environment. Literature provides significant relationship between service quality and Banks' performance based on improved productivity, increased market share, enhanced customers' attraction and loyalty, improved staff morale, and sustained profitability (Jabnoun & Al-Tamimi, 2002). Research has found that service quality in banks is critical for satisfaction and retention of customers (Jabnoun & Al-Tamimi, 2002). 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.

According to Castleberry and Resurrecion (1989), the physical location of banks' delivery channels influence perception of customers about quality. Consistent delivery of services, physical dimensions and staff interaction with customers, trustworthy processes and procedures positively affect delivery of services quality (Sureshchandar, Rajendran & Anantharaman, 2002). Pleasant customer interaction with staff significantly affects customers' perception of quality (Yavas, Bilgin &Shemwell, 1997). In response to this requirement, banks have initiated flawless delivery processes to reduce delivery timings to improve service quality.

2.3.1 ATM SERVICES

The ATMs provide several functionalities which can be accessed from anywhere at any time. These include:

Cash Withdrawal: The ATMs have fast cash withdrawal functionality which allows for prefixed amounts to be withdrawn by the customers. This is aimed at increasing the level of convenience provided by the ATMs. There is however flexibility for customers to withdraw according to their needs, any other amount within the specified withdrawal limits. Transaction fees are charged to customer accounts when cash is withdrawn from ATMs. However, cash withdrawals on other banks' VISA ATMs attract a higher transaction charges. The main difficulty with the ATMs is unstable network connectivity and database downtimes. However, these do not prevent customers from performing cash withdrawal transactions. This is because the ATMs automatically switch to offline mode anytime the connectivity with the host is unavailable. Also, balances of account holders are periodically generated into an electronic file and sent to the foreign host. These account balances are used by the host to authorise cash withdrawal transactions in offline mode. This process is referred to as Stand-in processing (STIP). The host later sends advices in the form of electronic messages to other banking system as soon as connectivity is restored.

The bank is exposed to some financial risks during offline transactions. These occur when customers perform cash withdrawal transactions on the ATMs in offline mode and immediately visit the banking halls for other cash withdrawals. This is because, in offline mode, the customers' account balances are not affected with the transaction amounts.

Balance Enquiry: This functionality enables customers to check their available balances. This feature is not available in offline mode because there is no synchronization between the foreign host and the database of Agricultural Development Bank.

Mini-statement: The printing of mini-statement enables the customers to view the last five transactions in their accounts. It however, attracts no fees. This feature is currently not available in offline mode.

Pin change: This is a security feature which enables customers to change their personal identification numbers where necessary. It adds to the confidentiality provided by the electronic banking services. With this feature, customers feel more secured, as they have the assurance that no other person can use their cards without their consent.

2.3.2 DEPOSIT MOBILIZATION

Deposit mobilization in banks is done through current account, savings account, and savings deposits (Ahmed, Rahman, & Ahmed, 2006).

Current account: Islamic banks accept deposits from customers on current accounts as conventional banks do. However, banks operate current accounts under Al-Wadia principle. According to the principle, banks receive the deposits with the promise to repay them on demand by the customers. Banks use such funds with the permission of the customers and at the sole risk of the banks, and hence, the depositors of this type of account are not entitled to any share in the profit earned by the bank (Ahmed, Rahman, & Ahmed, 2006).

Savings account: Banks accept saving deposits from customers under Al-Wadia and Al-Mudaraba Shariah principles. In saving accounts under the Al-Wadia principle, the bank is

given an authorization by depositors to use the fund at the bank's own risk. Al-Wadia savings deposit is almost similar to a 'current Account' or 'demand Deposit' except that the bank guarantees its customer the full return of the deposited fund with any voluntary profit. Murabaha savings deposits give the banks exclusive rights to manage the deposits. The profit or loss from the use of such deposit is shared between the banks and the depositors at a pre agreed-upon ratio (Ahmed, Rahman, & Ahmed, 2006).

Term deposits: Banks also source funds through term deposits just like the conventional banks do. However, Islamic bank apply Al-Mudaraba principle (Ahmed, Rahman & Ahmed, 2006).

Savings bond: This is another type of savings scheme offered by Islamic banks to the savers. Islamic banks follow Al-Mudaraba principle in offering this product (Ahmed, Rahman, &Ahmed, 2006).

2.3.3 FINANCING FACILITIES

The commercial financing instruments provided by Islamic banks are based on the Islamic Shariah. The instruments along with the mode of Islamic Shariah are described below (Ahmed, Rahman, & Ahmed, 2006).

Musharaka: The word Musharaka stands for a partnership that shares both profit and loss. Such joint venture way of financing is designed to limited production or commercial activities of long duration. Under Musharaka, the bank and the customer jointly contribute capital as well managerial expertise and other essential services at agreed proportions. Profit or losses are shared according to the contract agreed upon (Ahmed, Rahman, & Ahmed, 2006).

Mudaraba: Mudaraba refers to a contract between at least two parties in which the bank as the investor supplies the entire capital of the business. Hence, a relationship is formed in which banks act as the supplier of capital. The entrepreneur acts as the manager of capital only. When the venture ends, the manager of capital i.e. the entrepreneur pays the entire capital back to the bank, along with an agreed proportion of profit. If there is any loss, it is borne by the bank (Ahmed, Rahman, & Ahmed, 2006).

Bai-Murabaha: The word 'Murabaha' means a cost-plus profit/mark-up contract. In this system of financing the bank agrees to purchase for a client. The client will then repay the bank within a stated time period at an agreed upon profit margin. The mark-up price that the bank and the buyer agree to is mainly based on the market price of the commodity. Thus, under Bai-Murabaha mode of financing, the bank earns a profit without bearing any risk (Ahmed, Rahman, & Ahmed, 2006).

Bai-Salam: Bai-Salam means a sale in which an advance payment is made for a later delivery. Usually the seller is an individual or business and the buyer is the bank. Bai-Salam benefits both the banks and seller. The banks locks in the price at which the commodities will be purchased and upon delivery can profit for selling the commodities. On the other hand, by receiving advance payments for commodities, the seller can use the money for meeting various financing needs, particularly any working capital requirements (Ahmed, Rahman, & Ahmed, 2006).

Bai-Muajjal: Bai-Muajjal refers to a contract resembling credit sale. Under this type of contract, the seller sells certain specific goods to the buyer at an agreed fixed price payable at a certain fixed future date in lump sum or in fixed instalments. The sold goods must be

allowed under both Shariah and the law of the country. Under this type of financing, banks buy goods for those who need them and then, receive a fixed payment for the goods at a later date (Ahmed, Rahman & Ahmed, 2006).

Ijarah: Ijara refers to leasing in finance. It is argued that: "The leasing agreement is based on profit sharing in which the bank buys the movable or immovable property and leases it to one of its client for an agreed sum by instalments and for a limited period of time into a saving account held with the same bank. These instalments are invested in Mudaraba investment for the customer's account. The accumulated profit generated from the payments, and the payments themselves are invested in the bank's investment ventures over the time period of lease, contributing to eventual purchase of the leased assets." The difference of banking lease with the traditional lease is that under banking leasing the risk related to leasing is shared between the lessee and lessor (Ahmed, Rahman, & Ahmed, 2006).

Hire Purchase under ShirkatulMeelk: Under this mode of financing, banks share equity with the client in purchasing some assets. Both the bank and the client share the ownership and the share of benefit and loss in operating the asset. The portion of the asset owned by the bank is leased out to the client for use under specific conditions (like rent) and then, the client buys the bank's portion upon agreed upon terms (IBBL, 2008).

Qard: Qard refers to interest-free loan provided by banks to its clients. According to various authors 'the main aim of this loan is to help needy people in a society in order to, make them self-sufficient and to raise their income and standards of living' (Ahmed, Rahman, & Ahmed, 2006).

2.4 CUSTOMER SATISFACTION

In almost every industry, customers are becoming ever more demanding, and in most markets customers have more options to choose from than ever before. Fornell (1992), upon a study on Swedish customers assert that although customer satisfaction and quality appear to be important for all firms, satisfaction is more important for loyalty in industries such as banks, insurance, mail order, and automobiles. Customer satisfaction is the feeling or attitude of a consumer toward a product/service after it has been used (Metawa & Almossawi, 1998). In the context of services, according to Naser, Jamal, and Al-Khatib (1999), customer satisfaction is often related to factors such as service quality and service features (for example, convenience, competitiveness, and location of service provider). Researchers have placed emphasis on customer satisfaction in banks, and asserted that banks must focus on understanding the needs, attitudes, satisfactions and behavioural patterns of the market to compete successfully in today's competitive marketplace (Kotler & Keller, 2009). A number of other researches also asserted increasing emphasis on increasing customer satisfaction and customer retention through improved quality of their services (Moutinho, 1992).

Schijns, (2003) stated that banking is one of the many service industries where customer satisfaction has been an increasing focus of research. The reason is that competition in the banking sector is increasingly growing. Wilson (1995) particularly identified the importance of customer satisfaction in the Islamic banks and stated that today banking is no longer a business entity serving religious obligations.

Now, what are the things to be considered while measuring customer satisfaction? Leeds (1992) showed in a study that about 75% of the banking customers mentioned teller courtesy as a prime consideration in choosing a bank. The study also found 'increased use of service quality' and 'professional behaviours' (such as formal greetings) improved customer satisfaction and reduced customer attrition.

Stafford (1994) found in context of USA that customers want courtesy, friendliness and convenience. But that consumer also views "fair prices, concerned management and institutional stability as integral components of the service process".

A study conducted in semi-urban Pennsylvania, indicates that commercial bank managers can utilize the evaluative criteria used by bank customers in selecting a commercial bank to patronize. The six evaluative constructs extracted from importance measures can be used to explain customers' commercial bank choices. Commercial banks' efforts to attract or retain existing customers should focus on the following issues (Kaynak& Kucukemiroglu, 1992): behavior of bank employees, bank service charges; extra services offered by the bank; confidence in the bank; positive bank image; and convenience.

Kaynak and Kucukemiroglu, (1992) also added that managing service quality in a commercial bank is rather challenging because so much depends on how well the bank employees (internal customers) respond to the needs and expectations of the customers. Bank customers, in most cases, evaluate commercial banks on the bank employee dimension when they place a heavy emphasis on positive staff attitude, knowledgeable staff, friendliness of bank personnel, employee professionalism, courtesy of personnel, and timely employee

responses to correspondence. Arasli, Katircioglu, and Mehtap-Smadi (2005) asserted that customer contact personnel played a vital role in the delivery of high quality service.

Following a similar study conducted by Metwa and Almossawi (1998), the current study measured customer satisfaction with various products/services of Islamic banks, and with four basic elements of the service delivery system of Islamic bank: employees, physical facilities of the bank, location, and evening (late) banking hours.

These criteria (i.e., satisfaction with products/services and satisfaction with basic service delivery elements) tend to cover a broad array of factors to be considered for customer satisfaction in a service industry like Islamic banking.

According to Kotler and Keller (2009), "satisfaction is a person's feelings of pleasure or disappointment that result from comparing a product's perceived performance (or outcome) to their expectations" (p.164).Banks everywhere are delivering almost the same products. To improve satisfaction and differentiate themselves from the competition through service quality, banks need to understand what drives satisfaction. Banks must determine how customers define value in order to provide added-value services to their customers. Banks also need to ensure that profitable customers are retained. Service quality can be identified as the basic element impacting customers' satisfaction level in the banking industry.

2.5 SATISFACTION AND ATTRIBUTES OF ATM SERVICES

The following specific factors are considered for measuring customer satisfaction in the use of ATM services:

1. Convenience
2. Ease of use

3. Response time
4. Transaction cost
5. Security guarantee
6. Reliability
7. Innovation

2.6 ATM SERVICE QUALITY AND DIMENSIONS

Use of ATM 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 have given new impetus in dimensions of service quality and banks are offering new choices to customers. Moutinho (1992) noted investment opportunities, reduction in costs, satisfaction of customers and competitiveness as motives to install and add new ATM to the existing network. Moutinho (1992) established that ATM facility resulted in speed of transactions and saved time for customers.

Literatures review indicates different dimensions of ATM service quality. Lovelock (2000) identified secure and convenient location, adequate number of ATM, user-friendly system, and functionality of ATM. Davies et al., (1996) examined the factors that influence customers' satisfaction about ATM service quality. These factors include costs involved in the use of ATM, and efficient functioning of ATM. Loveloock (2000) also 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. In a case study of Botswana, Mobarek (2007) established speed of operation, and waiting time as the important predictors of ATM service quality.

Researchers have divergent views about the use and effectiveness of ATMs. Schlichters(2007) stressed the positive dimension of ATMs based on freedom of transaction. Effective service delivery in ATM system guarantees quality excellence and superior performance and provide autonomy to the customers (Lovelock, 2000). Yavas, Bilgin and Shemwell (1997) argued that customers' focused ATM delivery system that fulfils their needs and maximize operational performance are essential dimensions for bank to achieve and sustain competitive advantage.

Sureshchardar, Rajendran and Anantharaman (2002) investigated factors that influence customers' perception of service quality within self-service technologies. The suggested dimensions were functionality, enjoyment, security, assurance, design, convenience, and customization based on the performance-only measurement.

Rugimbana & Iversen (1994) examined the essential aspects of ATM service quality in Baltic States. They identified essential resources (adequate number of ATMs, convenient and secure location and user-friendly system); important dimensions of operation of ATM (maximum speed, minimum errors, high uptime, cash backup); and value-based aspects (quality service at reasonable cost, and maximum offering to cover maximum needs of customers) as vital facets. Based on the prior studies, Al-Hawari and Ward, (2006) compiled a list of five major items about ATM service quality that include convenient and secured

locations, functions of ATM, adequate number of machines and user-friendliness of the systems and procedures. An empirical study found that these items constitute important aspects of ATM service quality.

Shamsuddoha, Chowdhury & Ahsan (2005) examined the satisfaction level of ATM card holders of a leading bank (HBSC) in Jordan. The study found significant relationship of ATM service quality with customers' satisfaction. The study identified that location, personnel response, quality of currency notes, promptness of card delivery and performance of ATM were positively and significantly related to customer' satisfaction. The security, frequent breakdown of machine, and insufficient number of ATM were major contributors of customers' dissatisfaction.

In another study in Bangladesh, Shamsdouha et al., (2005) also found that 24 hours service, accuracy, and convenient locations were the main predictors of customer satisfaction. The study also indicated lack of privacy in executing the transaction, fear of safety and complexity of the machine were the major cause of concern for the customers.

Schlichter (2007), through focus group study in the United States, found that easy access to location, user-friendly ATM, and security are important factors that influence majority of bank customers' perception of ATM service quality. Sarangapani & Mamtha, (2008) undertook a qualitative study of a Portuguese bank regarding customers' use of multi-channel offerings. The study identified accessibility and speed of operation as strong predictors of customers' satisfaction, whereas security dimension and technical failures were main causes of dissatisfaction.

Previous research works have found that reliability feature of ATM is essential to consumers' use of electronic channels of banking. Rugimbana and Iversen (1994) studied the perceived attributes of ATM service quality and their marketing implication. They found that convenience, reliability, and ease of use are important aspects, whereas complexity and unreliability (risk) were causes of dissatisfaction. Milligan (2007), in a study of ATM users in Canada, established that major reasons for using ATM were accessibility, freedom to do banking at all times, and to avoid waiting lines. The study also found the users' apprehension about the risk associated with its use and complexity of the machine in executing the transaction.

Moutinho (1992) examined relationship of dimensions of usage rate and performance expectation with customers' prolonged satisfaction with ATM services. The results indicated that usage rate had a negative association with customer perceived prolonged satisfaction whereas performance expectations found to have positive and significant predictor of customers' prolonged satisfaction. Moutinho and Brownlie (1989) found that accessibility and location of ATMs significantly affect users' satisfaction. The research found that customers were willing to accept new offerings through ATMs. Waiting in queue to use the ATM was the major cause of dissatisfaction among the users.

Literature provides support to the idea that pleasant experience of automated services provides enhanced value to the customers and attracted them to undertake improved business with their banks .Simultaneously, the researchers have concluded that technology-based services are likely to give sense of incompetence to customers, isolate them, and increase passiveness (Reichhield & Kenny 1990). In addition, the pattern of adoption of technology and its use may differ across organizations and cultures (Horvath, 2007).

Technology-based service operations are interesting, delightful, or joyful with features and capabilities that make customers feel good when using them (Dabholkar, 1996). Enjoyment arises intrinsically from interacting with the technology-based service (Dabholkar, 1996, p. 35). Meuter, Bitner, Ostrom, & Brown (2005) included enjoyment in the instrumentality component when examining service quality perceptions based on the expectancy theory by Vroom (1964). Customer traits and readiness also influence enjoyment (Parasuraman, 2000).

Howcroft (1991) noted that dissatisfaction among customers is associated with frequent interruptions and breakdown of ATMs. Intense competition and technology-based new services are shaping customers loyalty. These have resulted into switching of banks by customers based on competitive services (Lewis & Bingham, 1991). Milligan (2007) found that location of ATMs, increasing number of ATMs, and diversified service offering are associated with switching of banks.

Marketers identified customers' satisfaction through behavioural, cognitive, and attitudinal response to the service provider. These dimensions manifest in repeated use of services, tolerance with regard to price, word of mouth promotion and display of cognitive and attitudinal behaviour (Bowen & Chen, 2001). Anderson & Sallivan, (1993) found strong empirical evidence of innovation, convenience, price, and service quality as vital dimensions of customers' satisfaction. An understanding of customers' expectations enables organizations to offer customer-focused services and reduce attrition of customers. Literature offers significant evidence of the association between satisfaction of customers and superior financial performance, customer loyalty, and market share (Beerli, Martin & Quintana, 2004).

Service quality has become an important factor in enabling service productivity and customization in the service delivery process and in affecting SAT and profitability. Many researchers have conceptualized service quality (Parasuraman, Zeithaml, & Berry, 1991). Other researchers have examined and operationalized factors that constitute service quality perceptions (Arasli et al, 2005; Parasuraman, 2000; Fornel, 1992;). Researchers then compared service quality to key performance indicators such as productivity, SAT, and profitability (Anderson et al., 1994; Stafford 1994). The development of service quality starts with the expectancy theory (Vroom, 1964), which provides germinal foundations that derived the expectation-disconfirmation theory. The expectation-disconfirmation theory (Oliver, 1980) provides a basis for the service quality theory. Based on the service quality theory, Parasuraman et al. (1985) developed the gap model that conceptualized service quality. The model was operationalized to measure service quality and resulted in the SERVQUAL scale (Parasuraman, Zeithaml, & Berry, 1988).

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 (Moutinho, 1992). Literature finds a large number of studies that highlight the satisfaction of customers with ATMs (Mobarek, 2007). Some studies have also identified customers' dissatisfaction with ATM service quality dimensions. Large numbers of customers are resistant to this new mode of service delivery and prefer more personalized service (Howcraft, 1991). The researchers noted that customers do not like ATMs because of impersonality, vision problem, fear of technology and reluctance to change and adopt new mode of delivery of service (Milligan, 2007).

2.7 ATM AND CUSTOMER SATISFACTION

Recent advances in technology have created a surge in "technology-based self-service" (Dabholkar et al. 2003). Oliver (1980) defines customer satisfaction, as "Satisfaction is the customer's fulfilled response. It is a judgment that a product or service feature, or the product or service itself, provides a pleasurable level of consumption-related fulfilment".

Yi (1990) in his study titled 'A Critical Review of Consumer Satisfaction' stated that customer satisfaction is a collective outcome of perception, evaluation and psychological reactions to the consumption experience with a product and also states that many studies found that customer satisfaction influences purchase intentions as well as post-purchase attitude.

Johnson, (1993) says in his book that 'a satisfied customer will recommend excellent products and services to their friends and help the enterprise to increase its market share and profitability'. Johnson also examined the factors that influence customers' satisfaction on ATM services includes costs involved, and the efficient functioning of ATM.

Anderson, Fornell and Lehmann, (1994), the researchers of customer satisfaction said that the bank's ability to deliver the factors like convenience and accessibility will probably impact on customer satisfaction.

Moutinho (1992) argued that ATM facility resulted in speed of transactions and saved time for customers. Lovelock (2000) identified that secured and convenient location, adequate number of ATMs, user-friendly system, and functionality of ATM are the important factors for the customer satisfaction.

Based on the prior studies, Al-Hawari and Ward (2006) compiled a list of five major items about ATM service quality that include convenient and secured locations, functions of ATM, adequate number of machines and user-friendliness of the systems and procedures. Most early studies found location convenience influences most on bank selection (Kaynak & Kucukemiroglu, 1992)

Leeds (1992) said that the key dimensions of automated banking service quality include reliability, ease of use, privacy, convenience and responsiveness. Wolfinbarger & Gilly, (2003) argue that reliability is the strongest predictor of customer satisfaction. Much of the researches say that there is an association between customers' usage pattern and the demographic profiles.

Ajay (2008) in his study on "Technology led customer service" has found that the customers would expect security of money, growth, safety and respectful listening from their banks. ATMs are used no longer for dispensing money only but also offer more information and services. In' Customer Relationship Management in Banking Sector' Sarangapani and Mamatha (2008) found that the introduction of ATMs, Internet banking and Credit cards help the customers to carry out their transaction in an easy way. ATM helps the customers to transact within a short time. Milligan (2007) mentioned that age is the main factor that determines ATM services in Coimbatore City.

Many studies had investigated the effects of demographic profile such as age, educational qualification, sex of the customers and the attitude towards the acceptance of new technologies (Al Somali, Gholami and Clegg, 2008). The research on the relationship among young people and financial institution established that these people have their accounts in

more than one bank, because of need for convenience, requirement of more services offered, and 24- hours' availability of ATM and location Initially they were required to focus more on perception of a customer, whether he is willing to adopt the technology or not (Dabholkar, 1994). It has been established through research that customer's response to a specific technology depends upon the service quality that is provided (Parasuraman, Zeithmal, & Berry,1994).

2.8 ATM AND THE GENERATION

A number of researchers have investigated the demographic characteristics of ATM adopters. Ahmed, Rahman & Ahmed (2006) studied a population, Cronin & Taylor (1992) studied a Canadian population, and Cohen, Yong and Choong, (2006) studied a Southeast Asian population and all got consistent results of adopter characteristics of ATM, in which ATM users tend to be young and have above average incomes and at least some high school education. Milligan (2007) and Schreiber (1994) in their studies also obtained similar results. Lewis & Bingham, (1991) specifically found that household heads under the age of 35 were considerably more likely to use computerized banking, ATMs, and debit cards than older consumers, while consumers' use of direct deposit increased with age. Rugimbana & Iversen's(1994) study profiled users and non-users of ATMs in terms of demographic and perceptual variables. The main aim of the study was to dis-criminate users from non-users, using the demographic variables of respondents and their perceptions of ATM attributes in order to assess the relative importance of these predictor variables. It was found that perceptual variables were far more successful as predictors of ATM service usage than

respondent demographic variables. Darch and Caltabiano (2004) explored the relationship between demographic, user-situational, attitudinal variables and ATM use in an Australian sample of older adults. These adults were Volunteers aged 60 years and above, who conducted their own banking transactions. Technology, perceived control and perceived user comfort were found to have an independent significant effect on ATM usage. Age, education, attitudes and user-situational variables were found to be related to ATM use, only technology experience, perceived user comfort and control were found to be determinants of ATM use.

Horvath, (2007) looked at technology adoption in different cultural contexts, analyzing the relationship between Hoffstede's cultural value dimensions and ATM's adoption in urban India. They proposed that the underlying inhibitors to ATM adoption in India were not intrinsically different from those determined earlier in Europe and North and South America. These inhibitors could be traced back to a few main factors, such as feelings of inadequacy, preference for human contact, lack of need and safety concerns. They believed that those who used ATM did so because they had a need for it, perceived it was easy to use, felt safe using it, and had positive attitude towards technology in general. These reasons appeared to be caused by different factors in different contexts due to different cultural values. For India, Schreiber, (1994) stated that the feeling of inadequacy was the result of a strong value dimension expecting different access to resources as a function of people's social status. The long-term orientation of Indians explained why they did not mind queuing to access basic financial services. Yi (1990) investigated the diffusion of various electronic banking technologies, such as ATMs, debit cards, smart cards, direct deposit, and direct payment, along with the characteristics of adopters and non-adopters based on the DOI theory. They used the 1995 Survey of Consumer Finances and discovered that more educated, affluent and

younger consumers who were likely to communicate with professional information providers tended to adopt electronic banking technologies more readily than their counterparts. Despite this, the specific factors that described adopters and non-adopters varied across different types of banking technologies.

Mobarek (2007) stressed that the most technologically savvy bank customers sometimes had trouble comprehending the maze of options available. A lot of people keep trying until they find solutions, but the elderly usually have problems using ATMs. Banks may be losing the elderly as ATM customers. Education and machine redesign could be the best hope for elderly customers. Most systems designers and bank officers assumed that ATM was easy to use and required no training. Evidence however showed that users of all ages had problems using ATMs initially when no training is provided, and that older adults have problems even after training. They indicated that banks could find better ways of teaching people how to use ATMs. Out of the 13 banks they randomly questioned, only two provided brochures that showed the user how to operate the ATM, and these brochures were perfunctory at best. In their study, non-users of ATMs did not use the machines as they did not see a need for the service, probably explained by their lack of knowledge about how the system worked and their discomfort in having to learn it while others waited. Many respondents were not aware of the different options offered on ATM and were more predisposed to use it if they were provided training. Non-users and users stressed concerns about safety in using ATMs.

Wolfiribargar & Gilly (2003) found that in spite of the success and widespread use of ATMs, a significant proportion of bank customers could not or would not use them, or experience difficulties in their interactions. They suggested that speech technology should be used as a means by which non- users might be encouraged to use ATMs, while at the same time,

improving usability for all. The advantages of this include hands-free and eyes-free use for physically- and visually impaired users, and improved ease and speed of use through increased naturalness of the interaction. Schlichter (2007) investigated user attitudes to the concepts of a speech-based ATM, via large-scale survey and a series of focus groups. They detected that the idea of using speech for ATM transactions led to concerns such as that of privacy and security. Visually impaired users were more likely to want speech technology which meant that enhancements to ATM did not necessarily suit all types of users.

Through archival research, Stafford (1994) investigated the impact of the introduction of Automated Teller Machines (ATM) in British retail banking. ATMs were originally a British innovation but U.S. (e.g., IBM and NCR) and German manufacturers (e.g., Siemens) took the lead as ATMs became a global technology. The evolution of ATM showed how banks adopted on-line, real-time computing for the entire branch network and highlights the role of network externalities in financial markets. From a business history perspective, ATM characterized a shift in bank strategy, namely how applications of computer technology moved from being potential sources of competitive advantage to being a minimum requirement for effective competition in retail finance. Stafford's study argued that during the 1990s, Information Technology in banking (as measured by ATM) led to reduced operating costs, coupled with increased output (number of transactions) that resulted in greater efficiency. They concluded that the introduction of ATM was profitable for banks as well as customers. Their study indicated that banks' adoption of ATM was overall beneficial for banks.

A survey conducted by Intermarc Consulting Limited revealed that ATM services provided by banks and non-financial institutions stood as the most popular e-business platform in

Nigeria. The report showed that awareness for various banking services rendered by Nigerian banks was mostly limited to the traditional banking services (Intermarc Consulting Limited, 2007). Findings equally showed that 99 percent of the respondents were aware of savings accounts, 92 percent were aware of current accounts while 72 percent were aware of local money transfer services.

However, among the more modern banking services such as electronic banking, Internet banking, PoS transactions, money transfer, etc ATM emerged as the most popular with 96 percent level of awareness. Awareness level of ATM also ranked higher than that of current accounts and slightly below savings account. In addition, the report indicated that Inter-bank transactions dropped by 30.2 percent in October 2006 to 29.8 percent in October 2007, implying strong adoption of ATM. Cardholders were also aware that they could use devices deployed by other banks as well as other channels.

2.9 BENEFITS OF TECHNOLOGY-BASED BANKING SERVICES (TBBS) – ATMS

Bank leaders have three main incentives to invest in TBBS. First, bank leaders can gain an economy of scale by increasing fixed cost in the technology infrastructure to minimize variable cost per transaction (Ajah 2008). Second, banking customers differentiate between banks based on the banks' technological capabilities (Sureshchandar, Rajendran, & Anantharaman, 2002).

The third incentive for using TBBS is an enhanced competitive position. The effective use of technology creates barriers to entry, enhances productivity and efficiency, and increases customers' switching cost (Ajah, 2008; Sureshchardar et al., 2002). By using TBBS, bank

leaders might collect customer information for effective use by management (Anderson & Sallivan (1993). Banks can then gain market share and knowledge ahead of the competition.

Customers might benefit from TBBS because of control, speed, convenience, ease of use, and enjoyment (Dabholkar, 1996). Technology-based banking services provide customers with more control over banking needs in terms of when, where, and how to produce the service. Customers might be attracted to services that save them time, money, or effort. Customers might save bank trips and waiting time in teller queues. Some customers expect better service quality when using TBS (Dabholkar, 1996).

Technology-based services are easy to use, have convenient operating hours, and have reachable locations (Ajah, 2008). The convenience component includes accessibility to the service such as availability of Internet service for website access, mobile handsets for mobile banking services, and nearby service locations for ATM services. Convenient services can be perceived as low CTC.

CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION

This chapter presents the methodology of the study which focuses on; the research design, sources of data, study population, sampling procedure, instruments of data collection , determination of sample size and . Other areas include data analysis, ethical issues and the reliability of the research results.

3.1 RESEARCH DESIGN

This study is a cross-sectional descriptive survey employing quantitative instrument of data collection.

3.2 SOURCES OF DATA

The primary and secondary sources of data were used. The primary source of data was the use of questionnaires which are both open ended and closed ended question. Extra care was taken in choosing the questions, their form, wording and sequence. The nature of questions, purpose and information required was explained to the respondents. The respondents were then asked to complete questionnaire for later follow up discussion and collection. The questions bothered on factors affecting the use of ATM, trends in the usage of ATM services and the strategies adopted to prompt the use of ATM.

The secondary source were information obtained from textbooks, manuals, magazines, newspapers, and other related documents. The secondary data captured comments, statements, definitions and the opinions of previous authors on the subject matter. Published

articles on the internet, reports and journals on the use of ATM services also served as an important source of information for this study. The numbers of subscribers of ATM services were also ascertained through management reports available.

3.3 STUDY POPULATION

The study units were limited to subscribers of ATM services at ADB in the New Juaben Municipality.

3.4 INSTRUMENT OF DATA COLLECTION

Structured questionnaires have been used for the collection of data. The choice of the instrument is based on the fact that the study is quantitative in nature. The instrument was solicit information on factors affecting the use of ATM services, trends in ATM used and strategies to be adopted by management.

3.5 SAMPLING PROCEDURES

Stratified sampling method was used for the study. The customers of ADB Koforidua branch were categorized according to their level of education. There were four categorization: customers with no educational background, those with basic education, those with secondary education and those with postsecondary education. Educational status of customers was used as the basis of categorization because; it is a major factor influencing the use of ATM cards. A proportionate number of samples were drawn from each strata until the intended sample size is reached.

3.6 SAMPLE SIZES DETERMINATION

According to ADB 2011 annual report there are 1,650 subscribers of ATM card in Koforidua branch. The Yamane (1967) simplified formula corrected to proportions was used to determine the sample size of the population. The formula is defined as

$$\frac{\quad}{(\quad)}$$

Where

N = population

n = sample size and

e = precision

$$\frac{\quad}{(\quad)}$$

Table 3.6: Number of subscribers and sample size drawn from the various backgrounds.

Education Backgrounds	**Number of Subscribers**	**Sample Size**
No Education	35	7
Basic Education	110	21
Secondary Education	703	137
Post – Secondary Education	812	157
Total	**1650**	**322**

Source: Field Data, 2012

3.7 METHODS OF DATA PRESENTATION & ANALYSES

The analyses were performed using data collected from the field. The essence of the analysis was to inspect, clean, transform and model data with the view of highlighting useful information for decision making. The first step of the analysis was data reduction. The raw data gathered from the field were tallied, collated and coded to help the researcher summarize and categorize data for easy comparative analysis.

For the purpose of this study, data collected from the field were summarized and presented in tables showing frequencies and percentages. Data were analysed using simple frequency counts and percentages. The responses were then tabulated and the percentages computed. The results were represented using different methods of data presentation such as table and charts. The data collected were presented by means of tables and charts. The Data presented was analysed using percentages.

3.8 ETHICAL ISSUES

The study took into consideration some ethical issues required to ensure quality and independent work. Ethics are norms for conduct that distinguish between an acceptable and unacceptable behaviour. The study took into consideration the following ethical principles; honesty, objectivity, confidentiality, integrity, openness and respect for intellectual property. The study strives for honesty in all communications. The researcher ensured that data collected for this study are not fabricated, falsified or misrepresented to ensure that, data is reliable and accurate.

The study also respected intellectual property by referencing and acknowledging all authors whose materials and works were included in this study. In addition, all respondents in this study were assured that their opinions, views and answers to the questionnaire would be treated with utmost confidentiality and will not be disclosed to any third party without their express consent.

3.9 RESEARCH RELIABILITY

The reliability of data and methodology generally determines the quality of research. Reliability is the accuracy or precision of a measuring instrument. It is the degree to which a measure is free of a variable error. It also refers to the accuracy, consistency and stability over time of a measurement instrument (Alagheband, 2006). According to Babbie (2009), reliability, is "a matter of whether a particular technique, applied repeatedly to the same object, yields the same result each time" (p.150). Gravetter and Wallnau (2005) referred to reliability as the extent to which a measurement procedure is stable and consistent. In other words, a reliable measurement procedure will produce the same (or nearly the same) scores when the same individuals are measured under the same conditions. Rutherford, Quinn, and Mathur (2004) also referred to reliability as the consistency of results and the extent to which different variables or conditions of analysis produce clearly different results. The following steps were taken to ensure the reliability of the study:

- The research was conducted using a survey approach in order to concentrate on a specific sample to gain an in-depth understanding of the context of the research, and based on that, generalise the result.

- The same type of questions was administered to all respondents in order to increase reliability.
- Some open-ended questions were asked.

The objective is to ensure that the same conclusions would be made if another researcher follows the same procedures.

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.0 INTRODUCTION

The findings and discussions of the study have been presented in this chapter. The findings and discussions have been presented in themes and they relates to the objectives of the study, these are factors contributing to underutilization of ATM services, strategies of promoting ATM service, and trends in subscription of ATM services, the socio – demographic characteristics of subscribers are also analyzed.

4.1 SOCIO – DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

The socio – demographic characteristics used in the study are sex, age, level of education and marital status.

4.1.1 SEX OF RESPONDENTS

Out of the 322 respondents used for the study, 198 constituting (61.5%) are male and 124 representing (38.5%) are female, this suggest that there are more male ATM subscribers than female in the study area. The details are presented on table 4.1

Table 4.1 SEX OF RESPONDENTS

SEX OF RESPONDENTS	FREQUENCY	PERCENTAGE
Male	198	61.5
Female	124	38.5
Total	322	100

Source: field work (2012)

4.1.2 AGE OF RESPONDENTS

The study found that majority (47.4%) of the subscribers are middle aged, are in the age cohort of 30 – 39 years, this is followed by those aged 40 – 49 years (28.3%). It was further found that subscriber age between 50 – 59 years also constituted 9.5%. The details are presented in table 4.2.

Table 4.2 AGE OF RESPONDENTS

AGE OF RESPONDENTS	FREQUENCY	PERCENTAGE
20 – 29	40	12.3
30 – 39	153	47.4
40 – 49	91	28.3
50 – 59	31	9.5
60+	8	2.5
TOTAL	322	100

Source: field work (2012)

4.1.3 MARITAL STATUS OF RESPONDENTS

Married people dominated the subscribers of ATM services in the study area. They constituted 69.6%, this is followed by those who have not married 32%. Separated and divorced subscribers constituted 2.1% and 4.7% respectively. The details are presented in table 4.3 below.

Table 4.3 MARITAL STATUS OF RESPONDENTS

MARITAL STATUS	FREQUENCY	PERCENTAGE
Single	103	32.0
Married	192	59.6
Separated	7	2.1
Divorced	15	4.7
Widowed	5	1.6
Totals	322	100

Source: field work (2012)

4.1.4 LEVEL OF EDUCATION

The level of education was found to be generally high in the study area with majority (67.4%) having tertiary education followed by (22.5%) of subscribers having Senior High School or Secondary education with only (0.9%) having no formal education. The details are presented in table 4.4 below.

Table 4.4 LEVEL OF EDUCATION

LEVEL OF EDUCATION	FREQUENCY	PERCENTAGE
No formal education	3	0.9
Primary	16	5.0
JHS/Middle	20	6.2
SHS/Post-Secondary level	79	24.5
Tertiary level	204	63.4
Total	322	100

Source: field work (2012)

4.1.5 OCCUPATION OF THE RESPONDENTS

The occupations of subscribers were also analyzed for this study. The study revealed that, half of the subscribers which constitute (50%) are professionals. They include lawyers, bankers, doctors, lecturers at the tertiary institutions, consultants, engineers and those working in corporate institutions. Approximately 17% of the respondents representing were public servants. The study also revealed that, 18.6% of subscribers are teachers from both basic and second cycle schools. Approximately 14% were either unemployed, traders or other categories which may include students, housewives and artisans such as dressmakers, masons, mechanics, painters and carpenters. Table 4.5 illustrates the details.

Table 4.5 OCCUPATIONS OF RESPONDENTS

OCCUPATION	FREQUENCY	PERCENTAGES
Unemployed	16	4.95
Traders	20	6.2
Public Servant	55	17.1
Teachers(Basic& Secondary Schools)	60	18.6
Professionals (Lawyer, Doctors, Lecturers, Banker's etc.)	161	50.0
Others	10	3.1
Total	**322**	**100**

Source: field work (2012)

It is clear from the analysis that, the professionals and those working in the formal sector constitutes majority of subscriber while the rest operates from the informal sector of the economy which is characterized by illiteracy and ignorance.

The monthly income of the respondents was also analyzed. Approximately fifty percent (51.28%) of the subscribers earned more than Ghc 1,000.00 per month. Eighteen percent of the respondents earn between Ghc 500-750 while 51 subscribers constituting 15.84% earns between Ghc 750-1,000. The study revealed that about 48 subscribers representing approximately 15% earned Ghc 500.00 and below. While the lower income group may underutilize the ATM services for fear of paying high bank charges for the service, the higher income groups may also underutilize the facility as a result of the limited amount they could withdraw per transaction. The table below analyse the income of various respondents.

4.6 MONTHLY INCOME OF RESPONDENTS

MONTHLY INCOME (GHC)	FREQUENCY	PERCENTAGES
0-100	8	2.48
100-250	10	3.11
250-500	30	9.32
500-750	58	18.01
750-1,000	51	15.84
Above 1,000	165	51.28
Total	**322**	**100**

Source: field work (2012)

There is a need to determine factors contributing to underutilization of ATM services in the study area so that remedial action can be taken to correct it. Based on this background

subscribers were asked to determine the factors militating against the use of ATM services and the details are presented in table 4.7 below.

4.7 FACTORS CONTRIBUTING TO UNDER – UTILIZATION OF ATM SERVICES

FACTORS	FREQUENCES	PERCENTAGES
Limited ATM Dispensing Point	131	40.7
Irregular network	45	14.0
Frequent breakdown of Machine	41	12.8
Limited cash withdrawal	55	17.0
Charges for the use of facility	7	2.2
Fear of Fraud	18	5.6
Fear of forgetting Pin Number	15	4.6
Long queues during Peak periods	10	3.1
Total	**322**	**100**

Source: field work (2012)

From table 4.7 above, it was found that a major problem facing the use of ATM services is the problem of access to ATM dispensing points, this constituted (40.7%). The study found that, ADB Koforidua branch has only two ATM dispensing points in the municipality. One is situated in the banking premises in the central Business District and the other at Agency in Koforidua Polytechnic Campus. These two dispensing points serve all the customers in the municipality as well as those in the neighbouring towns. The inconvenience one has to endure in moving to the dispensing point to access cash is so high. Most of the customers have to travel more than 5km in order use the ATM facility. The study found that, the

inability to have more dispensing points has led to a situation where most customers even though have the ATM card prefer over the counter business.

Irregular network service (14.8%) was seen as another contributing factor limiting ATM services at ADB Koforidua branch. It was found that, in most of the time, the internet network services on which the dispensing points rely become unreliable because the network is either slow or unavailable. This situation makes it difficult for customers to access ATM services.

The policy of limited withdrawals for a day for customers using ATM is another factor leading to the underutilization of ATM services. As indicated in table 4.5, as much as 55 subscribers representing 17% stated the limited cash withdrawal as a factor contributing to the underutilization of the facility. It was identified that, the maximum withdrawal using ATM for a day is 500 Ghana cedis. This suggests that all customers who want to withdraw more than 500 Ghana cedis at a time will have to transact business over the counter. It was found that majority of customers especially civil servants prefer taking bulk of their salaries at the end of every month to avoid having to queue in the banking hall. Since most of the customers salaries are above 500 Ghana cedi, they are compelled to withdraw their cash from banking hall instead of the ATM.

Another factor contributing to underutilization of ATM services is the frequent breakdown of the ATM. This constituted (12.8%) of the responses. This category of respondents indicated that most often, the ATM breaks down and the likely reason for frequent breakdowns is that the machine is not durable and a little in use courses the machine to breakdown. It was found that, most often, when customers do not follow the instruction for accessing the services or

mix up the steps involved in accessing the service, causes the machine to freeze temporary or jams up the whole system calling for restarting. It was also found that where different electronic payment cards which are not compatible in use with ADB ATM, causes the machine to freeze.

Lack of interest in the use of electronic payment in the wake of the increase in electronic fraud causes some customers to decline the use of ATM service. This contributed (5.6%) of the response. Most of the elderly people are afraid of electronic payment hence the underutilization of ATM services in the study area.

It was found that most illiterates and semi – illiterate customers also do not want to use the ATM facility, because they cannot prompt on the dash board of the machine. As indicated in the table, 4.6% of the respondents expressed their fear of forgetting their Personal Identification Numbers (PIN). Memorizing of pin code as well as pouching of pin code and following strict guideline in accessing ATM services is difficult for such people.

A small percentage of customers (3.1%) were of the view that the long queues usually at peak hours normally deter them from using the ATM services. It was found that, between the hours of 9am and 12noon is the peak hours in banking and there are long queue during this period causing a lot of inconvenience especially for those coming from far distance. It was also found that another period is at the end of the month when most salary workers want to withdraw their salaries through the ATM service. The long waiting time in queues coupled with intermittent network failure deters a number of customers from using ATM services.

The high ATM charge is another factor accounting for underutilization of ATM services. Approximately 2% of the respondents expressed the fear of paying higher charges for the use

of the facility. Some customers are of the view that there should be no user charges for using ATM services. Such customers have refused to use ATM until it is made free. Other customers think that the bank is exploiting customers by setting low limit for withdrawal for a day so that customer will be withdrawing small amount as and when they need them for the bank to gain from the charges for their frequent usage.

From the above, it can be concluded that there are various factors contributing to the underutilization of ATM services at ADB bank, Koforidua branch with the main problem being inadequate ATM dispensing points, irregular network services, and limited withdrawal for a day.

4.3 STRATEGIES FOR PROMOTING ATM USAGE

The use of ATM in electric banking is a new phenomenon in the study area and most people are sceptical about it usage, it is therefore necessary that management adopt strategies for promoting it use. This study seeks to explore the strategies adopted by the management of ADB in promoting ATM use in Koforidua branch. The details are presented in Table 4.8

Table 4.8 STRATEGIES FOR PROMOTING ATM USAGE

STRATEGIES	FREQUENCY	PERCENTAGE
Increase access points	102	31.7
Acquire reliable internet services	41	12.7
Introduction of visa cards	67	20.8
Low charges	11	3.4
Offer 24hrs services	73	22.7
Improve education	28	8.7
Total	322	100

From Table 4.8 the main strategy adopted by management of ADB is to promote access to ATM usage. This is constituted 31.7%. Management of the bank has planned to install five standalone dispensing point at strategic location in the New Juabeng Municipality before the end of 2013. The study found that the process has begun by installing it first standalone ATM dispensing point at Koforidua Polytechnic Campus to serve the polytechnic and it allied communities. The establishment of the additional dispensing access has also led to the reduction of pressures on the use on the only ATM at the ADB bank. This has led to the reduction of frequent breakdowns leading to improve reliability of ATM services.

The introduction of visa card (20.8%) is another strategy of improving ATM services. The study found that visa cards are compatible with most ATMs. And as such visa card holders can access ATM services in almost all banks using ATM facility. This means that irrespectively of the few ADB dispensing points in the study area, visa card holders can rely on ATM service of other banks. This strategy is a novel innovation of improving access to ATM services as well as improving electronic banking. It is also aimed at improving interbank collaboration and support to meet customer need.

As a way of promoting ATM usage, management of ADB bank is now offering 24hourly uninterrupted services to its customers. This constituted (22.7%). The study found that management has procured a stand by generator to power the ATM whenever there is an interrupted power supply and has ensured that at any point in time there is sufficient money in the dispensing units. A technician has also been engaged to attend to all technical problems relating to the use of the ATM services. The threats associated with having to access ATM services in the night due to the fear of burglary has been reduce by strengthening security at the bank and its neighbourhood at night.

The acquisition of reliable internet facility to derive the ATM is another strategy of promoting ATM usage. This constituted (12.7%) of the responses. Hither to the bank was relying on the municipality in the management of the ATM services. The use of this local internet services provider with it intermittent service failure caused a number of inconveniences of unreliable ATM services. Currently management is using a direct satellite service even though expensive process reliable internet service hence reducing incidence of service interruptions.

Management has also adopted the strategy of intensifying public education on the merits of using ATM and also to ally all fears and perceptions concerning the use of electronic payment in general and ATM use in particular. The study found that most aged customers normally do way with ATM services due to the fear of possible electronic fraud. The continuous education for the public has begun yielding result since the number of subscribers is progressively increasing.

The ability of management to reduce ATM charges (3.4%) has also lead to the increase of a number of customers subscribing to ATM services. It was found that management now charges bower rate on ATM services. The rate per service is even lower than the rate charged for acquiring check booklet. The ability to reduce the rate of ATM services has lower than the accusation of check booklets has motivated a number of customers to use ATM services more especially in redrawing of cash, than using of check booklets since the cost of using the check booklet is higher than use of ATM services.

Management adopted a number of strategies in promoting ATM usage. The main strategies are increase in access to ATM services, the offer of 24 hourly services and the introduction

of visa cards to customers. Minor strategies used include increase education on ATM use and the low charges of ATM services.

4.5 TRENDS IN THE USE OF ATM SERVICES

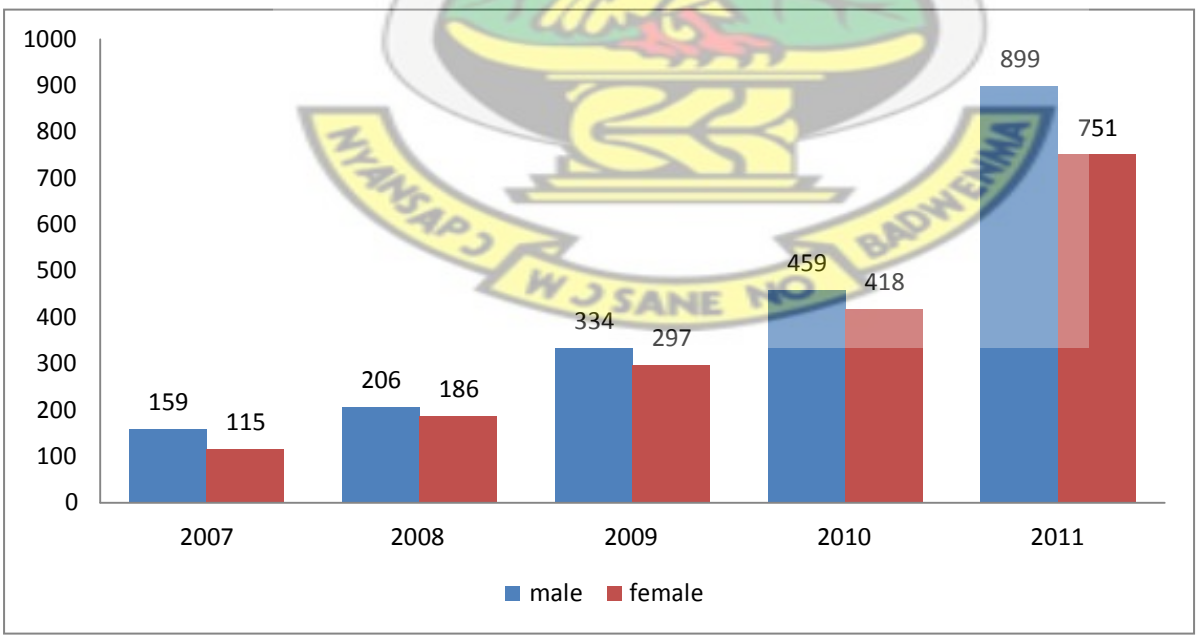
To be able to determine whether customers are using the ATM services, called for the research to trend analyses in order to determine the dynamics in subscription and use of ATM services and the details are presented in table 4.9

TABLE 4.9 TRENDS IN THE USE OF ATM SERVICES

No. and Gender Users	Years					
	2007	2008	2009	2010	2011	Total
Male	159	206	334	459	899	2057
Female	115	186	297	418	751	1767
Total	274	392	631	877	1650	3824

Source: Field data 2012

Figure 4.1 **Trends in the Use of ATM Services**



A group bar graph was provided to give a pictorial presentation of the trend in subscription and use of ATM services at ADB Koforidua branch. And the details are presented in figure 4.1

From figure 4.1 it is observed that generally more males have subscribed to the use of ATM services than females with a total subscription of ATM services in use by the end of 2011 to be 1650 whiles that of females' subscription falls slightly below that of the male subscribers (1767). Another general observation is that there had been a steady increase in subscription and use since the introduction of the use of ATM services in 2007 through to 2011. It was found that total subscription for both sexes stand as 3824 out of the 5721 customers of the bank. This signifies that over half of the customers have subscribed to ATM services and the subscription rate of 66.84% is quiet high in the community with fairly high literacy rate.

Dynamics in terms of male subscription is that in 2007, there was 159 male subscribers' and this increased to 206 in 2008 continuous to rise had a further rise in 2010 and 2011. A similar trend was identified in the female subscription even though it falls slightly below male subscribers. The reason for the continuous rise in subscription of ATM services are due to their advantages to be derived from the usage such as reduction in waiting time to access banking services, and the flexibility of accessing banking services at any time of the day throughout the week. It was also found most of the youth are erg to explore how the ATM works hence their increase in subscription.

Considering the continuous subscription and use of ATM services over the past five years, it is estimated it will continue to rise over the next three years. The ability to sustain this

increase in subscription depends on how effective the bank will promote the use of ATM services as well as improve on the efficiency of the ATM services rendering to customers.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 SUMMARY OF THE STUDY

The study access the Automated Teller Machine (ATM) at ADB bank in Koforidua by examining the factors contributing to underutilization, analyzed the trend in subscription and use of ATM services and the strategies adopted to promote ATM usage in the bank. The survey method was employed to collect data from 322 subscribers using questionnaires. Having used stratified sampling methods to categories the subscribers according to their level of education

The findings made are that:

There are more males subscribers of ATM services than females in the area. Secondly, majority of the subscribers are aged between 30 – 39 years and is followed by those age 40 – 49 years with most of them married. The level of education of most subscribers is generally high with majority having tertiary level of education.

The main factors contributing to the underutilization of ATM service are found to be inadequate dispensing points, irregular network services, and limited withdrawal of cash for a day. However, the minor factors contributing to underutilization of services were frequent system breakdowns, fear of electronic payments and high ATM's services charges.

Management strategies for promoting ATM usage include increasing access to dispensing point; offer 24 hour services, introduction of visa card and acquisition of reliable internet services.

There is a continuous increase in subscriptions and use of ATM services from 2007 through to 2011 with a total subscription 3636.

Reasons for the increase subscription and use of ATM services are due to advantages to be derived such as reduction in waiting time in accessing ATM services, ability to use visa card to access banking services anywhere.

5.2 CONCLUSIONS

Based on the findings derived from the study, the following conclusions were found.

There are various factors contributing to underutilization services in ADB Koforidua branch. The main factors were inadequate ATM dispensing point, irregular network services and limited cash withdrawal for a day.

Major strategies adopted to improve ATM services include increasing dispensing access point, offer of 24 hour services and introduction of visa card.

There is a general increase in subscriptions and use of ATM services with more male dominating the subscription. Reasons for this generally include the advantage of reducing waiting time in accessing banking services and the flexibility of accessing banking services at any time.

5.3 RECOMMENDATIONS

Based on the finding and conclusions, the following recommendations were made.

The study found that there are more males subscribers of ATM services than females. This suggests that more males than females use ATM services in the study area. It is therefore important that management devices strategies of encouraging females customers to subscribe to ATM services.

Most ATM subscribers were found to be in their middle ages (40 -49) years. They were also found to be married. It is therefore been recommended that the youth and young adult customers to be targeted and educated to use ATM services.

The main factors contributing to underutilization of ATM services were found to be inadequate dispensing points, irregular network services and limited withdrawal of cash for a day. All these factors were found to be associated with inefficient services. To this end it is been recommended that management should improve on the services of ATM by increasing more dispensing points and use reliable internet services as well as increase cash withdrawal per person for a day.

The trend analysis indicated an increased in the subscription and usage of ATM services from 2000 to 2011. In order to sustain this increase use, there is the need for management to improve on the efficiency of ATM services as well as to embark on educational campaign on the importance of the use of ATM services.

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APPENDIX

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

INSTITUTE OF DISTANCE LEARNING QUESTIONNAIRE

This questionnaire intend to collect data form respondent on the topic assessment of automated teller machine (ATM) services at ADB Koforidua.

How to complete the questionnaire

Most of the questions seek response by ticking in the box that corresponds to the appropriate answer. Other questions demand that you provide your own responses.

SECTION A: SOCIAL DEMOGRAPHIC PROFILE OF RESPONDENTS

1. What is your sex?

   Male ☐

   Female ☐

2. In which age group do you belong

   20 – 29 ☐

   30 – 39 ☐

   40 – 49 ☐

   50 – 79 ☐

3. What is year marital status?

   Single ☐

   Married ☐

   Separated ☐

   Divorced ☐

   Widowed ☐

4. Which level of education are you?

   SHS/Secondary ☐

   Voc/Commercial/Technical ☐

   Diploma ☐

   Bachelors' ☐

   Masters' ☐

   Others (Specify)……..

5. Please indicate whether you are;

   Unemployed ☐

   Traders ☐

   Public Servant ☐

   Teachers (Basic and Secondary)

   Professionals ☐

   Others ☐

6. Which range does your monthly income fall

   Less than ¢100.00 ☐

   ¢100.00 - ¢250.00 ☐

   ¢250.00 - ¢500.00 ☐

   ¢500.00 - ¢750.00 ☐

   ¢750.00 - ¢1000.00 ☐

   ¢1000.00+ ☐

SECTION B: FACTORS CONTRIBUTING TO UNDER UTILIZATION OF ATM SERVICES

1. What are the factors contributing to underutilization of ATM services in your Bank ?

   High ATM charges ☐

   Irregular Network services ☐

   Problem of accessibility ☐

   Illiteracy ☐

   Phobia in electronic payment ☐

   Long queues at peak hours ☐

   Frequent break down of ATM ☐

2. How can these factors be reduced?

   ……

   ……

   ……

SECTION C: MANAGEMENT STRATEGIES TO IMPROVE ON ATM USAGE

1. What strategies are being adopted by management to improve on ATM usage?

   Increase ATM usage ☐

   Acquire reliable internet services ☐

   Portability of ATM card ☐

   Low charges to ATM services ☐

   Offer 24 hrs. Services ☐

2. What are the problems management is facing in improving ATM usage?

   High cost in maintaining ATM ☐

   High cost in getting reliable internet connectivity ☐

   High cost of increasing access ☐

   High cost of training ATM Technicians ☐