

THE USAGE OF AUTOMATED TELLER MACHINES
CASE STUDY: BARCLAYS BANK OF KENYA

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DECLARATION

This project is my own original work and has not been submitted for a degree in any other university.

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This project has been submitted for examination with my approval as the University Supervisor.

Signed  _____

Date 1111 / Z O p d

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DEDICATION

To my parents, James and Esther

my siblings, Alex, Arnold, Alton and Angela

To my husband, Samuel

To my daughter, Margaret

To you all, I dedicate this work.

ACKNOWLEDGEMENT

My special gratitude and honour goes to the Almighty for the sufficiency of his grace and with whom all things are possible.

A lot of gratitude goes to my Supervisor, Dr John Yabs, whose guidance, support, constructive criticism, persistent encouragement and availability has played a very key role in the completion of this research project.

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To my husband, Samuel, thank you for your patience, support, understanding and encouragement throughout the study period.

Special thanks to Wilson Kigwa, Anne Chege and Njambi Warui, for their helpful suggestions and untiring labour in polishing my research document.

ABSTRACT

In the Banking Industry, Information Technology has brought about the automation of many banking services over the years. An ATM is a device used by Bank customers to process Bank account transactions. ATMs have become an important service delivery channel for Banks. To better understand usage on the ATMs, the study brings out the dependencies that ensure successful customer transactions at the ATM. The study also looks into the interaction between customers and systems and how to address service failure.

The main objective of this exploratory study was to identify the factors that affect the usage of ATMs. Judgmental sampling was used in this study and 100 questionnaire were administered to respondents within Nairobi City Center. The study targeted users of Barclays ATMs to complete the questionnaire. The data was analysed using SPSS Computer Package.

In summary the results indicated an overwhelming preference for the ATM against the choice of using Bank Cashier to make cash withdrawal. The results further indicated that the factors that affect the usage of ATMs includes the presence of a guard at ATM location, the preference for ATMs located at a Bank Branch, the measures taken to ensure sufficient security at ATM location, the reliability of ATM to provide services, the length of the queue at the ATM, the cleanliness of the ATM location, sufficient lighting at the ATM location, the choice of the ATM location aligned to customer preferences, the surveillance camera deployed at ATM locations and ATM located within a lobby

(enclosed area) are preferred.

Banks and Financial Institution need to ensure they implement the factors that affect the usage of ATMs by reviewing each ATM location before and after installation, to ensure they realize the maximum benefit from their investments. An understanding of customer needs and expectations with regard to ATM services is critical for the success of ATM services for the organisation.

Research has often demonstrated that responding to customer needs and resolving customer problems effectively has a strong impact on customer satisfaction, loyalty and bottom line performance.

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LIST OF ABBREVIATIONS

ATM	Automated Teller Machine
BBK	Barclays Bank of Kenya
NPS	National Payment System
SST	Self Service Technologies
CBK	Central Bank of Kenya
SPSS	Statistical Package for Social Sciences

CHAPTER ONE: INTRODUCTION

1.1 Background

Electronics and Information Technology are rapidly changing the banking industry. Developments such as online banking and electronic payment systems have resulted in more efficient banking systems. It has been noted that unless Commercial Banks in Kenya embrace Information Technology as a way of customer focused service they would be rendered irreverent in a world that is becoming more 'technologized'. It is expected that as the millennium advances, the banking industry will advance its automation of services further to meet the ever increasing and dynamic needs of its customer base.

There is general appreciation in the potential advantages of improved Information Technology hence automation in the banking services. New technology is forcing re-organization of products/services offered in the banking industry.

Kigwa (2003) states that the banking industry has been growing more competitive and volatile markets have eroded customer confidence and loyalty, putting a premium on superior service and strong incentives. To succeed banks must improve their ability to retain customers and find way to maximize customer profitability over the life of customer relationship.

1.2 Barclays Bank of Kenya

According to the Central Bank of Kenya (CBK), Annual Report 2007 there are 45 Financial Institutions comprising 42 Commercial Banks, 2 Mortgage Finance and 1 non-bank Financial Institution. The period under review was characterized by rapid expansion of branch network of Banking Institutions. During the year 83 branches were approved by CBK.

In the above report, it is noted that the demand for plastic cards continued to grow with number of ATMs increasing by 32.8% from 555 ATMs as at December 2005 to 737 ATMs as at December 2006.

The unit of study is Barclays Bank of Kenya Limited. According to the Barclays Annual Report of 2007, Barclays operates as a subsidiary of Barclays PLC and has been operating continuously for over 90 years. Barclays has an extensive network of 107 Branches and 193 ATMs across the country as at 31st December 2007. Barclays is the leading bank in Kenya with the largest asset base and the largest market share in Kenya in terms of customer loans and customer deposits. Key services offered include Corporate Banking, Retail Banking, Credit Card Business and Treasury Services.

Barclays was listed on the Nairobi Stock Exchange in 1986 and its shares are some of the most sort after and are popular with both institutional and retail customers. Barclays goal is to become the leading bank in Kenya in the eyes of its customers, its people, its shareholders and the communities in which it operates (Githui 2006).

Barclays introduced ATMs in 1995. The first ATM was located at Queensway House Branch. Banks at the time were computerized to a certain level with customer operating their accounts using a 'pass book'. Customer transaction would take very long to process resulting in slow movement of queues within the banking hall. A common feature in those days was the crowded banking halls and it is possible there were incidents of customers fainting owing to lack of proper flow of air within the building. It was also typical that customers would dedicate almost an entire day to visit the Bank to carry out a single simple transaction. A great inconvenience at the time was that if a customer didn't withdraw cash from the Bank on a Friday they would have to wait until Monday to obtain cash.

Banks at that time installed ATM machines to reduce customer queues from the banking halls. In fact as an incentive to the customers, cash withdrawal from the ATM was free of charge. Members of staff at the Branch were also at hand to explain how to operate the ATM machine. A user guide was also given to customers for reference.

Barclays had quite a challenge on its hands in the initial days when customers were using the ATM machines for the first time. They had to demystify fears like 'I don't want to get money from the faceless cashier' 'I don't want to get money from the wall' 'ATM machine can decide to refuse to give me cash'. Barclays chose to create awareness on ATMs by advertising. They had to communicate to the target audience to produce the desired response. Kotler (1984), describes the consumer-adoption process as how potential customers learn about new products, try them and adopt or reject them.

During the late 1990s, the Kenyan music industry had *Lingala* music as the favorite music for most people. *Lingala* is a blend of music and beats from Western Kenya and Central Africa. Barclays therefore designed a TV advert that involved an ATM machine robot dancing to *Lingala* music. This advert was quite a success because both children and adults could identify with it and it also caused quite a stir in the country. This managed to effectively create interest in ATM machines and thereby increased usage of the same.

According to Kotler (1984) adopters of new products have been observed to move through the following five stages: (1) Awareness - the consumer becomes aware of the new product but lacks information about it. (2) Interest - the consumer is stimulated to seek information about the new product. (3) Evaluation - the consumer considers whether it would make sense to try the new product. (4) Trial - the consumer tries the new product on a small scale to improve his/her estimate of its value. (5) Adoption - the consumer decides to make full and regular use of the new product.

The Bank facilitated consumer movement through the five stages hence the success of the ATM machine. As a result, Barclays Bank continued to increase the number of ATM machines across the country. The ATMs were located at both branch and non-branch locations. The ATM machines have greatly reduced the queues in the banking halls and this has enabled better queue management initiatives to be adopted at the Branches.

In subsequent years the Bank introduced a minimal charge on the ATM machines for cash withdrawals and this has become a source of the Bank's revenue. The ATM network

for Barclays Bank is one of the largest ATM networks in the country and through which a lot of money in Kenya shillings is dispensed to both local and international card holders.

1.3 Statement of the problem

The introduction of ATMs into the Kenya Market has demonstrated a great amount of effort and huge investment by the Bank as regards this particular service channel. The study sought to understand how services are delivered to customers through the ATM. Further to this, the study also sought to identify the factors that affect the usage of these services delivered by the ATM. It is over 10 years now since the first ATM machine was installed in Kenya and an understanding of these factors that affect the usage of ATM machines in the delivery of service to customers is very important.

Similar studies that have been done include Onyango (2004) who did some research on the adoption and usage of ATM services installed by Banks in Nairobi. The researcher indicates further research is required into how ATM services can be improved to remove the unfavorable perception of insecurity, likely unavailability of ATM services and the element of mistrust of ATM transactions. Mbobua (2007) looked into the customer perceived quality of service in the Banking sector. The researcher established that the banking products that meet customer needs were rated fair by a majority of the respondents. This means the Banks are not really offering the services that the customers need. The same applies to provision of understandable customer information. The friendliness of the staff was rated fair by majority of the respondents.

This study therefore looked at analyzing the usage of ATMs by firstly gaining an understanding of how a customer gets services on the ATM and thereafter the study sought

seek to identify the factors that affect the usage of ATMs. The study also sought to establish the factors that would make a customer not use particular ATM and also identify the preferences of customers with regard to ATM usage.

1.4 Research Objectives

- (a) To establish the factors that affects the usage of ATMs by customers.

1.5 Importance of the study

The study intends to bring to light the realities on the usage of automation in banking sector in Kenya. The findings will be useful to the following stakeholders: -

- (a) Customers: - enlighten the customers on the use and need for automation in the banking sector. This should bestow confidence in the banking industry.

- (b) Banks: - Make the Bankers realize the need for fast and quality service. Also increase competitiveness in the products range. Reduce work force and increase hours of service - increase profit maximization.

- (c) Staff: - Make staff realize the need to diversify their skills. The staff should always be prepared in case of redundancy and incompetence.

- (d) Government: - Identify the need to incorporate technological policies in education curriculum to equip the young generation. Increased revenue for taxation, as profits will be higher as a result of using efficient & reliable systems.

- (e) Scholars and Researchers; - Broaden his/her understanding of banking needs in Kenyan situation.

CHAPTER TWO: LITERATURE REVIEW

2.1 Delivery of Services through the ATM

This chapter critically investigates the dependencies in the delivery of services to customers at the ATMs. To better understand usage on the ATMs, it is important to understand the dependencies that are linked to ensuring a successful customer transaction at the ATM. This chapter also looks into the interaction between Customers and Systems and lastly, it also provides an understanding on Payment Systems.

Bytes Specialised Solutions (2004) describe the Automated Teller Machine (ATM) as a device used by bank customers to process account transactions. Typically, a user inserts into the ATM a special plastic card that is encoded with information on a magnetic strip. The strip contains an identification code that is transmitted to the bank's central computer through a communication link. To prevent unauthorized transactions, a Personal Identification Number (PIN) must also be entered by the user using a keypad. The computer then permits the ATM to complete the transaction requested by the customer.

Onyango (2004) stated that, the world over, ATMs are used almost exclusively by banks and financial institutions and thereby allow their customers to conduct financial transactions 24 hours a day and have an alternative delivery channel to the traditional over-the-counter method which has time restriction.

Maina (2006) established that giving customer's access to their funds 24 hours a day was ranked first. The study inferred that to be successful, Banks should increase banking hours, increase tellers and also increase number of branches and ATMs.

Enquiries made by Onyango (2004) established that Standard Chartered Bank installed the first ATM in Kenya. They were followed by Barclays Bank in 1995. Other large and medium size Banks such as Kenya Commercial Bank, Co-operative Bank, NIC Bank and CFC Bank subsequently followed. In November 2003, 22 smaller Banks joined forces to establish an electronic financial switch that facilitated the interconnection of shared ATMs.

2.2 Conceptual Framework

Ngechu (2003) defines a Conceptual Framework as the theoretical explanation of the relationships between the several factors that have been identified as important to the research problem.

By the time a customer has completed transacting on the ATM, there is quite a number of processes that have gone 'right' and seamless behind the scenes. Any failure on any of the components involved in delivery of service at the ATM will result into an unhappy customer. To ensure a happy customer all the time, it is important to understand these components, so that Banks and Financial Institution can ensure successful transactions all the time at the ATM. Appropriate measures should also be taken to address failed ATM transactions or unhappy customers. This scenario brings about a dependency relationship which is the matter under investigation in this study.

There are various variables both dependent and independent that are involved in the delivery of service to a customer at an ATM. This dependency relationship is demonstrated in the diagram below:

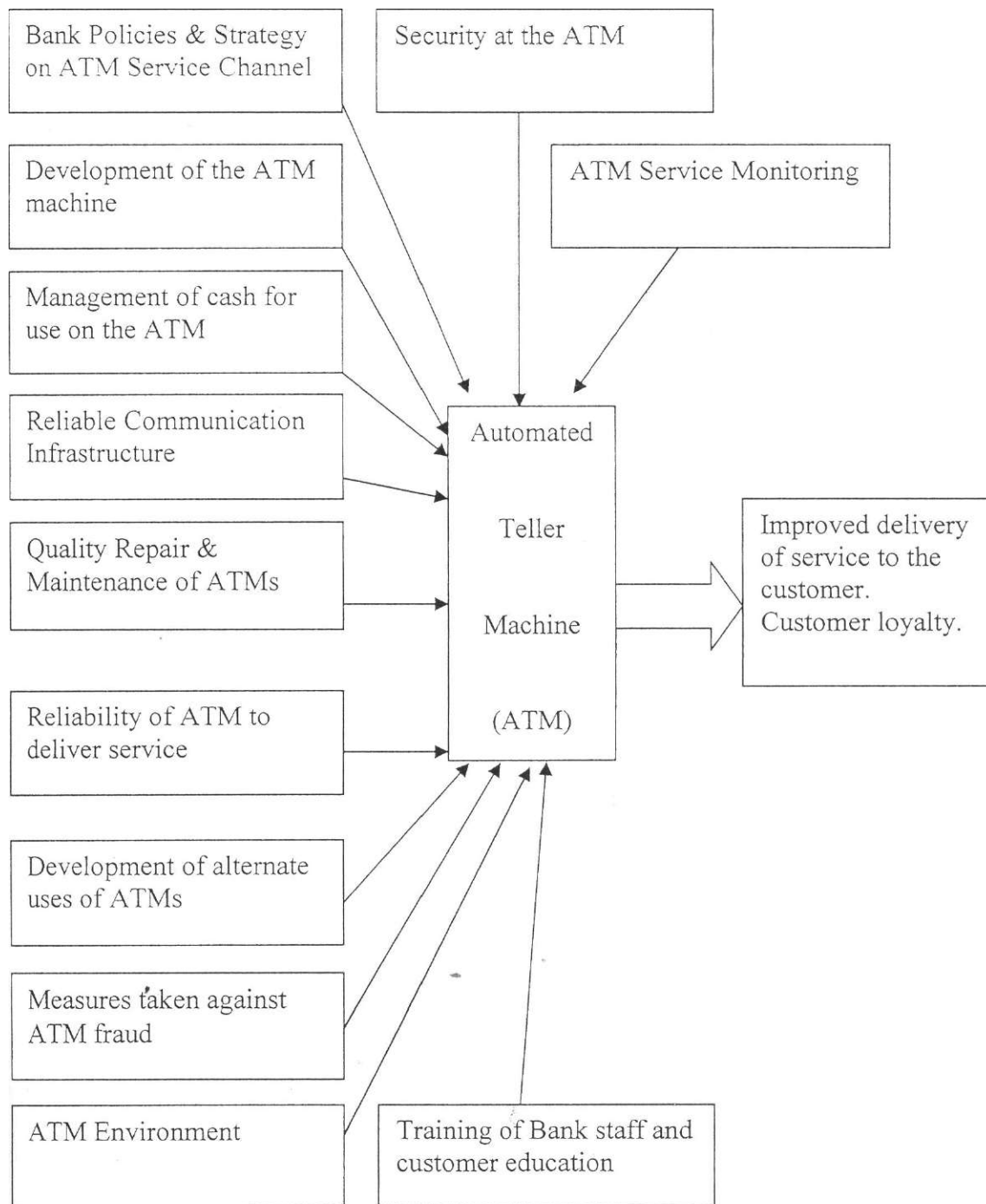


Figure 2.2: Dependencies in delivery of service through the ATM

Source: Researcher

2.2.1 Development of the ATM machine

The world's first ATM was developed John Shepherd-Barron in the 1960's. At the time he was the Managing Director of Rue Instruments. The first ATM was installed in Enfield Town in North London on June 27, 1967 by Barclays Bank. This instance of the invention is credited to John Shepherd-Barron, although Luther George Simjian registered patents in New York, USA in the 1930s and Don Wetzel and two other engineers from Docutel registered a patent on June 4, 1973. John Shepherd-Barron was named an Officer of the Order of the British Empire (OBE) by the Queen of England for services to banking on December 31st 2004 at the New Year's Honours.

Early cards were retained by the machine and worked on various principles including radiation and low-coercivity magnetism that was wiped by the card reader to make fraud more difficult.

The idea of a PIN stored on a physical card being compared with the PIN entered when retrieving the money was developed by the British engineer James Goodfellow in 1965, who also holds international patents regarding this technology.

Modern ATM banking was tested in New Zealand's Christchurch region before being rolled out elsewhere as a banking service.

In modern ATMs, customers identify themselves by using a plastic card with a magnetic stripe, which encodes the customer's account number, and by entering a four-digit passcode called a PIN (Personal Identification Number), which in some cases may be changed using the machine. If the number is entered incorrectly several times in a row

(with three attempts as the most common), most ATMs will retain the card as a security precaution to prevent an unauthorized user from working out the PIN by pure guesswork (it should be noted sometimes these cards are later on destroyed to prevent the bank staff from misusing them). Earliest versions accepted a single-use token or voucher, and the latest ATMs read and store customer data on a smart card.

ATM machines are either located at the Bank's branch premises or at a non-branch location e.g. cinema theater, petrol station, shopping malls etc and they are referred to as onsite and offsite ATMs respectively. The location is determined by the target market the Bank has identified.

In Onyango (2004), it is noted that ATM machines can be said to have several benefits. What stands out most to the customers is the convenience they offer. The Banks gained mainly from additional custom, reduction in operating costs and decongestion of banking premises.

2.2.2 Bank policies and strategy

Porter (1980) argued that strategy is the central vehicle for achieving competitive advantage in the market place. The aim of strategy is to establish a sustainable and profitable position against the forces that determine industry competition.

Strategic Management was later defined as the set of decisions and actions to formulate and implement strategies that will provide a competitively superior fit between the organization and its environment so as to achieve its organizational goals (Prescott 1986).

The Bank must have in place a comprehensive strategy regarding the ATM service channel. Areas that need to be addressed include (a) Pricing of services provide at the ATM - Banks should consider charging a small fee or offering the service for free to attract customers. The fee should not deter customers from using the ATM b2) Branding all the ATMs to a specific and similar standard - the ATM should have visible Bank logos and the same should be similar to ease identification of Bank ATMs from a distance, (c) Choice of location of ATMs should depend on target market - the ATM should always be easily accessible (d) Definition of the promotion or marketing programs/activities around the ATM - this can be done through various avenues like pamphlets for customers at the ATM location, ATM User Guide given to the customer at the onset of using an ATM, Marketing in the media - radio, newspapers, magazines, internet websites (e) Ensure the use of your competitive advantage wisely - identify priority ATMs based on competitive advantage e.g. a bank that has the only ATM in a certain town, such a Bank should ensure they capture the market through this ATM advantage (f) Establish the critical success factors to ensure product success — the Bank should carry out a SWOT (Strength, Weakness, Opportunities, Threats) analysis for each ATM location and ensure appropriate actions are taken to enhance the performance of the ATM

A well conceived strategy on ATM service directs attention of the organization towards
*
the real priorities of the customer. It is at this stage slogans are formed. The company slogan should be easily understood and represent the image of the company. Examples include 'Your Channel our Choice' 'The better option' 'Your health. Our priority' which once mentioned everyone understands the company and service they represent.

2.2.3 Cash Management

The ATM machine provides a Bank with an avenue to give customers cash just as via the cashier in the Branch. Therefore the management of cash is an essential component of the Bank services.

Bowlin (1990) states that the risk-return tradeoff for the firm's cash management system can be reduced to two prime goals: (a) Enough cash must be on hand to meet the disbursement needs that arise in the course of doing business, (b) Investment in idle cash balances.

Maintaining a balance in the above requires an understanding of the customers needs. In some instances Banks have opted to outsource the management of cash replenishment on the ATM machines especially for the offsite ATMs.

2.2.4 Reliable communication infrastructure

Most ATMs are connected to interbank networks, enabling people to withdraw and deposit money from machines not belonging to the bank where they have their account. This is a convenience, especially for people who are traveling: it is possible to make withdrawals in places where one's bank has no branches, and even to withdraw local currency in a foreign country, often at a better exchange rate than would be available by changing cash.

ATMs rely on authorization of a transaction by the card issuer or other authorizing institution via the communications network e.g. for international transactions authorization is given by the card issuer through Visa or Mastercard networks.

ATMs typically connect directly to their ATM Transaction Processor via either a dial-up modem over a telephone line or directly via a leased line. The latter is preferable as the time required to establish the connection is much less. Currently, more ATMs use dedicated high-speed Internet connections, which are much cheaper than leased lines. Encryption, required by law, is used to prevent theft of personal or financial information

2.2.5 ATM Environment

ATM machines require an appropriate environment for it to operate efficiently. The room where the rear of the ATM is accessed should be cleaned regularly to ensure dust does not accumulate and thereby damage the ATM. The room temperature should also be monitored and for very hot or humid areas an air conditioner should be installed. Proper air circulation should be provided for in the ATM room. ATM should be protected from power fluctuations by installing a UPS machine of sufficient capacity. Adequate arrangements should also be made for a generator to support the ATM in event of a long power outage and the UPS drains its batteries.

In the customer lobby, cleanliness should always be maintained. The customer receipts should not litter the floor instead dustbins should be put in place and emptied regularly.

ATMs contain secure crypto-processors, generally within an IBM PC compatible host computer in a secure enclosure. The security of the machine relies mostly on the integrity of the secure crypto-processor; the host software often runs on a commodity operating system.

2.2.6 Reliability of ATMs to deliver service

ATMs are generally reliable, but if they do fail to offer services customers will be denied access to cash until they can get to the bank during opening hours. Of course, not all errors are to the detriment of customers; there have been cases of machines giving out money without debiting the account, or giving out higher value notes as a result of incorrect denomination of banknote being loaded in the money cassettes. Errors that can occur may be mechanical (such as card transport mechanisms; keypads; hard disk failures); software (such as operating system; device driver; application); communications; or purely down to operator error.

ATMs record each transaction on a physical or electronic journal that is held within the ATM. The journal allows both the customers and the Bank to settle disputes around ATM transactions.

2.2.7 Security at the ATM

Early ATM security focused on making the ATMs invulnerable to physical attack; they were effectively fitted with safes with the ATM dispenser mechanisms. A number of attacks on ATMs resulted, with thieves attempting to steal entire ATMs by ram-raiding.

There are several additional and distinct ATM robbery patterns, each of which presents unique challenges in responding. The most common pattern of robbery at an ATM is for the offender to rob the ATM user immediately after the victim makes a withdrawal. Other patterns include the following: (a) the offender forces the victim to go to an ATM to withdraw cash (b) the offender robs the victim of his or her ATM card, forces the victim

to reveal the PIN. and then uses the card (c) the offender robs a victim standing at an ATM of other valuables (wallet, watch, jewelry) (d) the offender follows someone who has just withdrawn cash from an ATM and robs him or her away from the ATM.

A Bank can protect the customers against robbery at ATMs by adopting some precautionary measures. ATM users should be advised about what steps they can take to reduce their risk of getting robbed. While it is unlikely that providing safety tips will prevent any particular robbery, the larger purpose is to change ATM users' habits. Safety tips can be provided through mailings to cardholders, signs posted at ATMs, messages printed on ATM receipts, messages displayed on ATM screens, safety presentations, and public awareness campaigns. Another measure the Bank can adopt would involve installing and monitoring surveillance cameras at and around ATMs. Surveillance cameras at and around ATMs serve two main purposes: (a) To deter robbery and fraud (b) To facilitate offender identification. Banks could also consider deploying private security guards at ATMs. Security guards can either be assigned just to the high-risk ATMs or be assigned to randomly patrol many ATMs. In some areas, multiple security cameras and watch guards are a ubiquitous ATM feature.

2.2.8 Measure taken against ATM fraud

In the early 2000s, ATM-specific crimes became common. These had two common forms. In the low-tech form, the user's PIN is observed by someone watching as they use the machine; they are then mugged for their card by a second person, who has taken care to stay out of range of the ATM's surveillance cameras. However, this offers little

advantage compared to simply mugging the victim for their money, and carries the same risks to the offender as other violent crimes.

By contrast, the most common high-tech *modus operandi* involves the installation of a magnetic card reader over the real ATM's card slot, and the use of a wireless surveillance camera to observe the user's PIN. Although the latter fraud would have seemed like something from a spy novel until recently, the availability of low-cost commodity wireless cameras and card readers has made it a relatively simple form of fraud, with comparatively low risk to the fraudsters.

As of 2005, banks are working hard to develop countermeasures for this latter kind of fraud, in particular by the use of smart cards which cannot easily be read by unauthenticated devices, and by attempting to make the outside of their ATMs tamper evident.

2.2.9 Development of alternate uses of ATMs

Although ATMs were originally developed as cash dispensers, they have evolved to include some bank-related functions: (a) Mini-statement of customer account (b) Balance enquiry (c) PIN change (d) Accept cash & cheque deposits

ATMs also include many functions which are not directly related to the management of one's own bank account, such as: (a) Paying routine bills, fees, and taxes (utilities, phone bills, social security, legal fees, taxes, etc.). (b) Loading monetary value into pre-paid cards (cell phones, tolls, multi purpose stored value cards, etc.). (c) Ticket purchases

(train, concert, etc.). (d) ATM machines in the United States also allow users to purchase stamps and to cash cheques over the ATM.

2.2.10 Training of Bank Staff and Customer Education

The Bank staff responsible for the ATM at the branch is often referred to as ATM officer or ATM custodian. Their main duty revolves around First Time Maintenance (FTM). This includes activities like cash replenishment, ensuring adequate stock of ATM journal roll and ATM receipt roll, removing stuck cards or notes in the ATM, reconciling the cash in the ATM with the relevant accounts etc. Generally the tasks are routine but very important for the proper functioning on the ATM.

ATM custodian work is unlike mainstream banking because one handles a machine. It is therefore necessary that all the staff are properly trained to ensure they know what is required of them as ATM custodians. The knowledge will assist the ATM custodian solve FLM problems faster than if they rely on guesswork. The staff should also be provided with the relevant ATM manuals to enable them reference when in doubt. The staff should also be well informed to handle all customer queries related to the ATM.

In the same breath, customers should be shown how to operate the ATM. Such an opportunity should be facilitated by a Bank official once a customer receives an ATM card for the first time. Additionally, the Bank should provide pamphlets at the ATM that provide a user guide on transacting on the ATM. It should include telephone contacts that a customer can use incase of need; preferably a toll free line or the Bank can install a telephone headset at the ATM.

2.2.11 Quality repair and maintenance of ATMs

The suppliers of the ATM hardware are responsible for what is called Second Line Maintenance (SLM). Some suppliers of ATM machines include NCR, Wincor, Diebold etc. SLM involves the replacement of parts of the ATM which are not functioning as required. Engineers from the relevant company will be called upon to repair the ATM when there is a hardware failure. Regular and comprehensive service is also required to ensure the ATM is in good working condition.

The service provided by the engineers is monitored through the use of a Service Level Agreement (SLA) between the Bank and the hardware supplier. This is an important tool in managing the services provided by a third party supplier.

2.2.12 ATM Service Monitoring

The Banking Automation Bulletin states that ATM Status Management and Monitoring software is designed to provide information on the Bank ATMs to a central management station. There are 3 main types of information which are collected: (a) Fault management - allows ATM failure or problem to be quickly identified by the central team so that the fault can be corrected and the availability of the ATM kept to a maximum (b) Asset management - allows the central team to obtain detailed information on the hardware and software installed on each ATM in the network, (c) Application management - allows the central team to obtain information on the applications being used on the ATM and the transactions being carried out.

The main reason for Banks using ATM Monitoring software is to improve the availability of the ATM networks. The more an ATM is out of service, the less satisfied customers will be - some may even decide to move to a different bank in extreme cases. Additionally the Bank will lose revenue from interchange fees and customer charges. The brand reputation will also drop. Hence it is critical for a Bank to use an efficient ATM Monitoring software to ensure usage on ATM network at all ATMs by promptly addressing any arising issues.

2.3 The Triangle of Service

Every time a service organization performs for a particular customer, the customer makes an assessment of the quality of the service, even if unconsciously. The sum total of the repeated assessments by a customer and the collective assessments by all customers establishes in their minds the organizations image in terms of service quality.

Managing service properly means having as many of the 'moments of truth' as possible come out well, for customer to have memorable experience when interacting with the service organization.

Three important characteristics differentiate outstanding service organizations from mediocre ones: (a) A well-conceived strategy for service - the service strategy directs attention of the people in the organization toward the real priorities of the customer (b) Customer-oriented frontline people - the effective frontline person is able to focus attention to the customer's current situation, frame of mind, and need. This leads to a level of responsiveness, attentiveness and willingness to help that marks the service as superior in the customer's mind and* makes him tell others about the organization, (c) Customer friendly systems - The delivery system that backs up the service or service people is truly designed for the convenience of the customer rather than for the convenience of the organization.

Albrecht (1984) developed the Triangle of Service to represent the three elements of service, strategy, people and systems as more or less revolving around the customer in a creative interplay.

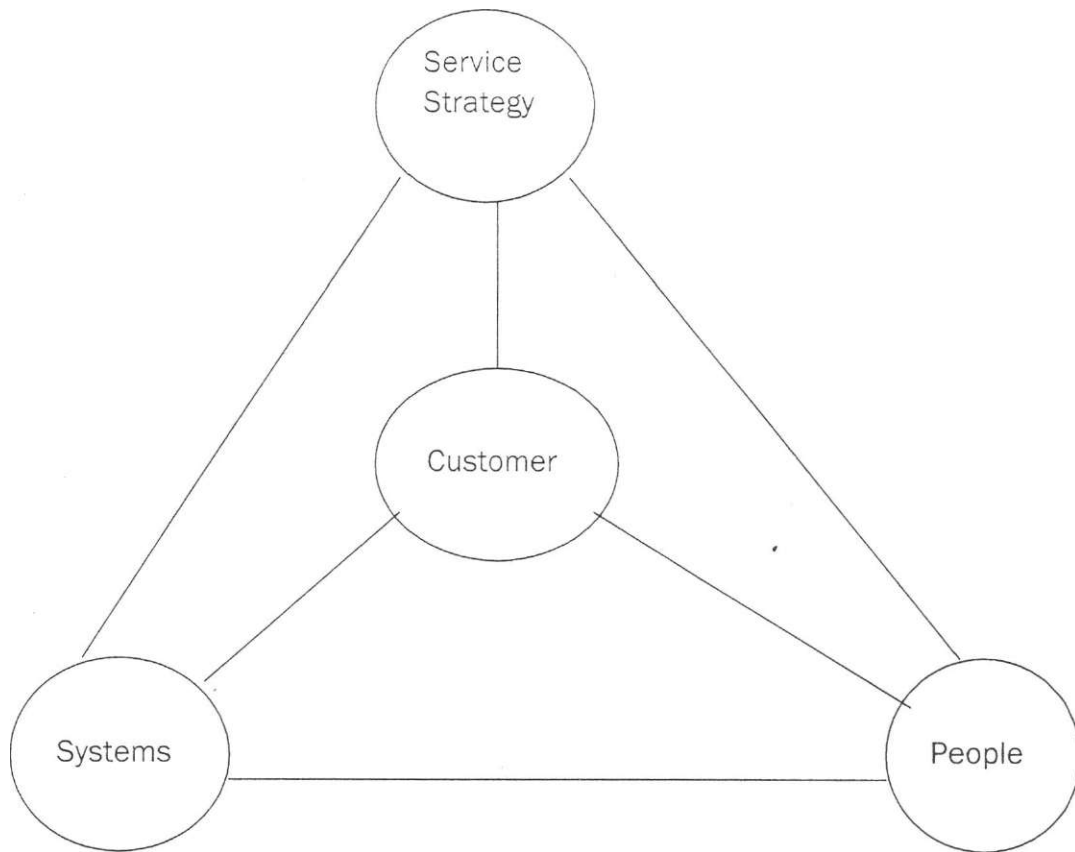


Figure 2.3: The Triangle of Service

Source: Karl Albrecht (1984) *Triangle of Service - 50,000 Moments of Truth* page 41

Armed with an understanding of the customer's buying motivation and a concept for service that will position the company advantageously in the marketplace, we must explore the interplay between the strategy, the people and the systems.

Each of the lines in the diagram represents an important dimension of the impact, (a) Line that connects service strategy to the customer - represents the process of communicating the strategy to the market. The customer has to know the fact that the service is uniquely better than others for the business to make sense, (b) Line that connects customer to the people - this is a crucial point of contact and it accounts for the most of the 'moments of

truth". It is this interplay that presents the greatest opportunity for the gain or loss of business and it's also a chance for creative effort, (c) Line that connects the customer to the system - the system helps deliver service. These systems include procedural systems and physical hardware. Many negative 'moments of truth' in the business world arise because of system peculiarities and malfunctions (Albrecht 2004).

Companies with excellent customer service have customer friendly people, strategies and systems and enjoy a competitive edge.

With regard to the line that connects customer to the people, Valerie (2003) notes that the contact employee is the service - there is nothing else. The contact employee represents the organization in the customers eyes and can directly influence customer satisfaction e.g. haircutting, counseling, legal services. It is therefore categorical to ensure employees are motivated, incorporate best practices and have the tools to deliver quality service for the customer.

Valerie (2003) refers to the line that connects customer to the system as the Self Service Technologies (SSTs) which is the ultimate in customer participation. SSTs are services produced entirely by the customer without any direct involvement or interaction with the contact employees. A partial list of some of the SSTs available to consumers include: ATMs, Internet Banking, Airline Check-In, Internet shopping, Electronic blood pressure machines and Automated Investments Transactions.

2.3.1 Recruit, Educate and Reward Customers

Valerie (2003) states that once a customer's role is clearly defined then the organization should seek to attract customers who will be comfortable with the roles. It should clearly communicate the expected roles and responsibilities in advertising, personal selling and other company messages. By previewing their roles and what is required of them in the service process, customers can self select into (or out of) the relationship. Example is the adverts in the media by Safaricom Ltd, where they show step by step on how to use a mobile activate new options like enabling internet on the phone. This gives the customer a choice on whether to activate the new option or not.

Customers need to be educated so that they can perform their roles effectively. Customer education can take the form of formal orientation programs e.g. orientation for new students at a University, written literature provided to the customer e.g. pamphlets at ATM lobby, directional cues and signage in the service environment and learning from employees and other customers.

Customers are more likely to perform their roles effectively or to participate actively if they are rewarded for doing so. ATM customers who perform banking services for themselves at the ATM are also rewarded through greater access to the bank, in terms of both location and time.

An ATM is also referred to as a self-service cash machine. In the providing ATM services to customers, a Bank needs to effectively manage the line that connects the customer to the system. Please note there is more customers' interaction with the Bank

happening at the ATM machine rather than with cashiers, hence the need to ensure the system are supporting the availability of services on the ATM consistently .

Definitely the other dimensions in the Triangle of Service are equally important i.e. an effective strategy on ATMs as well as trained staff to manage the ATM machine are also important elements in enabling memorable 'moments of truth' for the customer.

The Triangle of Service forms the fundamental concept for this study because it is the basis on which the entire research rests i.e. factors that affect the delivery of services to customers through the ATM. A service organization must very clearly understand the various dimensions that are coming into contact with their customer and the nature of this impact.

The Bank that facilitates the interaction between the customer with the 3 elements of the Triangle of Service that meets the customer needs and leaves the customer satisfied are the winners.

2.3.2 Impact of Service Failure and Recovery

Service Failure is inevitable even for the best of firms with the best of intentions, even for those with world class service systems.

Valerie (2003) defines Service Recovery as the actions taken by an organization in response to a Service Failure. Failures occur for all kinds of reasons - service may be unavailable when promised, it may be delivered late or too slowly, the outcome may be incorrect or poorly executed or employees may be rude or uncaring. All these types of

failures bring out negative feelings and responses from customers. Left unfixed, they can result in customers leaving, telling other customers about their negative experiences and even challenging the organization through consumer right organizations.

Research has shown that resolving customer problems effectively has a strong impact on customer satisfaction, loyalty and bottom line performance. That is customers who experience service failures but are ultimately satisfied based on recovery efforts by the firm, will be more loyal than those whose problems are not resolved.

By making adjustments to service processes, systems and outcomes based on learning from service recovery experiences, companies increase the likelihood of 'getting it right the first time'. In turn this reduces costs of failures and increases initial customer satisfaction.

It is worth noting that for a customer withdrawing cash at an ATM, is often part of a plan/schedule to achieve a goal or outcome e.g. 'I have no cash on me. I will go to the ATM and get money from the ATM to buy milk and bread' or 'I will require cash to pay for the laboratory test so I will have to pass by the ATM to get money' or 'I have to pass by the ATM and get money to pay rent for this month'. In all these situations, the customer will be very disappointed to find the targeted ATM not offering services.

In other instances the problem could occur during the transaction e.g. 'I was waiting for the cash to be presented then the ATM went blank on the screen. 'No cash. No card' or 'The ATM has retained my card!' or 'The ATM has refused to accept my card and

requests that I get in touch with my Bank'. In these scenarios the ATM does not complete the transaction.

From the above the customer's original plan/schedule is interrupted significantly and at a critical stage and since this was not in their expectations the customer experiences a huge Service Failure. This is a very common source of complaint from customers using the ATM because they feel let down by the Bank. This also has an impact on usage because repeated experiences of Service Failure could make a customer stop using ATM totally and thereby develop distrust for the ATM service.

Whereas, if the customer found the ATM working and they obtain their cash, they gladly proceed to carry out their plans. In their minds, they are satisfied the Bank has delivered on their promise.

Rather than loose the customer because of Service Failures, some Service Recovery Strategies include (a) Welcome and encourage complaints - make the process simple and easy to access e.g. toll free phones at the ATM, provide a list of alternative ATM locations in the neighborhood, (b) Act quickly - customers want the persons who hear their complaints to solve their problems. Hence the contact employees need to be trained and empowered to resolve the problems encountered at the ATM. (c) Treat customers fairly - customers expect to be treated fairly in terms of the outcome they receive, the process by which the service recovery takes place and the interpersonal treatment they receive, (d) Learn form Recovery Experiences - By tracking recovery efforts and solutions, manager's can often learn about systematic problems in the delivery system that need fixing. Conduct root cause analysis to enable identification of the source of the

problem and thereby modify the process which could eliminate the need for recovery, (e)

Learn from lost customers - formal market research to discover the reason customers have left can assist in preventing failures in future.

2.3.3 Moments of Truth

Rust (1996) states that a customer's experience with the service will be defined by brief interactions with service personnel and the firm's systems. The design and management of the service must be carefully planned to ensure that the interactions go well. Continuously producing successful moments of truth is not a lucky accident but the result of hard work aimed at understanding the needs of customers and employees alike.

When a customer interacts with a service, they receive a snapshot of the organization's service quality, and each encounter contributes to the customer's overall satisfaction and willingness to do business with the organization again. From the organization's point of view, each encounter thus presents an opportunity to prove its potential as a quality service provider and to increase customer loyalty.

There are various types of Service Encounters: (a) Remote Encounters - occur where a customer does not interact with a direct human contact e.g. a customer interacts with the Bank through the ATM system. In remote encounters, the tangible evidence of the service and the quality of the technical processes and systems become the primary base for judging quality, (b) Phone encounters - rely on phone encounters in the form of customer service, general inquiry or order taking functions. Tone of voice and employee knowledge and effectiveness determine the judgment of quality, (c) Face to face

encounters - verbal and non-verbal behaviors are important determinants of quality in this type of encounter.

Research reveals that customer experience with Self Service Technologies such as ATMs can be addressed by looking into what drives customer satisfaction and dissatisfaction. Satisfaction is driven by (a) Solved an intensified need - customers are thrilled that the technology could bail them out of a difficult situation e.g. an ATM came to the rescue by allowing customer to get cash to pay the taxi and get to work on time when the car had broken down, (b) Better than the alternative - they are easier to use, saved time, saved money and available when customer needed it e.g. 24 hour access to an ATM versus a Bank cashier accessible only during banking hours, (c) 'Did its job' - customers are thrilled when SSTs work as they should e.g. customer got money from the ATM. Dissatisfaction is driven by (a) Technology failure - significant disappointment noted where SSTs do not work as promised e.g. an ATM that is down, (b) Process failure - occurs where the customer discovers that the back office or follow-up process does not work e.g. power bill not paid hence disconnection because Bank did not update the utility company with bill paid by a customer on the ATM. (c) Poor design - poor design of the technology e.g. confusing menus or poor service design such that delivery takes too long, (c) Customer driven failure - occur when customer fails to use the technology properly e.g. ATM card is captured because customer was on the mobile and did not respond to ATM prompts on the screen.

2.4 Automation in the Banking Sector

According to Kigwa (2003b), technology offers institutions an alternative and better delivery channels through which banking products and services can be provided to consumers. The decline in cost and increase in capacity of computers, as well as developments in communications technology, have altered not only the way information is transferred but also the cost of processing and storing information.

The development of a modern banking technology began in the 1960s. Computers made it possible to handle a huge amount of transactions in a very short time. These new opportunities and changes had an important effect on the organization of work; banking personnel left routine based and time consuming work to computers and began to concentrate on the service-sector. This was beginning of a new paradigm, "the information technology paradigm", and banking was probably the first major service branch which adopted new information technologies extensively (de Wit 1990).

To bring services closer to a customer and to guarantee the opportunity to use them anytime a customer wants to, have been the most important targets in banking in recent years. The continuing development of more and more complicated back-office systems would not have been possible without information technology. In many cases, computers have replaced banking personnel and they have become the most important factor behind the decreasing amount of working places (Lehti 1996). This new information technology led to savings in labour costs, but it also originated a process of saving in other categories of capital as well, like buildings (de Wit 1990).

But what is the reason for this high rate of Information Technology (IT) application in banking sector. Diederer (1990) has found four reasons, which are playing an important part in this process. First, the banks' production process is highly suitable for applications of IT, especially in relation to the storage of data and the processing of modifications in data as a consequence of payment transfers, withdrawals or deposits. Second, banks differ from many other sectors in the services sector and in manufacturing as well because they operate on a large scale with a branch network throughout the country. Third, the banks had relatively large funds at their disposal and operated in a growing and profitable market, making it possible to invest in new technologies including software specialists, programmers and educational programmes. Fourth, the dynamics of technological change resulted in the development of micro and personal computers, which, in turn, were suitable for use in local branches.

On the other hand, Lewis (1987), mention that there have not been so many changes in the business of banking during the last decades. A great amount of transactions in the world are still made with cash, over three quarters, and cheque is the most common method for those remaining payments" Despite predictions of a cashless society, there has not been a transition from those old payment methods to new, electronic methods. But they continue and say, that in other aspects, the business of banking has been dramatically altered over the past twenty years, as exemplified by the rise of wholesale banking, multinational banking, Euro-banking, international banking facilities, multiple currency loans, collateralised mortgages, interest rate and currency options and swaps, and financial futures. Credit cards, debit cards, automated teller machines (ATMs), cash management accounts, electronic fund transfers, point of sale terminals are also part of

this world-wide process of change which began in the 1960s, has been sustained over two decades, and continues to re-shape the nature of banking and financial markets.

It can be considered, that computer technology has offered a solution to an increasing banking sector by making payments faster, more convenient and cheaper to process (Howells 1996).

2.5 Developments in Payment Systems

Kenya's National Payment System (NPS) comprises of the Central Bank of Kenya, Commercial Banks, the Government. Financial Institutions, providers of Payment Systems Technology and Infrastructure and the Users (Kokwaro 2004).

Payment systems constitute part of the basic structure of a country's economy and financial markets. A payment system includes payment instruments as well as the various facilities required for transferring funds.

Payment instruments consist of cash, cheques, debit and credit cards, ATM transactions, postal and money orders, electronic funds transfer at point of sale (EFTPOS) etc (Onyango 2001)

In Kigwa (2003b) the significance of payment systems as one of the basic pillars of the financial markets has grown as the production of goods and services has come to rely increasingly on specialization and trade. Their importance is thus being further enhanced by the process of international integration currently under way. Efficient and reliable payment flows are an essential requirement for the successful functioning of today's market economies (Hirvonen 1992).

Electronic payment systems developed for transferring interbank payments are becoming increasingly common in all the industrialized countries. They speed up payments transfer and improve the quality of payment transmission. Compared with traditional methods of transmitting payments, the new systems involve significant economies of scale and rationalization gains. It would hardly be possible to increase the volume and value of

payments at the present pace without corresponding advances in payment technology. At the same time, the implementation of new payment systems is helping to enhance the planning and monitoring of bank liquidity. As the systems require large investments, they also call for co-operation between banks and participation by the central bank. The payment system is a complicated and complex institution of society, which changes along with technological and social progress (Hasko 1992).

The role of a reliable and efficient payment system as a competitive factor has grown along with the internationalization of economies. A payment system must not only be secure and sound, it must also be cost-effective and compatible with systems used in other countries. The more efficient the payment system is, the less economic resources it ties up.

2.6 Payment instruments

2.6.1 Cash

According to (Kigwa 2003 b), money is a media that people are willing to accept for the goods, securities, and services that they sell. Money serves three purposes. First, money serves as a media of exchange. Because people readily accept money in trade for goods and services, transactions are greatly simplified. Second, as a standard of value, money serves as a measure for the value of a good or service and therefore provides a standard for making comparisons between different goods and services. Finally, money functions as a store of value. Money can be saved and used in the future (Saarinen 1996).

Cash dominates the global payment market. Cash offers both privacy and anonymity because traditional currency does not contain information that can be used to identify the parties or used to determine the transaction history.

2.6.2 Cheque

Parties to regular cheques generally include a drawer, the depositor writing a cheque; a drawee, the financial institution where the cheque can be presented for payment; and a payee, the entity to whom the maker issues the cheque.

2.6.3 Card

Payment cards comprise bank (debit) cards, credit cards, combination (multifunction) cards and charge cards. ATM cards (including cash cards) also belong to the range of instruments that can be used in connection with bank accounts.

In terms of technology the cards can be divided into basically magnetic stripe cards and smart cards. A credit card allows you to pay via installments and/or a revolving line of credit, with the limit set by the issuer. Generally, if you pay the entire bill at the end of the month, no interest is charged. If a balance is outstanding, interest is charged at a predetermined annual percentage rate which differs from issuer to issuer. A debit card is directly linked up to your checking or savings account, and the amounts of your purchases are deducted directly from it. In fact, a debit card functions as a paperless checking account.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

The objective of this research sought to establish the factors that affect the usage of ATM machines, appreciate the challenges customers face when they use the ATM and also gain an understanding of how customer perceives ATM machines. The researcher has chosen to conduct a survey to analyze the above mentioned issues. The method provided a framework for observing, measuring and describing major variables in the context of the factors that affect the use of ATMs.

In the Kenyan Banking sector, Barclays Bank is one of the leading banks with the largest asset base and the largest market share in terms of customer loans and deposits. This supports the choice of Barclays Bank as the suitable case study for this research.

3.2 Sample population

Barclays has an extensive network of 107 branches and 193 ATMs at at 31st December 2007 as noted in the annual accounts. Out of this, several Branches and ATMs are located within the Nairobi City Center. In this regard the sample population will target ATM users at ATM locations within Nairobi City Center.

By carrying out the study within the Nairobi City Center, the study captured the various demographic trends. The cosmopolitan population in Nairobi comprises people from all walks of life (Onyango 2004).

3.3 Sample frame

A trade off between added information versus the added cost of additional information was done and a decision made that 100 questionnaires would be administered. Statistically this sample size is acceptable as it conforms to the widely held rule of thumb that a sample size should not be less than 30.

Judgmental sampling was used in order to increase chances of covering the whole range of issues related to the study. By using this method, the researcher was able to set the selection criteria that would represent the study population (Onyango 2004).

3.4 Data Collection

The study has used primary data. The data required to perform the study was gathered from users of Barclays Bank ATM machines within Nairobi City Center. The questionnaires has largely administered on a random basis to ATM users at ATM locations within Nairobi City Center. A total of 100 questionnaires were distributed. The distribution of the questionnaire was 20 questionnaires each were given out at Moi Avenue, Loita Street, Haile Selassie Avenue, Mama Ngina Street and Muindu Mbingu Street.

The questionnaire has both closed and open-ended questions. The respondent was expected to answer all the questions on the questionnaire.

3.5 Assumptions

1. Assumed that the information given was accurate and free of error.
2. Assumed that most sensitive information was divulged without personal bias.
3. Assumed that all the respondents cooperated

3.6 Data Analysis

Descriptive Statistics was used to analyze the data. This being an exploratory study the data analysis involved summarizing of data using statistical mean, percentages, standard deviation and frequency. The results were presented using tables. This was done for all the sections of the questionnaire. The data analysis was done through the Statistical Package for Social Sciences (SPSS) Computer Package to ensure the accuracy and efficiency in the analysis of the data.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION

4.1 Respondents Characteristics

4.1.1 Gender

The study found that 36% of the respondents were female while 64% were male. A total of 78 questionnaires were completed out of the 100 questionnaires distributed to the Sample Population.

	Frequency	Percent
1 Female	28	35.9
2 Male	50	64.1
Total	78	100.0

Table 4.1.1: Gender of Respondents

4.1.2 Professions

In terms of their profession, it was established that majority were employed as shown by 94% of the respondents. 4% of the respondents were self employed while only 3% were students.

	Frequency	Percent
1 Student	2	2.6
2 Employed	73	93.6
3 Self employed	3	3.8
Total	78	100.0

Table 4.1.2: Profession of Respondents

4.1.3 Education

The analysis of respondents' level of education revealed that 72% are university graduates, 24% are college graduates while the rest are secondary school leavers (4%).

	Frequency	Percent
1 Secondary	5	3.8
2 College	19	24.4
<i>j</i> University	56	71.8
Total	78	100.0

Table 4.1.3: Education level of Respondents

4.1.4 Age

The analysis also show that majority of the respondents (53%) are aged between 26 and 35 years old. Further, 28% are aged between 36 and 45 years.

	Frequency	Percent
1 18-25 years	7	9.0
2 26-35 years	41	52.6
3 36-45 years	22	28.2
4 46-55 years	7	9.0
5 Above 55 years	1	1.3
Total	78	100.0

Table 4.1.4: Age Distribution of Respondents

4.2 Data Analysis

4.2.1 Period of ATM Usage by Respondents

The study found that all the 78 respondents had used Barclay's ATM at one time. **34%** of the respondents had used the ATMs for a period of between 1 and 5 years. 26% for a period between 6 and 10 years while 19% for a period between 11 and 15 years. 13% of the respondents had used the ATMs for a period of up to 1 year while the remaining 8% had used the ATMs for a period above 15 years.

	Frequency	Percent
1 0-1 years	10	12.8
2 1-5 years	27	34.6
3 6-10 years	20	25.6
4 11-15 years	15	19.2
5 16 years and above	6	7.7
Total	78	100.0

Table 4.2.1: Period of ATM use by respondents

4.2.2 How Respondents learnt about Barclays ATMs

The study found that most of the respondents learnt about Barclays ATM from the bank personnel as shown by 72%. 9% of the respondents learnt about it from adverts in the media, 8% from family members, 6% through ATM customer guide while 5% through friends.

		Frequency	Percent
1	Through a friend	4	5.1
2	ATM customer guide	5	6.4
3	Bank personnel	56	71.8
4	Advert in the media	7	9.0
5	Through a family member	6	7.7
	Total	78	100.0

Table 4.2.2: How respondent learnt about Barclays ATMs

4.2.3 Frequency of using Barclays ATMs by Respondents

The study found that 30% use the ATMs twice a week, 28% once a week, 12% once a month, 12% every other day, 10% three times a week, while 6% use the ATMs daily.

		Frequency	Percent . .
1	daily	5	6.4
2	once a week	22	28.2
3	twice a week	23	29.5
4	thrice a week	8	10.3
5	once a month	9	11.5
6	once a year	2	2.6
7	every other day	9	11.5
	Total	78	100.0

Table 4.2.3: Frequency of using Barclays ATMs by Respondents

4.2.4 Favourite choice of ATM location

The respondents were asked to state what their favourite ATM locations were. From the findings, it is shown that 60% preferred them at bank branches. 44% prefer them at shopping malls while 42% at local shopping centres. 37% further prefer them at city centre while 31% prefer them in the estates.

	Frequency	Percentage
Airport	9	12
Butchery	0	0
City centre	29	37
Cinema theatre	2	5
Bus stage	1	1
Estate	24	31
Hospital	9	12
Local shopping centre	33	42
Car garage	1	1
Bank branch	47	60
Restaurant	5	6
Market	3	4
Petrol station	11	14
Shopping complex/mall	34	44
Sports club	1	1
Supermarket	27	35

Table 4.2.4: Favourite choice of ATM location

4.2.5 Preferred features at ATM location

On the preferred features at ATM locations, the study found that 71% prefer sufficient lighting. 65% prefer surveillance cameras. 58% prefer guards while 18% prefer panic buttons.

	Frequency	Percentage
Surveillance camera	51	65
Panic button	14	18
Guard	45	58
Toll free calling	10	13
Sufficient lighting	55	71
Armed police	11	14

Table 4.2.5 Preferred features at ATM location

4.2.6 Frequency of usage of ATM options

The respondents were asked to state how frequently they used given ATM options. From the analysis, it can be revealed that the option often used is cash withdrawal (mean score of 1.06). Balance enquiry and mini-statements are features that are rarely used while PIN change and cash/cheque deposits were found not to be used at all by the respondents.

	Mean	Std. Deviation
cash withdrawal	1.0641	.33574
balance enquiry	1.6026	.56614
mini-statement	1.8718	.63161
PIN change	2.5897	.52064
cash/cheque deposits	2.6282	.60537

Table 4.2.6: Frequency of usage of ATM options

4.2.7 Respondents preference between bank cashier and ATM

The study found that given a choice, 95% would prefer withdrawing using ATMs while 5% would prefer bank cashier.

	Frequency	Percent
1 Bank cashier	4	5.1
2 ATM	74	94.9
Total	78	100.0

Table 4.2.7: Respondents preference between bank cashier and ATM

4.2.8 Respondent's preference with regard to positioning of an ATM

With regard to the positioning of an ATM, the study found that 95% would prefer ATM within a lobby while 5% would prefer ATM not within a lobby.

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	Frequency	Percent
1 ATM within a lobby (ATM area is enclosed and has a door)	74	94.9
2 ATM not within a lobby (ATM in the open with no door)	4	5.1
Total	78	100.0

Table 4.2.8: Respondent's preference with regard to positioning of an ATM

4.2.9 Respondent's preference of the type of ATM location

Most of the respondents would prefer ATMs located at other places, other than the Bank branch (59%). 41% would otherwise prefer those ATMs that are located at the bank branches.

	Frequency	Percent
1 ATM located at a Barclays branch	32	41.0
2 ATM at other locations (e.g.-hospitals, shopping mall, petr)	46	59.0
Total	78	100.0

Table 4.2.9: Respondent's preference of the type of ATM location

4.2.10 Actions taken when the respondent has come across a Barclays ATM not offering services

The respondents were then asked what action they took when they did not get services at the ATM. The study found that 80% used the next nearest Barclays ATM.

	Frequency	Percentage
Ask the guard the reason for the ATM not offering services	29	37
Ask other customers the reason for the ATM not offering services	8	10
Report the ATM is down to the nearest Barclays branch	16	21
Use a next non-Barclays ATM that is nearby	29	37
Adjust your plans/activity to fit into the cash you have on you	18	23
Wait for the ATM to resume services	11	14
Send a letter of complaint to a Barclays branch	1	1
Use the next nearest Barclays ATM	62	80

Table 4.2.10: Actions taken when the respondent has come across a Barclays ATM not offering services

4.2.11 Important factors Respondents consider before using ATMs

The respondents were then asked to state the extent to which they considered certain factors important before using an ATM. From the analysis, the important issues were security of ATM location (4.7), reliability of ATM to provide consistent services (4.6), length of queue at the ATM (4.3), and cleanliness of the ATM lobby (4.0). Other important features were present of security guards (3.9), time of day one wants to use the

ATM (3.8), proximity of the ATM to hospital, restaurant, petrol station, supermarket etc (3.5). and ability to offer more than just cash services (3.5).

	Mean	Std. Deviation
Security of ATM location	4.7436	.76338
Reliability of ATM to provide consistent service	4.6795	.74718
Length of customers queue at the ATM	4.3462	1.00424
Cleanliness of the ATM lobby	4.0000	1.05683
Security guard present at the ATM location	3.9615	1.07440
Time of the day you want to use the ATM	3.8205	1.38399
Proximity of the ATM to hospital, restaurant, petrol station, supermarket etc	3.5513	1.42015
Ability to offer more than just cash services	3.5385	1.42967
ATM is branded Barclays	3.3590	1.43223
Lack of point of sale (POS) machine at hospital, restaurant, petrol station, _ supermarket etc.	2.9231	1.43037

Table 4.2.11: Important factors Respondents consider before using ATMs

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of findings

The study found that 36% of the respondents were female while 64% were male.

Majority were employed as shown by 94% of the respondents. The study also found that in terms of levels of education, 72% were university graduates, 24% were college graduates while the rest were secondary school leavers. Most of the respondents (53%) are aged between 26 and 35 years old. The study found that all the respondents had used Barclay's ATM at one time.

Most of the respondents learnt about Barclays ATM from the bank personnel as shown by 72% of respondents. Others learnt about it from adverts in the media (9%), family members (8%), ATM customer guide (6%) while 5% through friends. Valerie (2003) supports this finding by stating that an organization should clearly communicate the expected roles and responsibilities to the customer. This information will ensure customers are able to perform their roles effectively.

The study found that 30% use the ATMs twice a week, 28% once a week, 12% once a month, 12% every other day, 10% three times a week, while 6% use the ATMs daily. This finding indicates the respondents have used the ATM at one time and therefore suitable candidates for this study.

60% preferred ATM located at Bank branches. 44% prefer them at shopping malls while 42% at local shopping centres. 37% further prefer them at city centre while 31% prefer them in the estates. This finding indicates that respondents prefer ATMs that are located in convenient places and easily accessible. The majority prefer Bank Branches and this could be assumed is due to inherent feeling of security.

The study found that 71% prefer sufficient lighting. 65% prefer surveillance cameras, 58% prefer guards while 18% prefer panic buttons. This finding has brought a very good element that needs to be taken into consideration for all Banks for ATM locations. Sufficient lighting is critical to customers to be able to use an ATM hence this should always be provided.

The respondents were asked to state how frequently they used given ATM options. The study revealed that the option often used is cash withdrawal (mean score of 1.06). Balance enquiry and mini-statements are features that are rarely used. This finding confirms that customers really appreciate the ability to access cash held in their Bank account through the ATM. There is also the added convenience of getting balance and mini- statements. Evidently the respondents appreciate these ATM services.

95% of the respondents would prefer making their cash withdrawals using ATMs while 5% would prefer Bank cashier. Some of the reasons given for the low preference for Bank Cashier are the long queues in the banking hall, the high charges for withdrawing over the counter and the need to produce identification documents eg National ID,

Passport or Driving License. Additionally, some of the reasons given by respondents for the preference of using ATMs to withdraw cash are the convenience, 24 hour accessibility, time saving, fast, less charges and the privacy. This is in line with the convenience noted in (Kigwa 2003b) on Payment Instruments where the cards provide easy access to Bank accounts.

With regard to the positioning of an ATM, the study found that 95% would prefer ATM within a lobby while 5% would prefer ATM not within a lobby. In another question most respondents would prefer ATMs located at other places, other than the Bank branches (59%). 41% would otherwise prefer ATMs located at the bank branches. These findings should assist Banks in coming up with the correct strategy when selecting ATM locations because it has an impact on the usage of the ATM by customers. As noted by Albrecht (1984), the line that connects Service Strategy to the customer represents the process of communicating the strategy to the market. Porter (1980) says the aim of strategy is to establish a sustainable and profitable position against the forces that determine industry competition.

The study found that 80% of the respondents used the next nearest Barclays ATM when they came across a Barclays ATM not offering services. 37% would ask the guard for the reason the ATM was not offering services and another 37% of the respondents would use the next non-Barclays ATM that is nearby. This finding is in line with Valerie (2003) who states that rather than loose a customer because of Service Failure it is important to implement Service Recovery Strategies. Research has shown that resolving customer

problems has a strong impact on customer satisfaction, loyalty and bottom line performance.

Respondents also ranked the factors they consider to be important before they use an ATM and the results indicate that security of ATM location (4.7), reliability of ATM to provide consistent services (4.6), length of queue at the ATM (4.3), and cleanliness of the ATM lobby (4.0) are ranked highly. Other important factors were presence of security guards (3.9), time of day one wants to use the ATM (3.8), proximity of the ATM to hospital, restaurant, petrol station, supermarket etc (3.5), ability to offer more than just cash services (3.5), and ATM is branded (3.3).

The four highly ranked factors indicate that these are significant and a customer will use them to determine whether they will use an ATM or not. Security at the ATM is very important and as noted in the findings in an earlier question, sufficient lighting at the ATM is critical factor. Banks should therefore adopt measures to ensure security at the ATM locations.

The reliability of the ATM to provide service is also critical. When a customer frequently finds an ATM not offering services they will get discouraged about using the ATM again. Valerie (2003) states that, when a Service Failure occurs after a particular service was not available when promised, the customer will develop negative feelings about the firm. However, if customers experience a service failure, but are ultimately satisfied based on recovery efforts by the firm, then these customers will be more loyal than those whose

problems are not resolved. Banks should use ATM Monitoring Software to improve availability of the ATM networks and promptly address any arising issues.

Length of the queue and cleanliness of the ATM are other factors that need to be managed carefully because they are critical for a customer to use an ATM. Long customer queues at the ATM or dirty ATM locations will deter usage by customers.

5.2 Conclusion

Whereas the study was focused on Barclays ATMs, the finding should be applicable to all Banks and Financial Institutions offering ATM services.

The overwhelming preference for the ATM at 95% response rate against the choice of a Bank cashier at 5% response rate clearly demonstrates that Banks have implemented the correct ATM strategies to achieve this result.

Whilst appreciating, the objective of this study was to establish the factors that affect the usage on ATMs; there are 2 factors that have come out very strongly with regard to how they affect usage on the ATM having ranked highly in 2 questions each on the questionnaire.

Firstly, the respondents indicated that the preferred feature at an ATM location is a security guard and this ranked second position at 58% response rate. The presence of a guard at the ATM location also came out strongly in the factors the respondents consider

before they use an ATM with a mean score of 3.9 at fifth position. This finding clearly demonstrates the importance of giving the customers at the ATM the sense of security as they transact.

Secondly, the favourite choice for ATM location is the Bank Branch with 60% response rate and at position one. On the respondent's preference on the type of ATM location, an ATM located at the Bank Branch had a 41% response rate following closely to the preferred choice of non-Bank Branch locations which rated 59%. This finding underscores the fact that most Banks will install ATMs at their branches. This is almost a standard feature on most Banks premises. This customer preference can be assumed to be based on the inherent security at Bank premises.

Evidently the need to feel secure is important for the customers when they are transacting at the ATM. Therefore, when it comes to compromising their security, a customer will opt not to use the ATM.

Further to this, the study has established other factors that are important and affect usage of ATMs. They are:

a) Measures taken to ensure sufficient security at the ATM location

This is critical for a customer to use the ATM. Banks need to ensure that all ATM locations adopt the minimum measure to ensure security. The specific measures will vary from ATM location to ATM location.

b) Reliability of the ATM to provide services

Banks need to ensure they use the Service Recovery Strategies to ensure loyal customers by promptly resolving service failures at the ATM. The delivery of consistent ATM services will encourage usage by customers.

c) Length of the queue at the ATM

Queue Management measures should be utilized at the ATM locations. Measures should be taken by Banks when queues are long eg install an additional ATM at the ATM location, increase the speed of services at the ATM so that customers do not take long to complete transactions.

d) Cleanliness of the ATM location

'Cleanliness is second to Godliness'. A clean environment is presentable to customers and this will encourage usage of the ATM. Provision of a dustbin at the ATM location is important to achieving this goal.

e) Sufficient Lighting at the ATM

This factor will also go a long way in encouraging usage of ATMs both during the day and at night. Banks should ensure the ATM area has sufficient light all the time so that customers are comfortable.

f) Choice of ATM location aligned to customer preferences

Banks need to gain an understanding on the preference of customers. Meeting a

substantial number of customers' need for an ATM in a particular location will contribute heavily to usage of the same.

g) Surveillance camera should be deployed at ATM locations

This security feature is fast becoming a necessity for any organisation that is handling sensitive operations especially around cash. It is critical that surveillance cameras are installed to give the additional sense of security at the ATM location.

h) ATM located within a lobby is preferred

This has also come out as a critical factor because the customers do not want to feel exposed as they transact at the ATM. The lobby gives the customer the privacy they deserve.

Valerie (2003) states that customer experience with SST's such as ATMs can be addressed by looking into what drives customer satisfaction.

5.3 Recommendations

Banks and Financial Institution need to ensure they observe the factors that affect the usage of ATMs to realize the maximum benefit from their investments. Each ATM location should be critically evaluated to ensure that they meet the factors that affect usage before and after installation. An understanding of customer needs should be obtained so that the organisation's policies and strategies developed by the Bank can be aligned to the same.

Customer satisfaction should be the primary concern of every firm because that will guarantee that the customer will come back for the firm's services and thereby guarantee the survival of the firm.

Banks must strive to improve their ability to retain customers and implement measures that will maximize customer profitability over the life of the customer relationship.

5.4 Limitations of the study

1. Time allocated for the study was not enough to cover a wide area that would be ideal of the vast study.
2. As the researcher is fully employed, there were constraints in terms of gathering information from various Libraries and Data center.
3. Being self-sponsored, there were financial constraints which resulted in the reduced sample space of the study.

5.5 Areas for further study

The researcher recommends the following areas need to be studied:

1. Challenges of implementing free cash withdrawal on all ATMs in the Kenyan Banking Sector
2. The challenges of implementing one Electronic Financial ATM Switch for all Banks and Financial Institutions in the Kenya Banking Sector.

REFERENCES

- Bennett R. (1999) *International business - Frameworks*, Pearson Education Ltd, Second Edition
- Bytes Specialised Solutions (2004) *ATM Custodian Manual - Student Guide* Version 1.02
- Daniels J.D. & Radebaugh L.H. (1989) *International Business - Environments and Operations*, Addison-Wesley Publishing Company, 5th Edition
- Central Bank of Kenya (2007) *Annual Report 2007- Banking Sector Developments*, pp 28 -31
- Economic Intelligence Ltd, *Market Intelligence: Banking Survey 2005* (Business and Finance Journal), Special Annual Edition 2005
- Githui J K (2006) *Challenges for Strategy Implementation in Barclays Bank of Kenya* Unpublished MBA thesis, University of Nairobi
- Irons K (1993) *Managing Service Companies - Strategies for success*, Addison-Wesley Publishing Company
- Kigwa W. M. (2003) *Effects of automation in the Banking sector in Kenya*, Unpublished Research Methods Term Paper, University of Nairobi
- Kigwa W. M. (2003b) *Information Technology and Developments in the Banking Sector*, Unpublished independent paper for NCR (K) Ltd
- Kokwaro E (2004) *Collaborative Strategies in the Kenyan Banking Industry*, Unpublished MBA thesis, University of Nairobi
- Kotler P (1984): *Marketing Management - Analysis, Planning and Control*, Prentice-Hall International Inc. London
- Maina T C (2006) *Key success factors in the Banking Industry: Case study of major Commercial Banks in Kenya*, Unpublished MBA thesis, University of Nairobi
- Masika M (2006) *Retail Marketing Strategies adopted by Commercial Banks in Kenya*, Unpublished MBA thesis, University of Nairobi
- Mbobua I K (2007) *Customer perceived quality of services in the Banking sector*, Unpublished MBA thesis, University of Nairobi
- Mburu K K (2007) *Perception of management in financial institutions towards the adoption of the 3rd party Automated Teller Machines network provided by Pesapoint in Nairobi*, Unpublished MBA thesis, University of Nairobi

Musa A H (2004) *Responses by commercial banks operating in Kenya to changes in the environment: A case of National Bank of Kenya Limited*. Unpublished MBA thesis, University of Nairobi

Mwangangi M R (2007) *Automated Teller Machine services outsourcing practices by Kenyan Banks*, Unpublished MBA thesis, University of Nairobi

Ngechu M (2003) *Understanding the Research Process and Methods - An Introduction*, University of Nairobi. 1st Edition

Onyango S E (2004) *Adoption and usage of Automated Teller Machine services installed in Banks in Nairobi*, Unpublished MBA thesis, University of Nairobi

Oswald D.B. et al (1990), *McGraw-Hill Finance Guide Series: Guide to Financial Analysis*, Book-mart Press. Inc, 2nd Edition

Pearce J A (2003) *Strategic Management - Formulation, Implementation and Control*, McGraw Hill Companies, International Edition

Research Banking Research Ltd, (April 2008), *Banking Automation Bulletin - The increasing importance of ATM monitoring*, Issue 251, pp 2-4

Rust R T et al (1996) *Service Marketing*, HarperCollins College Publishers,

Valerie A Z et al (2003) *Services Marketing - Integrating customer focus across the firm*, McGraw Hill Companies, 3rd edition

ELECTRONIC REFERENCES

The Answers Homepage [online] available at <http://www.answers.com> [accessed 12.08.05]

Market Intelligence Homepage [online] available at <http://www.mi.co.ke> [accessed 12.08.05]

U.S Department of Justice Homepage [online] available at <http://www.cops.usdoj.gov> [accessed 08.11.05]

The Executive Excellence Publishing Homepage [online] <http://www.eep.com/merchant> [accessed 25.08.08] - The Service Triangle by Karl Albrecht

The ATM Machine Homepage [online] <http://www.atmmachine.com/atm-inventor> [accessed 25.08.08] - Who invented the ATM machine?

The Barclays Bank Homepage [online] <http://www.barclays.com> [accessed 25.08.08]

The Central Bank of Kenya Homepage [online] <http://www.centralbank.go.ke> [accessed 25.08.08]

APPENDICIES

Appendix I : Letter of Introduction

October 2008

Dear Respondent,

RE: REQUEST FOR RESEARCH DATA

I am a Masters of Business Administration (MBA) student at the University of Nairobi. In a partial fulfillment of the requirements of the stated course, I am conducting a Management Research Project entitled:

'The usage of Automated Teller Machines (ATMS) Case Study: Barclays Bank of Kenya'

To achieve this, you are one of those selected to participate in the study. I therefore kindly request you to fill the attached questionnaire to generate data required for this study.

This information will be used purely for academic purposes and your name will not be mentioned in the report. Findings of the study, shall upon request, be availed to you,

Your cooperation will be highly appreciated.

Regards,

Aurolah Hiuko
Student

University of Nairobi

Dr John Yabs
Supervisor

University of Nairobi

Appendix II : Questionnaire

INSTRUCTIONS ON HOW TO COMPLETE THE QUESTIONNAIRE:

- Please tick as appropriate for the question.
- Do not indicate your name anywhere in this document.
- All information given will be treated with confidence.

SECTION A

- 1. Gender?** (a) Female [] (b) Male []
- 2. What is your profession?** (a) Student [] (b) Employed [] (c) Not employed [] (d) Selfemployed [] (e) Other please specify.
- 3. What is your level of education?** (a) Primary [] (b) Secondary [] (c) College [] (d) University []
- 4. In what age bracket do you fall?** (a) Less than 18 years [] (b) 18-25 years [] (c) 26-35 years [] (d) 36-45 years [] (e) 46-55 years [] (f) Above 55 years []

SECTION B

- 1. Have you ever used a Barclays ATMs?** (a) Yes [] (b) No []

(i) If **Yes**, for how many years?

[1] 0-1 years [2] 1-5 years [3] 6-10 years [4] 11-15 years [5] 16 & above

- 2. How did you come to learn about Barclays ATMs?**

[1] Through a friend [2] ATM customer guide [3] Bank personnel [4] Advert in the media [5] Security guard at the ATM [6] Through a family member

- 3. How often do you use a Barclays ATM?**

[1] Daily [2] Once a week [3] Twice a week [4] Thrice a week [5] Once a month [6] Once a year [7] Every other day

4. What are your favourite ATM locations? (Tick at least 3)

- | | |
|--------------------------|---------------------------|
| 1. Airport | 9. Car Garage |
| 2. Butchery | 10. Bank branch |
| 3. City Center | 11. Restaurant |
| 4. Cinema Theatre | 12. Market |
| 5. Bus stage | 13. Petrol Station |
| 6. Estate | 14. Shopping Complex/Mall |
| 7. Hospital | 15. Sports Club |
| 8. Local Shopping Center | 16. Supermarket |

5. Tick your preferred feature at an ATM location? (You can tick more than 1)

- | | |
|----------------------------|----------------------------|
| 1. Surveillance Camera [] | 4. Toll free telephone [] |
| 2. Panic Button [] | 5. Sufficient lighting [] |
| 3. Guard [] | 6. Armed police [] |

6. How frequent do you use the following ATM options?

	1= OFTEN	2= RARELY	3= NEVER
(a) Cash Withdrawal			
(b) Balance Enquiry			
(c) Mini-statement			
(d) Cash / Cheque Deposits			
(e) PIN Change			

7. Given a choice of a Bank Cashier or an ATM - which would you prefer to use when making your cash withdrawals?

Kindly explain your choice

8. With regard to positioning of an ATM, which of the 2 would you prefer?

(a) ATM within a lobby (ATM area is enclosed and has a door) []

(b) ATM not within a lobby (ATM in the open with no door) []

9. Which of the 2 ATM locations would you prefer?

(a) ATM located at a Barclays Branch []

(b) ATM at other locations (eg hospitals, shopping mall, petrol station) []

10. What action do you take in the event you come across a Barclays ATM not offering services?

1. Ask the guard the reason for the ATM not offering services []

2. Ask other customers the reason for the ATM not offering services []

3. Report the ATM is down to nearest Barclays Branch

4. Use a the next non-Barclays, ATM that is nearby

5. Adjust your plans/activity to fit into the cash you have on you

6. Wait for the ATM to resume services []

7. Send a letter of complaint to a Barclays Branch []

8. Use the next nearest Barclays ATM []

11. To what extent do you consider the following factors important BEFORE you use an ATM?

Rank the factors on a scale of 1 - 5, where 1 = Not important and 5 = Very Important

	1=Not important	2=Moderately important	3=Not sure	4=Significantly important	5=Very important
a) Security of ATM location					
b) ATM is branded Barclays					
c) Ability to offer more than just cash services					
d) Reliability of ATM to provide consistent service					
e) Cleanliness of the ATM lobby					
f) Time of the day you want to use the ATM					
g) Security Guard present at the ATM location					
h) Length of customers queue at the ATM					
i) Proximity of the ATM to hospital, restaurant, petrol station, supermarket etc					
j) Lack of Point of Sale (POS) machine at hospital, restaurant, petrol station, supermarket etc					

Thank You!