AUTOMATED TELLER MACHINES (ATM) ADOPTION STRATEGIESAND CUSTOMER SATISFACTION IN COMMERCIAL BANKS IN UGANDA:

A CASE OF CENTENARY RURAL DEVELOPMENT BANK BRANCHES IN THE CENTRAL BUSINESS DISTRICT OF KAMPALA

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KS18M15/213

A DISSERTATION SUBMITTED TO THE FACULTY OF BUSINESS AND ADMINISTRATION IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF A MASTER'S DEGREE OF BUSINESS AND ADMINISTRATION OF UGANDA CHRISTIAN UNIVERSITY

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DECLARATION

I Nanyanzi Immaculate Mary, hereby declare that this is my original work, and that, to the best of my knowledge, it has never been presented to any institution of higher learning for the award of an academic qualification. Where other people's work has been used, they have been dully acknowledged.

Signature: ..... Date: 25/06/2021.....

Nanyanzi Immaculate Mary

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APPROVAL

This is to certify that this dissertation has been done under my supervision and is now ready for submission to the Faculty of Business Administration of Uganda Christian University (UCU).

Signature: ..... Date: 24/06/2021

Dr. Olobo Maurice
University Supervisor

DEDICATION

I dedicate this dissertation to my husband Mr. Senyange Ivan and my children Isabella, Isaiah, Ian and Imanuella.

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With thankful and heartfelt appreciation, I acknowledge the contribution of my supervisor, Dr. Olobo Maurice of Uganda Christian University for his academic guidance, commitment and readiness to help, including the professional listening skills rendered to me towards the completion of this work. Thank you.

I acknowledge with gratitude the contributions and co-operation made by respondents for their willingness to provide the necessary information when I found them at the bank's ATM point during the research process. Without their cooperation, this study wouldn't have been possible to accomplish.

I would like to deeply thank all my lecturers at Uganda Christian University. They have adequately guided and equipped me with both theoretical and practical skills. I would also like to acknowledge the contribution of my classmates from whom I enjoyed fruitful discussions on challenging topics.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRYNOMS

ATM:	Automated Teller Machine
CBD:	Central Business District
CERUDEB:	Centenary Rural Development Bank
CVI:	Content Validity Index
ICT:	Information Communication Technology
TAM:	Technology Acceptance Model

ABSTRACT

The primary objective of the study was to assess the effect of ATM adoption strategies on customer satisfaction at Centenary Rural Development Bank in Kampala Central Business District. Specifically, the study assessed how perceive ease of use affects customer satisfaction at Centenary Rural Development Bank; established the extent to which perceived usefulness affects customer satisfaction at Centenary Rural Development Bank; and examined the relationship between ATMs adoption strategies and customer satisfaction at Centenary Rural Development Bank. The study used a cross – sectional research design and a mixed research approach (qualitative and quantitative approaches). A sample size of 310 respondents was selected from a study population of 1600 using of Krejcie & Morgan's table and a response rate of 60% was obtained after distribution of the research instruments. Descriptive analysis was used where frequencies, percentages, mean and standard deviation were used. In addition, Pearson's correlation and regression analysis were used to analyse the relationship between competitive strategies and life insurance uptake, and to determine the most significant predicator variable among the independent variables respectively. The study findings established: a significant positive relationship between perceived ease of use and customer satisfaction ($r = 0.487$, $N=184$, $p = 0.000$); and a significant positive relationship between perceived usefulness and customer satisfaction ($r =0.493$, $N=184$, $p = 0.000$). The researcher concluded that perceived ease of use and perceived usefulness of ATMs significantly contribute to customer satisfaction at Centenary bank where a positive change in customers' perception regarding the ease of use and usefulness of ATMs would lead to a positive change in customer satisfaction. The researcher recommended that there should be sensitization of customers on the use of ATM as this will improve the clientele effective understanding on how to use ATM to make transactions, which creates a positive perception regarding the ease of use of ATM and induce customer satisfaction. The researcher also recommended that banks should provide constant security at ATM points, improve on ATM card security measures, install ATMs in more convenient and secure places and re-design ATM system user inter-face to possess more clear direction of inserting the card without try and error method as this will change the customers' negative perception about the usefulness of ATMs thus, strengthen customer satisfaction.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This study examined the relationship between Automated Teller machine adoption strategies and customer satisfaction in commercial banks in Uganda using Centenary Bank as a case study. The independent variable of the study was ATM adoption strategies whereas the dependent variable of the study was customer satisfaction. This introductory chapter presents background to the study, statement of problem, purpose of the study, the objectives of the study, research questions, significance of the study, scope of the study, Conceptual Framework and Conclusion.

1.1 Background to the Study

The history of ATM can be traced back to the 1960s, when John Shepherd-Barron invented the first ATM machine and was first installed in the early 1967 by Barclays bank in London, UK (Anderson, 1993).By 2002, there were over 27,000 ATMs operated by banks in United Kingdom (British Bankers Association, 2002). A study by Mitroff (2013) revealed that Global competition in the banking sectors has forced management and executives to think differently about banking activities which led to initiation of automated teller machine (ATM) to wipe out the challenge of long queues to teller staff and renting of building to locate offices. In addition, a study by Jaji (2010) disclosed that the complexity of banking services and agency to speed up their performance or to make them more accessible for customers to induce their satisfaction has led to introduction of automated teller machines (ATMs).

In Africa, Standard bank Group in South Africa was first to introduced ATMs in 1981 when it launched AutoBank. On the same day, AutoBank went live at 25 machines installed outside Standard Bank branches in selected densely populated areas of Johannesburg with high demand

for after hours cash facilities (Standard Bank, 2011). Since then, other African countries started installing ATMs and by 2009, there were around 36,000 ATMs in Africa, with 80% concentrated in four African countries of Morocco, Egypt, South Africa and Nigeria (African Banker, 2014).

In Uganda, ATMs were introduced in 1997 by Standard Chartered bank in a bid to serve more customers, and since then, most banks in Uganda have embraced the innovation (Nakabugo, 2013). A study by Kasozi, (2009) revealed that the banking industry in Uganda has of lately significantly changed the service delivery methods to include the automation of cash withdraws, deposits, transfers, bank statements, checking account balances, pay bills. Centenary Bank introduced its first ever Automated Teller Machines in June 2003, when five ATMs were installed in three locations at the Entebbe Road branch, Mukwano shopping arcade branch and Umber House branch by then (Robert, 2003) and by December 2018, Centenary bank had 179 ATMs across the country with 658,714 ATM customers (Centenary Bank, 2019).

Micheal (2011) argued that today, ATMs have been adopted by customers because they do much more than dispensing cash but also offer such services as, checking account balances, printing bank statements, ticket purchases, donations and transfers to other bank accounts and improve customers' satisfaction. A study by Gao and Owolabi (2008) revealed that relevant factors determining the adoption of ATM technology include the level of awareness or attention, the convenience, privacy, costs, and the availability of knowledge and support concerning the systems. Similarly Yang and Jun (2002) contend that factors such as reliability, access, ease of use, personalization, security, credibility, and responsiveness determine customers adoption of ATMs and their satisfaction. However, a study by Katri (2013) reveals that most important factors discouraging the adoption of ATMs by customers are lack of access and not having a chance to try out them in a safe environment, thus not being in a position to access account.

Mcandrews (2011) argued that secure and convenient location, adequate number of ATM, user-friendly system and functionality of ATM play important role in customers' satisfaction. While, Joseph and Stone (2013) mentioned that adequate number of ATMs, convenient and secure location, user-friendly system, speed, minimum errors, high uptime, cash back-up, cost and service coverage are essential service quality aspects of ATM. Liao and Cheung (2012) argued that expectation of security and effective cash balance inquiry is essential in shaping customers' perception of service quality and lead to their satisfaction. On the other hand, the concern of customers about security and privacy, while using this service, is a major cause of their dissatisfaction (Madu, 2009).

Balunywa (2003) conducted a study about ATMs adoption and performance of banks and discovered that the adoption of ATMs in banks have produced largely positive outcomes such as improved customer services, more accurate records, ensuring convenience in business time, prompt and fair attention and faster services to induce customer satisfaction. However, according to a study by Dapo (2008), the spread of the machines has been generating a lot of heat, as customers face a splurge of frustration in using it; either the machines will not dispense cash, or debit transactions when cash is not dispensed or cards get stuck in them. Dapo (2008) further indicated that fraudsters perpetrate financial crime by stealing the personal identification number (PIN) a special secret code that grants access to the usage of the cards, and consequently, getting hold of the funds of the susceptible ATM users. Likewise Jiang et al. (2008) conquer that security threats of ATMs significantly influence how consumers regard the trustworthiness of the machines and have been the major causes of customer dissatisfaction with the use of ATMs. Thus, the current study seeks to fine out the effect of ATMs adoption strategies and customer satisfaction in banks.

1.2 Statement of Problem

Centenary Bank adopted the use of Automated Teller Machinesin June 2003 with the aim of eliminating congestion, improve on the bank's performance in terms of market share, financial performance, give customers more freedom to manage their accounts without getting into the banking hall and improve on customer satisfaction (Robert, 2003). Adoption strategies that have been used include making ATMs available, accessible and affordable in different locations of the country; incorporating local languages like Luganda in the machine for ease use by the local customers; tightening security at machine points to eliminate cases of theft; cleanliness of ATMs; raising the daily cash withdrawal limit from Ugx1 million to 2million in batches of 1million per transaction; adding more services on the machine such as checking account balance and printing a mini – statement over the ATM; availing relevant information through their website and sensitizing customers about the benefits of using ATMs(Centenary bank, 2017). All these adoption strategies have been put in place to induce and encourage customers to adopt the use ATMs and improve their satisfaction.

Despite the ATMs adoption strategies in place, there is persistent increase in the number of customers visiting banking halls with no clear cause (Owolabi, 2018). According to Balunywa, (2014), ATMs have diverse merits but customers still complain of shortfalls on the use of the system such as; break downs of ATMs, long queues at ATM service points, retention of customers' cards, limited knowledge on the use of ATM cards, fraudulent transactions and its operation in just a few languages. Centenary Bank managed to increase the number of ATM booths across the country from 5 ATMs in 2003 to 181 in 2019, however, long queues are being still experienced in the banking hall and at the ATM point with no clear known cause(Centenary Bank, 2019). The

number of customers using ATMs is increasing faster than the number of ATMs as shown in the table below

Table 1.1: ATM growth

Year	ATMs	ATM Users	Total Customers
2016	172	601,734	1,253,450
2017	176	658,714	1,493,554
2018	179	725,000	1,639,602
2019	181	870,000	1,800,000

Source: *Centenary bank annual report (2019)*

Korah (2015) opined that ATM technology in banking industry has caused customer dissatisfaction since customers have to wait longer at the machine to get access to their cash needed to meet their demands and the machine limit customers a daily withdraw of a certain amount, for example, Centenary bank allows customers a daily maximum withdraw of Ugx2,000,000.It is against this background that the current study sought to investigate the relationship between ATMs adoption strategies and customer satisfaction.

1.3 Purpose of the Study

Centenary bank adopted ATMs as one of the means of providing financial services to their customers without having to come into the banking halls. However, there are ever long queues in the banking halls and at the bank's ATM service points. This study therefore assessed the effect of ATM adoption strategies on customer satisfaction of Centenary Rural Development Bank.

1.4 Specific Objectives of the Study

The study was guided by the following study objectives;

(i) To assess how perceive ease of use affects customer satisfaction at Centenary Bank.

(ii) To establish the extent to which perceived usefulness affects customer satisfaction at Centenary Bank.

(iii) To examine the relationship between ATMs adoption strategies and customer satisfaction at Centenary Bank.

1.5 Research Questions

The study sought to answer the following questions;

(i) How does perceive ease of use affect customer satisfaction at Centenary Bank?

(ii) What is the extent to which perceived usefulness affect customer satisfaction at Centenary Bank?

(iii) What is the relationship between ATMs adoption strategies and customer satisfaction at Centenary Bank?

1.6 Research Hypothesis

The study tested the following research hypothesis;

(i) Ho: There is no significant relationship between ATMs adoption strategies and customer satisfaction at Centenary Bank

(ii) Hi: There is a significant relationship between ATMs adoption strategies and customer satisfaction at Centenary Bank

1.7 Significance of the Study

The study shall be of benefit to different sections of people.

1.7.1 Banking industry

The study shall be of help to the entire banking industry in relating ATM adoption strategies and customer satisfaction and how they can improve on their performance. Investigating these factors

may enable banks to increase their market share by creating solutions and strategies that attract consumers to use this type of banking.

1.7.2 Researchers

The study shall contribute to the extremely scanty literature on ATM adoption strategies in Uganda, especially since most of the empirical studies on the subject highlight studies largely conducted in developed countries, while few studies have been conducted on this issue in developing countries such as Uganda. The study will act as a reference to scholars who wish to carry out further research on ATMs and customer satisfaction in the banking industry.

1.7.3 Customers

It may be helpful to customers who may wish to use ATM services to carry out their banking transactions.

1.8 Scope of the Study

The scope of the study was presented in three perspectives of geographical scope, content and time as described below;

1.8.1 Content scope

The study focused on ATM adoption strategies as the independent variable and customer satisfaction as the dependent variable and aimed at establishing the relation between the two variables. ATM adoption strategies was conceptualized as perceived ease of use and perceived usefulness. On the other hand, customer satisfaction was conceptualized as customer commitment, customer loyalty and perceived value.

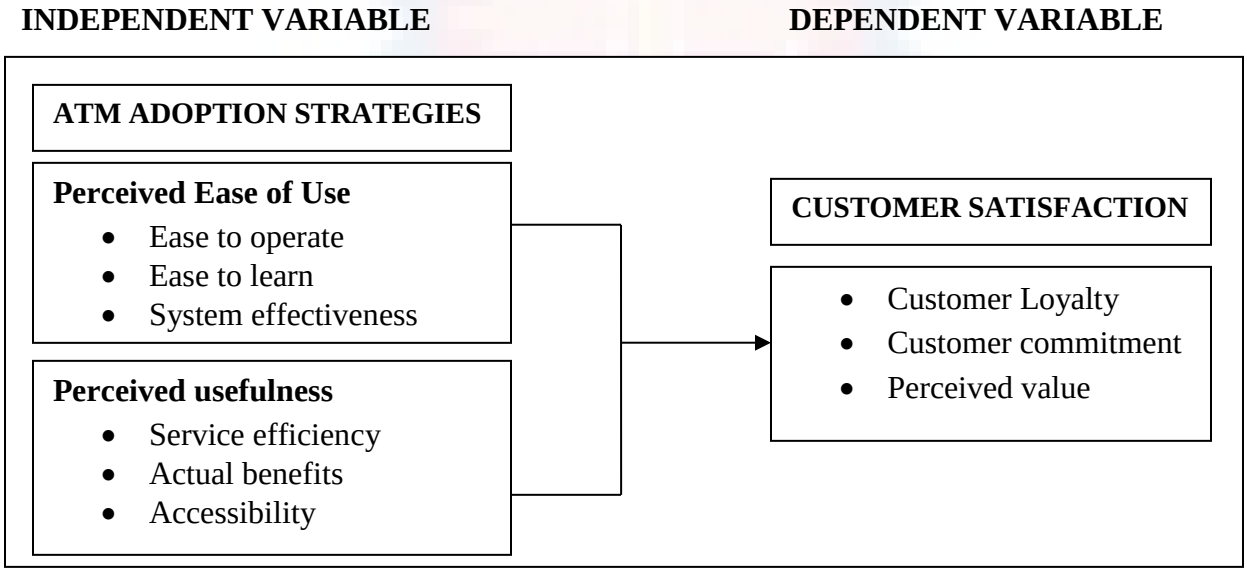
1.8.2 Geographical scope

The study covered centenary bank branches in the Central Business District of Kampala that comprise of areas of old Kampala, Nakasero, Kololo, Kamwokya, Kisenyi and Kampala's industrial area. This geographical area was studies because that is where the greatest number of bank branches and ATM outlets are found. Besides, the presence of a number of internet hotspots and easy accessibility to other forms of information technology makes Kampala more ideal for ATMs.

1.8.3 Time scope

The study covered a period for the past 1 year from 2018 – 2019.

1.9 Conceptual Framework



Source: Adopted from *Mehta(2010)*

Figure1.1: Conceptual framework showing the relationships between ATM Adoption Strategies and Customer Satisfaction

The conceptual framework above depicts the relationship between the independent variable, ATM Adoption strategies conceptualized as of Perceived Ease of use and Perceived usefulness, and the dependent variables Customer satisfaction conceptualized as customer commitment, customer loyalty and perceived value. It assumes that once the dimensions of the independent variable mentioned above are in place, then the outcome will be improved Customer satisfaction.

1.10 Conclusion

The above Chapter looked at the introduction to the study by defining the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, scope of the study, as well as the conceptual framework and the next chapter presents the theoretical review of the existing literatures on ATM banking adoption strategies and customer satisfaction.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Whereas the previous chapter looked at the introduction to the study, this chapter reviews the literature related to the variables of the study and highlights the relevant theories guiding the study.

2.1 Theoretical Framework

The study was anchored on Technology Acceptance Model (TAM) as the primary which postulates that perceived usefulness and perceived ease of use determine an individual's attitudes towards their intention to use an innovation, with the intention serving as a mediator to the actual use of the system (Bagozzi & Warshaw, 1992). Perceived usefulness is also considered to be affected directly by perceived ease of use. In the context of this study, TAM puts forth that intention of the bankers and the management affect their behavior towards the technology to be adopted (Odour, 2012).In addition, the model asserts that perceived usefulness and ease of use are fundamental determinants of ATM adoption and usage (Bankole et al., 2011).

The secondary theory that informed this study is the utility theory which postulates that consumers have different levels of satisfaction for the various types of goods and services available on the market (Henard & Szymanski, 2001). According to this theory, the individual is the best judge of his/her utility; it is therefore upon such postulation that the current study intends to establish ATM users own judgment of their satisfaction with ATM services.

2.2 Review of Related Literature

The literature was reviewed under the subtitles corresponding to the objectives of the study showing the relationships between the variables of the study depicted in the conceptual frame work.

2.2.1 Perceived usefulness and Customer Satisfaction

The importance of perceived usefulness has been widely recognized in the field of electronic banking (Guriting & Ndubisi, 2006; Jaruwachirathanakul & Fink, 2005; Eriksson et al., 2005; Laforet & Li, 2005; Polatoglu & Ekin, 2001; Liao & Cheung, 2002). According to them usefulness is the subjective probability that using the technology would improve the way a user could complete a given task. Perceived usefulness according to Frangos (2009) is the overriding motive behind customers' use of e-banking. A study in China indicates that many customers migrate from traditional over-the-counter services to e-banking because of their aversion to the former (Laforet & Li, 2005). Numerous studies underscore the central role that perceived usefulness plays in e-banking acceptance and usage (Jeong & Yoon, 2013; Maduku, 2013, Akturan &Tezcan, 2012; Viehland & Leong, 2007).

According to Mathwick et al. (2001) perceived usefulness enables a person to believe that using a particular system boosts his or her job performance. Pikkarainen et al. (2004) applied TAM in Finland and they found perceived usefulness as a determinant of actual behavior which encouraged the user of the twenty first century banking to use more innovative and user friendly self-service technologies that give them greater autonomy in performing banking transactions, in obtaining information on financial advices, and in purchasing other financial products. However, Gerrard and Cunningham (2003) noted that the perceived usefulness depends on the banking services

offered such as checking bank balances, applying for a loan, paying utility bills, transferring money abroad, and obtaining information on mutual funds.

There are extensive evidences proving the significance of effect of perceived usefulness on adaptation intention (Chen & Barnes, 2007; Guriting & Ndubisi, 2006; Jaruwachirathanakul & Fink, 2005). Tan and Teo (2000) suggested that the perceived usefulness is an important factor in determining adaptation of innovations. As a consequence, the greater the perceived usefulness of using electronic banking services, the more likely that electronic banking will be adopted (Polatoglu & Ekin, 2001, Jaruwachirathanakul & Fink, 2005).

Davis (2003) proposed that customers' intentions to use ATMs can be affected by customers' attitudes toward use of ATMs. When customers have positive attitudes, they are more likely to adopt e-banking and vice versa (Lichtenstein & Williamson, 2006). Eriksson et al. (2005) found that customers' attitude are significant factor affecting customer behaviors in accepting or rejecting technology. It was found that the relationship between attitude towards using and usage was significant. Customers' attitude towards using the ATM services is a major factor determining the behavior of the customer to adopt the technology.

Stemper (1990) stresses the positive dimension of ATMs based on freedom of transaction. Effective service delivery in ATM system guarantees quality excellence and superior performance and provides autonomy to the customers (Lovelock, 2000). In addition, Yavas, Benkenstein and Stuhldreier (2004) opine that customer focused ATM delivery system that fulfills their needs and maximize operational performance is an essential dimension for bank to achieve and sustain competitive advantage. Helton (2013) posit that despite the reality that the introduction of ATM terminals as a banking instrument was lauded by several customers as an alternative to the

frustrating queues that characterized the country's banking hall, the situation today has changed drastically; it has become a source of worry to users and providers (banks) because the function it was meant to provide has been eroded seriously.

Previous research has identified many factors that determine customer satisfaction in retail banking sector, and that there are differences in how consumers perceive services across countries and cultures that cannot be generalized. In Pakistani banking industry, customers have put the criteria of customer satisfaction towards service quality provided by their banks. For example; fast and efficient service, confidentiality of bank, speed of transaction, friendliness of bank personnel, accuracy of billing, billing timeliness, billing clarity, competitive pricing, and service quality are the key factors which significantly affect customer's satisfaction (Hokanson, 2011). A survey conducted on college students in Kampala Uganda indicated that young customers place more emphasis on factors like a bank's reputation, friendliness of bank personnel, convenient location, 24/7 ATM, and availability of parking space in selecting their banks (Apollo, 2012).

Gerrard (2013) asserted that print of readable slips and summary financial min statement from ATM warrant satisfaction of customers. The bank's ability to deliver these benefits on a continuous basis probably has a significant impact on the level of customer satisfaction. Therefore, bank management has to identify and improve upon factors that can increase customer value. Although, it is apparent that for superior service, it is not sufficient to only focus on satisfying customers, as customers switched their financial institutions because of service quality problems and failures (Cunningham, 2011), and stop the use of a financial service provider because of poor service performance (Allred, & Addams, 2009). This attitude is a significant factor, which influences customer intention to engage in positive or negative behavior decisions. Consequently, satisfaction

is a necessary prerequisite for building long term customer relationships and likely to increase loyalty (Bloemer & Ruyter, 2008).

According to Komal (2009), regular servicing of ATM machines accelerate its service delivery which enhance operations and customer satisfaction in terms of flexibility of time, add value in terms of speedy handling of voluminous transactions which traditional services were unable to handle efficiently and expediently. The machine can enable customers to deposit and withdraw cash at more convenient time and places than during banking hours at branch (Muhammad 2010). Kumbhar (2011) observed that effectiveness of ATM services include 24 hours and 7 days withdraw, deposit have a significant relationship with overall customer satisfaction. Effective service delivery is positively related to customer satisfaction in that, when a customer perceives that the delivery mode of the transactions that the bank is supposed to offer is quite good, the more the customers will be satisfied with the bank services.

2.2.2 Perceived Ease of Use and Customer Satisfaction

Perceived ease of use is the extent to which a person accepts as true that using an exacting method would be at no cost to that individual (Davis et al., 1989; Mathieson, 1991; Gefen & Straub, 2000; Gahtani, 2001). Similarly, Zeithaml et al. (2002) stated that the degree to which an innovation is easy to understand or use could be considered as perceived ease of use. Perceived ease of use in e-banking entails the physical or mental effort that customers exert or are likely to exert during e-banking (Maduku & Mpinganjira, 2012).

Perceived ease of use is one of the critical factors that determines the success of ATM adoption and is also critical for the development and as well as delivery of ATM services to the customers (Al-Hajri & Tatnall, 2008; Sathye, 1999). A study conducted by Daniel (1999) about electronic

banking in United Kingdom and Ireland revealed ease of use as one of the factors for customer acceptance. In addition, Cheung et al. (2000) opined that adopting e – banking is influenced by understanding and ease of use. However, Komal and Singh (2009) argue that the design of ATM user interface is complex which deters usability of the system, which vitiate the level of quality of banking services and affects customer satisfaction.

A study conducted by Wang et al. (2003) found that perceived ease of use has a significant positive impact on behavioral intentions of ATM banking customers. However, on the contrary, Pikkarainen et al. (2004) found that perceived ease of use is not positively correlated with ATM banking, indicating that there is no significant effect of perceived ease of use on the adoption and use of ATM banking.

Consult (2002) noted that the drivers of growth in electronic banking means such as ATM are determined by the perceived ease of use which is a combination of convenience provided to those with easy internet access, the availability of secure, high standard electronic banking functionality, and the necessity of banking services. Extensive research over the past decade provides evidence of the significant effect of perceived ease of use on usage intention, either directly or indirectly (Hernandez & Mazzon, 2007; Guriting & Ndubisi, 2006; Eriksson, 2005; Wang et al., 2003; Venkatesh, 2000; Venkatesh& Davis, 1996; Venkatesh & Mor-ris, 2000). The recently study by Chen and Barnes (2007) revealed that two technological aspects of the interface, namely perceived ease of use and perceived usefulness significantly affect customer adaptation intentions.

Joseph and Stone (2003) conducted a research and found out that ease of use in terms of secure and convenient location, adequate number of ATM, user-friendly system and functionality of ATM play important role in customer satisfaction. Furthermore, Dilijonas and Simutis (2009) on

the other hand mentioned that adequate numbers of ATMs, convenient and secure location, and user-friendly system, speed, minimum errors, high uptime, cash backup, cost and service coverage are essential service quality aspects of ATM service. Suprenant (2012) confirmed that ATM use has a positive significance influence on customer satisfaction, thus banks should invest ATM infrastructure all over to stimulate customer satisfaction since it's a current determinants of customer satisfaction in retail banking in Uganda.

Mazursky (2010) argued that easy carriage of large sum of money using ATM card facilitates customer satisfaction. The safety of cash carriage justifies customer satisfaction which leads to repeated purchase from which old customers are maintained and attract new ones. Use of ATM is a fundamental tool used by financial institutions for enhancing customer loyalty and ultimately organizational performance and profitability. The importance of customer satisfaction cannot be dismissed because happy customers are like free advertising. Many of customers become aware of current trend for businesses through repeated purchase which induces customer-centric, that is to put the customer at the centre of their business in terms of their strategies, actions and processes. In addition, Feronicah (2009) disclosed that financial institution are increasingly setting themselves strategies to out compete other players through Information Technology Communication (ITC) enhancement like use of ATM amongst other to induce customer satisfaction and loyalty.

Davies and Curry (2014) argue that the factors that influence customers' satisfaction about ATM service quality include costs involved in the use of ATM and efficient functioning of ATM. Consistently, Joseph and Stone (2013) 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 which led to customer satisfaction.

According to Sivadas and Baker-Prewitt (2013) affordable ATM fees charged indicate satisfaction. ATM's are easier to access compared to banking hall which influence customer satisfaction due to cost reduction. This increases customer benefits towards the services which make them to become loyal. The loyalty is based at the extent which customer satisfaction is influenced with the cost reduction of the financial transaction, thus prerequisite for maintaining a favorable relative attitude and for recommending and repurchasing from the bank. The key to generate loyalty is to get customers to recommend service users to the ATM after attainment of high customer satisfaction. Also, customers are likely to recommend a service provider when they are satisfied with the services and when they have a favorable relative attitude towards that service provider.

Evans and Lindsay (2010) stated that secure accurate ATM financial transactions stimulate customer satisfaction which creates a good opportunity to convert them into loyal customers who regularly use ATM services. Today's highly competitive and dynamic corporate environment compels the financial institutions to have satisfied customers and retain them in order to survive and compete with other market players successfully. However, Bowen and Chen (2014) said that having satisfied customers is not enough; there has transparence and others supplementary activities like social responsibility.

2.2.3 ATM Adoption Strategies and Customer Satisfaction

Khan (2010) established the effect of ATM service quality on customer satisfaction by using five key ATM service quality factors: convenience, efficient operation, security, privacy, reliability and responsiveness and discovered a strong relationship between ATM service quality and customers' satisfaction level. Sheshuoff (2000) in a study of customer satisfaction writes that banks introduce ATM in an attempt to create powerful barriers to customers exiting. In general, it

has been reported that ATM saves time, provides convenience and accessibility, and has a positive impact on customer satisfaction (Mattila, 2001).

ATM enable customers to access their money instantly at any time at any ATM of their convenience, thus induce the regular use of the service. Furthermore Okior (2015) argued that cheap cash withdraw of funds enables customers to meet their immediate needs which attract customer satisfaction since a single satisfied customer in today's dynamic corporate environment will obviously convince other customers through reference to the business and satisfaction greatly influences customers' repurchase intensions whereas dissatisfaction has been seen as a primary reason for customers intentions to switch to other dealers in banking industry. Banking industry is too competitive and therefore all players are struggling to win customers and use of ATM is the core yardstick to affect quality service delivery to clients. However, Diniz (2011) conjure that cash deposit via ATM point is not as effective as cash withdraws since deposit of cash does not update the account automatically in developing countries.

Shamsdouha, Chowdhury and Ahsan (2014) found that 24 hours service, accuracy, and convenient locations are the main predictors of customer satisfaction. The study also indicates lack of privacy in executing the transaction, fear of safety and complexity of the machine as the major cause of concern for the customers. Moutinho (2015) examines the relationship between the dimension of usage rate and performance expectation with customers' prolonged satisfaction with ATM services. The results indicate that usage rate has a negative association with customers' perceived prolonged satisfaction whereas performance expectations are found to have positive and significant effects on customers' prolonged satisfaction.

According to Colevin (2013), the bank employee accessibility to solve ATM problems is a key element of customer satisfaction since it shows a positive relationship between the customer and the provider of the products and services i.e. banks. Thus, both product and service quality are commonly noted as a critical prerequisite for satisfying and retaining valued customers (Colevin, 2013). Fast and efficient service, confidentiality of bank, speed of transaction, friendliness of bank personnel, accuracy of billing, billing timeliness, billing clarity, competitive pricing, and service quality are the key factors which significantly affect customer's satisfaction (Hokanson, 2011). A survey conducted on college students in Kampala Uganda indicated that young customers place more emphasis on factors like a bank's reputation, friendliness of bank personnel, convenient location, 24/7 ATM, and availability of parking space in selecting their banks (Apollo, 2012). Although, it is apparent that for superior service, it is not sufficient to only focus on satisfying customers, as customers switched their financial institutions because of service quality problems and failures (Cunningham, 2011), and stop the use of a financial service provider because of poor service performance (Allred, & Addams, 2009). This attitude is a significant factor, which influences customer intention to engage in positive or negative behavior decisions.

According to Sivadas and Baker-Prewitt (2013) affordable ATM fees charged indicate satisfaction. ATM's are easier to access compared to banking hall which influence customer satisfaction due to cost reduction. Wan (2005) argued that reduction on the transaction ATM charges improves the accessibility of the service. The low transactions' information is a major predictor shaping customers' perception of ATM service quality. Furthermore, Tan (2003) found that provision accurate transaction information at low charges has a positive significant contribution toward customers' perception of quality. The literature provides strong support that reliability is an

essential determinant of customers' perceived service quality is through low transaction a charge which is positively relates to customers' use of ATM services (Polatoglu & Koese, 2006).

Privacy at ATM stations leads to satisfaction of the users, which predicts customer loyalty (Evans, 2012). The location of ATM station in safe places guarded by security officers lead to increased value of ATM use which envelops the ultimate objective of customer satisfaction (Sivadas & Baker-Prewitt, 2010). Fornell (2011) found that cleanliness of ATMs and ATM stations a rouse high customer satisfaction which led to increased loyalty for the bank and that customers will be less prone to overtures from competition. This view was also shared by Anton (2009) who stated that satisfaction is positively associated with repurchase intentions, likelihood of recommending a product or service, loyalty and profitability. In addition, hygienic clean ATM stations largely influence customer satisfaction since customers are more likely to be repeat (and even become loyal) customers and don't think to switch to entering to the bank hall or other service providers (Guiltinan, Paul & Madden, 2009). Adequate number of ATMs, convenient and secure location, user-friendly system, speed, minimum errors, high uptime, cash back-up, cost and service coverage are essential service quality aspects of ATM, which shaping customers' perception of service quality (Joseph & Stone, 2013). However, the concern of customers about security and privacy, while using this service, is a major cause of their dissatisfaction (Madu, 2009).

In the services sector literature, strong emphasis is placed on the significant importance of service quality perceptions and the association between service quality at ATM and customer satisfaction (Cronin & Baker, 2009). Moreover, Feinberg and Rhee (2008), explained that a high proportion of customers in the high propensity to switch group appear to have had problems with their bank in the past specifically the lead-time to apply for ATM cards and cash availability in ATMs. In the real world, unsatisfied customers tend to convey their negative impression to other customers or

create a negative word of mouth. Consequently, customer dissatisfaction leads to low loyalty (Lewis, 2010; Newman, 2011).

Tunanukye and Oluwafemi (2012) carried out a study to examine how the adoption of Information Technology affects the operations of commercial banks in terms of effectiveness, efficiency, competitiveness, customer base and globalization using a case of Alliance investment house. The study findings revealed that, as Information Technology is vital in banking today, it becomes imperative for banks to realize its impact on operational performance in order to justify capital investments. Hossain (2010) conducted a research on satisfaction of debit card users and found that on average, debit card users were satisfied and further suggested that through improvement on network service, provision of receipt after transactions and prompt problem solving, banks can make their debit card users fully satisfied.

Islam and Kumar (2007) examined the satisfaction level of ATM card holders of a leading bank in Bangladesh and found a significant relationship between ATM service qualities and satisfaction. The study identified that location, personnel response, quality of currency notes, promptness of card delivery and performance were positively and significantly related to customer satisfaction. However, a study conducted by Namirembe (2004) revealed that much as Electronic Banking ICT carries several benefits to bank, it seems to create a number of threats especially related to electronic fraud, that ATMs in particular wastes a lot of time and seems no different from the former way of withdrawing funds from the banks.

Cacioppo (2000) argued that use of Automated Teller Machine system of banking brought efficiency in the banking industry majorly in terms of speed, data processing and storage which is anticipated to induce customer satisfaction through instant cash withdrawal, balance enquiry, bill

payment, cash and cheque deposit, saving and credit account on a 24 hours basis (Patricio & Cunha, 2011). Moreover, Donell (2003) viewed electronic banking service as a service that consumers can access, by using Network framework or an Internet service to a bank's computer center, to perform banking tasks, receive and pay bills, and so forth. Many other financial services can be gained access through the Internet. To most people, electronic banking service means 24-hour access to cash through an ATM or paychecks deposited directly into checking or savings accounts (Hillier, 2002).

Diniz (2011) argued that timely withdraw of cash facilitate customer satisfaction. ATM enable customers to access their money instantly at any time at any ATM of their convenience, thus induce the regular use of the service. Furthermore Okior (2015) argued that cheap cash withdraw of funds enables customers to meet their immediate needs which attract customer satisfaction since a single satisfied customer in today's dynamic corporate environment will obviously convince other customers through reference to the business and satisfaction greatly influences customers' repurchase intensions whereas dissatisfaction has been seen as a primary reason for customers intentions to switch to other dealers in banking industry. Satisfied customers are most likely to share their experiences with other five or six people around. Banking industry is too competitive and therefore all players are struggling to win customers and use of ATM is the core yardstick to affect quality service delivery to clients. However, Diniz (2011) conjure that cash deposit via ATM point is not as effective as cash withdraws since deposit of cash does not update the account automatically in developing countries.

Anderson and Sullivan (2007) argued that ATM facilitate 24/7 deposits and withdraws of cash by customers account to transact induce customer satisfaction. In addition, 24/7 access to account make customers to fill satisfied and become loyal which make the business to survive since a single

unsatisfied customer can send away more clients from the bank and current ITC is the base line to induce customer satisfaction through the use of ATM to offer 24/7 service. Colevin (2013) conjure that the bank employee accessibility to solve ATM problems is a key element of customer satisfaction since it shows a positive relationship between the customer and the provider of the products and services. Thus, both product and service quality are commonly noted as a critical prerequisite for satisfying and retaining valued customers.

Evans (2012) argued that privacy at ATM stations led to customer satisfaction which predicts customer loyalty. Building customer loyalty is not a choice any longer with businesses. It is in fact the only way of building sustainable competitive advantage. Building loyalty with key customers has become a core marketing objective shared by key players in all industries catering to business customers. Furthermore, Sivadas and Baker-Prewitt (2010) opined that the location of ATM station in safe places guarded by security officers led to increased value of ATM use which envelops the ultimate objective of customer satisfaction. On the contrary, Ihejiahi (2012) expressed concern about the lack of cooperation among banks in the fight to stem the incidence of ATM related frauds now plaguing the industry. He expressed that the silence among banks on ATM frauds makes it difficult for banks to share vital information that will help curb the menace. In addition, Femior (2013) argued that the advantages of safety and convenience of ATM has unfortunately been lessened by the frauds that are perpetrated by plastic money. The increase in number of customers using ATM has also increased the propensity to fraudulent practices by the ATMs fraud perpetrators.

Obiano (2011) also blamed the menace of ATM frauds on indiscriminate issue of ATM card without regard to the customer's literacy level. According to him one of the frequent causes of fraud is when customers are careless with their cards and pin numbers as well as their response to

unsolicited e-mail and text messages to provide their card details. Further, Omankhanleu (2009) opined that the card retention scare customers from the current upsurge and nefarious activities of Automated Teller Machine (ATM) fraudster is threatening electronic payment system in the nation's banking sector with uses threatening massive dumping of the cards if the unwholesome act is not checked.

Keither (2015) argued that increased ATM usage is also helped by the fact that customers have now the flexibility of using ATMs of other banks, as most of the banks are part of major interbank networks. The interbank networks have brought together ATMs of several banks so that consumers would gain access to any of the participating banks' ATMs. Banks find it cheaper to pay membership fees to these networks as against setting up additional units in expensive-to-deploy areas. In addition, Siyanbola (2013) disclosed 56 of the ATM cards in Uganda were inters witch verve cards issued by over 16 commercial banks and well over 14 microfinance banks; while the remaining 10 million e-Payment cards are shared by MasterCard and Visa, two global payment card players.

Hofstede (2009) argued that forecasting demand on the number of ATM users/clients to project the right estimate number of ATM boost the effectiveness of ATM services delivered. Customer satisfaction can be considered as the essence of success in today's highly competitive banking industry in Uganda. This positive word-of-mouth advertising is particularly satisfaction of services usage in social life to improve the social relationships and loyalty to the product. Zhu, Scheuermann & Babineauz (2012) postulate that ATM distribution channels used by banks can be divided into two main groups: in the first category are included those channels which typically involve "personal contact with the consumer" – territorial units, and in the second category are included those "channels which may either interact directly with the consumer, by non-personal

means, or operate through various intermediaries to traditional distribution methods (network of territorial units). To meet better market requirements in terms of speed and efficiency of services, banks have adopted an interactive electronic and computerized system for clients: banking services via network of Automated Teller Machines (ATMs).

Atandi (2013) who argued that sensitization of customers on the use of ATM improves the clientele effective understand on how to use ATM to avoid incorrectly inserting of ATM card which facilitate the use of the service and induce customer satisfaction. Quality consumed from ATM use currently accelerates customers' satisfaction for financial institution products (Churchill, 2008). Suprenant (2012) confirmed that ATM use has a positive significance influence on customer satisfaction, thus banks should invest ATM infrastructure all over to stimulate customer satisfaction since it is a current determinants of customer satisfaction in retail banking in Uganda.

Chalete (2011) opine that accessibility of ATM services outside the banking hall has positive significant influence on customers' satisfaction. Customers have access to the ATM services 24/7 which ease transactions at their convenience. Furthermore, Jole (2011) argued that ATM service meet better market requirements in terms of speed and efficiency of services through interactive electronic and computerized system for clients. Moreover, Zhotel (2009) argue that ATM services enhance operations and customer satisfaction in terms of flexibility of time, add value in terms of speedy handling of voluminous transactions which traditional services were unable to handle efficiently and expediently. The machine can enable customers to deposit and withdraw cash at more convenient time and places than during banking hours at branch (Adhallah, 2010). Josaphat (2003) conjure that ATM services are secure and conveniently located, adequate number of ATM, user-friendly system which has a positive significant effect on customer satisfaction. In addition, Feposter (2013) assert that the increase in numbers of ATMs, convenient and secure location, and

user-friendly system, speed, minimum errors predicts customers' satisfaction. The ATM services are easily accessible to the users which influence customers' satisfaction.

Lanvol (2011) found that location of ATMs, increasing number of ATMs, and diversified service offering are associated with switching of banks were largely agreed by users of ATM in Nigeria, Lagos which influence customer satisfaction. ATM is one type of innovation that can mechanically accept deposits, issue withdrawals, transfer funds between accounts, and collect bills. It has highlighted the relationship between banks and their depositors, as well as the level of quality of banking services (Xeron, 2009). Tohey (2014) postulates that ATM services positively influence customer satisfaction due ease accessibility and servicing for long hours. ATM venture has automated manual banking mode to electronic which is adequate, efficient and reliable to customers which influences their satisfaction (Patia, 2006). ATMs facilitate withdraw of cash, account inquiries, and transferring funds between accounts all required face-to-face interaction between the customer and a bank teller, thus saves time that would have been wasted in banking hall.

However, on the contrary, Mohsan (2008) argued that high rate of Visa ATM use, especially switching from different banks like use of Visa ATM of Centenary bank into ATM Stanbic charge Ushs 5,000 which make ATM use not flexible. These high charges contribute to the dissatisfaction of customers on the use of ATM. Equally well, dissatisfied customers are more likely to tell another ten people about their unfortunate experiences with a particular organization. Charleton (2014) argued that incorrect amount of cash dispensed is the challenge associated with ATM use. In order to achieve customer satisfaction, organizations must be able to build and maintain long lasting relationships with customers through satisfying various customer needs and demands which resultantly motivates them to continue to do business with the organization on on-going basis.

Barberah (2012) asserted that inadequate technical support to help clients on the use of ATMs deter its use leading to customer dissatisfaction.

Baron (2008) argued that limit on daily withdrawal affect customers' cognitive and affective orientation towards shopping activities. In addition, Cynthia (2008) states that waiting in long queues to access ATM machine together with fraud is a double edge sword, it has both advantage and disadvantage. It is easy to deduce that ATM fraud is carried out most in the day time. Also there are occurrences at night but most ATM users prefer to make withdraw during the day thus preventing incidences of robbery at night which adversely affect 24/7 hour banking benefit.

2.3 Conclusion

The literature surveyed revealed a universal result of ATM use and customer satisfaction. Based on the various disagreements on key variables from the literature surveyed, it can be safely asserted that the question of ATM adoption and customer satisfaction with ATM services is debatable and needs to be fully clarified in terms of strategies that truly induce customers' adoption of ATMs; the effect of each strategy on customer satisfaction needs to be established. Existing reviews placed emphasis on mainly ATM usage rather than adoption strategies of ATMs on customer satisfaction. In addition, most of the studies are conducted in other countries outside Uganda, thus, an indicative of the gap the researcher sought to bridge by conducting the same study in the context of Uganda.

This chapter reviewed the literature related to the study, presented the theoretical review and the empirical review. The next chapter presents the methodology that was used for the study

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter provides the description of how the study was conducted. It highlights the research design, study population, sampling design and size, data collection methods and instruments, Data quality control, procedure for data collection, data analysis, ethical considerations and limitations of the study.

3.1 Research Design

This study used a cross – sectional survey. Since the study sought to examine the relationship between variables, a simple bivariate correlation and regression design was adopted to determine the relationship between ATM adoption strategies and customer satisfaction as observed by Sekaran (2003).A mixed research approach was employed for the study where both qualitative and quantitative approaches were used. A mixed research was preferred because it provides a better understanding of a research problem.

3.2 Study Population

Centenary bank has 74 branches all over the country with a total customer base of 1.8 million and 870,000 ATM users (Centenary Bank Annual Report, 2019). 4branches are in the Central Business District of Kampala namely: Centenary Bank Head Office branch, Nakivubo branch, Entebbe Road branch and Mukwano Arcade branch; these 4 branches formed the study population. This study targeted a total population of 1600 respondents comprising of 4 managers from each branch and 1596 ATM users. ATM users were selected because they are assumed to be knowledgeable about ATMs since they are the users of the service.

3.3 Sample Size Selection

A sample of 310 respondents was scientifically selected from a target population of 1600 respondents, using the table for selecting sample size developed by Krejcie and Morgan (1970). According to Krejcie & Morgan's table for any given population, they suggested a suitable sample to be considered for the study.

Table 3.1: Sample Size Determination

Category	Population	Sample Size	Sampling Technique
Managers	4	3	Purposive Sampling
Customers	1596	307	Simple random Sampling
Total	**1600**	**310**	

Source: ***Researcher (2021)***

3.4 Sampling Techniques

A multi-stage cluster sample design was used. At the first stage, the sampling units were centenary bank branches in Kampala Central Business Centre whereby the names of all Centenary bank branches in Kampala CBD were written on pieces of paper, folded and put in a bowl where after they were shuffled and 3 branches picked randomly without replacement from the bowl and formed a cluster. The second sampling unit was ATM users who were selected from every cluster using simple random sampling and were subjected to questionnaires. The third sampling units were branch managers who were selected from each cluster and were subjected to interviews.

3.5 Data Collection Sources

The researcher used data from both primary and secondary sources. Primary data included data from respondents in the field. Primary data was gathered by using questionnaires and interviews. Secondary data included second hand information. The secondary data included literature that was

gotten from published journals, books and others. Internet based information available on different websites were also be used.

3.6 Data Collection Methods

The researcher used questionnaire and interviews as a data collection method.

3.6.1 Questionnaire Method

The questionnaire method was used to capture data from ATM users from each cluster. The questionnaire had both closed ended and open ended questions. Open ended questions gave the respondents the opportunity to express themselves where the questions could not capture their diverse opinions. Questionnaires were issued to randomly sampled respondents in the line waiting for the service at ATMs. Questionnaire method was used because it allows respondent's freedom in answering the questions and questions can be answered at the respondent's convenient time.

3.6.2 Interview Method

Interview method was used to collect data from key informants who comprised of managers. The questions included both open and closed categories so that a lot of information could be collected. Face to face interviews were conducted. Interview guide was designed in such a way that it contained questions that covered the various components of ATM adoption strategies that were compared against customer satisfaction.

3.7 Data Collection Instruments

3.7.1 Questionnaire Guide

A questionnaire guide was developed with items anchored on a 5 point Likert scale ranging from 5 for strongly agree to 1 for strongly disagree. The questionnaire covered components of the independent variable (ATM adoption strategies) and the dependent variable (customer

satisfaction). The questionnaire also contained demographic characteristics of respondents such as gender, age, qualification and years in spent using ATM. Questionnaires were used because they save time on the part of the researcher and provide the independence and accuracy of responses from respondents (Jwan, 2010).

3.7.2 Interview Guide

Interview guide was designed and used to obtain information from key respondents. Face-to-face discussions were conducted in English with managers from their work premises. Structured interview guides were developed to aid obtaining data through seeking clarity on the structured questions in the questionnaires.

3.8 Data Quality Control

For purposes of data quality control, the research ensured validity and reliability of the research instruments

3.8.1 Validity of the instruments

To ensure validity for the study, the research instruments were given to 2 research experts who were asked to comment on the relevance of the items in the instruments. This was to assist the researcher to remove unclear questions and only leave those relevant for the study objectives. Content Validity Index (C.V.I) was then determined using the formula:

$$CVI = \frac{\text{Number of items considered valid on the draft}}{\text{Number of items on the draft instruments}}$$

Judge 1:

$$CVI = \frac{29}{35} = 0.829$$

Judge 2:

$$CVI = \frac{32}{35} = 0.80$$

Therefore, Average of content validity index was

$$CVI \quad \frac{0.829 + 0.80}{2} = 0.815$$

The Overall CVI of 0.815 was accepted as valid for the research since according to Oso and Onen (2009), the items with validity co-efficient of at least 0.70 is considered valid for the study.

3.8.2 Reliability of the Instruments

To measure reliability, the instruments were piloted to a sample of 10 respondents from equity bank, using questionnaires with each question having a 5 point likert scale from strongly agree to strongly disagree, to establish consistence in responses. Responses were then entered into SPSS version 20.0 and a reliability analysis performed. A Cronbach's Alpha value of 0.787 was obtained, indicating a high level of consistency for the scale that was used for this specific sample. A Cronbach's Alpha value that is ≥ 0.7 is rendered reliable as suggested by George and Malley (2003). Table 3.2 below shows reliability test

Table 3.2: Reliability test

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.770	.787	35

Source: ***Researcher 2020***

3.9 Data Collection Procedure

Upon completion of the research proposal, the researcher sought for permission from the management of the selected centenary bank branches to carry out research. This was done by the researcher presenting herself to the managements of the banks and clearly explaining the objectives of the study. After receiving permission from the management, the researcher formally started the process of data collection. Questionnaires were distributed to accessible customers who were in

queues waiting to use ATM services. This was done by the researcher making several visits to these ATM points to wait for ATM users coming to make transactions and gave them questionnaires. Respondents were requested to fill the questionnaire immediately they received them and return completed questionnaire to the researcher. Due to the nature of the customers, the researcher appointed a research assistant from the bank staff who helped the researcher to distribute some of the questionnaires and receive the completed questionnaires on behalf of the researcher. The researcher later collected the completed questionnaires and started the process of data analysis. Interviews were also consequently conducted from the respondents' places of work.

3.10 Data Analysis

3.10.1 Analysis of quantitative data

The statistical analysis tool that was used for analysis of data in this study is the SPSS version 20.0. Descriptive statistics namely frequency counts, percentages were used to analyze the respondents' demographic characteristics and the mean and standard deviation were used to analyze the respondents' opinions on ATM adoption strategies and customer satisfaction in commercial banks. The study also embraced correlation and regression analysis where data was analyzed and correlated using Pearson Product-Moment correlation coefficient and regression analyses to establish the relationship and the extent of the relationship between ATM adoption strategies and customer satisfaction respectively(Ayagre, Appiah-Gyamerah et al., 2014)

3.10.2 Analysis of qualitative data

Qualitative data collected from interviews inform of open ended questions was coded with codes of R_1, R_2, and R_3. Content analysis was used to analyze qualitative data and responses from key informants were categorized as recurrent issues. Selected direct quotations from the key informants regarding recurrent issues were presented in the study results.

3.11 Measurement of Variables

Data on the respondent's views and opinions about the Independent and dependent variables was obtained using scaled variables from a self-developed questionnaire. A five point-Likert scale of 1= strongly disagree, 2= disagree, 3= not sure, 4= agree and 5= strongly agree were used to tap respondents perception on the study variables.

Table 3.3: Measurement of Independent Variables

Independent Variable	***Measurement***
Perceived ease of use	Easiness to learn to use the ATM to make deposits, withdraws and balance inquiries; easiness in interacting with the ATM in a clear and concise manner, ease of flexibility, and ease to become skillful in using the ATM.
Perceived usefulness	Enablement of the ability to make deposits, withdraws, balance inquiries and getting bank statements; improvement in performance, using the ATM to increase productivity and enhancing effectiveness.

Table 3.4: Measurement of Dependent Variable

Dependent variable	***Measurement***
	Customer loyalty: customer's willingness to do repeat business
	Customer commitment: Customer's desire and effort to maintain a relationship with the bank

Customer satisfaction	Perceived value: what customers think the product is worth to them.

3.11.1 Analytical Model

Correlation between ATM adoption strategies and customer satisfaction

The data collected was analyzed in order to determine the relationship between ATM adoption strategies and customer satisfaction in commercial banks in Uganda. To establish this relationship a Pearson's Product Moment Correlation Coefficient was pre-ceded by testing for the linearity of the data that was collected. A scatter diagram was drawn with a line of best fit to capture this data format. The linear pattern that emerged between both variables revealed a relationship.

Pearson's-Product moment correlation coefficient was computed following the formula below;

$$r_{xy}=\frac{n(\sum xy)-(\sum x)(\sum y)}{\sqrt{\{(n\sum X^2)-(\sum X)2\}\sqrt{n\left(\sum y^2\right)-(\sum y)2\}}}$$

Where;

$n =$ The number of paired observations,

$\sum xy$= The sum of the gross product of ATM adoption strategies and customer satisfaction

$\sum x^2$ =The sum of all the squared values of ATM adoption strategies,

$\sum y^2$ =The sum of all the squared values of customer satisfaction,

$(\sum x)2$= The sum of ATM adoption strategies Squared

$(\sum y)2$=The sum of customer satisfaction squared

3.11.2 Regression Model

The data collected was analyzed in order to determine the causal effects of ATM adoption strategies have on customer satisfaction in commercial banks in Uganda. Using regression analysis, the β coefficient from the equation represented the strength and direction of the relationship between the variables being studied.

A linear regression technique was employed, and the results were computed basing on the linear regression model below;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 \dots \dots \beta_n X_{n-1} + \varepsilon$$

Where; Y= Dependent variable (Customer satisfaction)

X_1 =Perceived ease of use

X_2 = Perceived usefulness

X_{1-n}= Are the independent variables which are described above to infinity

β_0 = This is a Constant

β_{1-n}= The regression coefficients or change induced in Y by each X

ε = Error term

3.12 Ethical Considerations

In this regard, permission was sought from relevant respondents in order to conduct the research. Various study concepts were explained to the respondents in order to make them acquainted with study's purpose such that respondents are in position to provide relevant information for the study.

Each respondent was assured of confidentiality of the information collected and their identity kept anonymous. Participation of respondents was voluntary, and the respondent was free to withdraw from the study at any time he/she wished to do so.

All data collected was kept under safe custody of the researcher. In undertaking this study, the general ethical guidelines of informed consent, right to privacy and protection from harm (physical, emotional or any other kind) was followed.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.0 Introduction

This chapter presents the analysis of data and the discussion of the study finding in relation to the specific objectives of the study. It also gives an overview on the response rate and the demographic composition of the respondents that were involved in the study as well as the descriptive statistics on the statements on the independent study variables. It finally presents the correlation and regression analysis of the study variables.

4.1 Response rate of respondents

The researcher sought to assess the response rate of the respondents that participated in the study. 307 questionnaires were distributed to the respondents and 3 interviews were successfully conducted. Out of the 307 questionnaires distributed to the respondents, 184 questionnaires were returned fully completed giving a response rate of 60%. This response rate was excellent and representative for the study population because according to Mugenda & Mugenda (2003), a response rate of 70% and over is excellent.

4.2 Socio - demographic characteristics of the respondents

This section presents the distribution of respondents with different socio-demographic characteristics such as gender, age, level of education and time spent as a customer using ATMs. The results are summarized in the tables below.

Table 4.1: Age of respondents visa – a – viz their sex

		Respondents' Age				
		Below 20 years	21 - 30 years	31 - 40	41 - 50	Total
Gender of Respondent	Male	9	53	40	13	115
	Female	0	24	38	7	69
Total		9	77	78	20	184

Source: Field Data (2021)

Table 4.1 shows that there were more males (115) than female (69) in the study. The difference in number of respondents by sex was slightly higher indicating that males were enjoying access of ATM services in the area of study than females. Majority of the respondents (53 males and 24 females) were of the age bracket 21 to 30, 40 males and 38 females were of the age bracket 31 – 40. This implied that majority of the respondents were youngsters below the age of 40 years. This may be an indication that young people who are more inclined to experimenting new technology may be using this machine service than much older people.

Table 4.2: Education of respondents visa – a – viz their sex

		Education Level of Respondent				
		Secondary	Diploma	Degree	Post graduate	Total
Gender of Respondent	Male	30	24	57	4	115
	Female	12	16	39	2	69
Total		42	40	96	6	184

Source: Field Data (2021)

Table 4.2 indicates that majority of the respondents (57 males and 39 females) had degree, (30 males and 12 females) had secondary education, (24 males and 16 females had diploma education. This implied that respondents had at least secondary level thus they were able to understand how to use ATMs to access banking services. This result is in line with studies by Shao (2007) who discovered that majority of respondents who had access to ATM services had at least secondary school level of education.

4.3 Presentation of Descriptive Analysis

In this section, descriptive statistics were presented using Mean (M) and Standard Deviation (SD). The Mean shows the incidence of a response and the Standard Deviation shows the extent to which scores deviate from the Mean. The standard deviation (SD) shows the variability among the responses where, SD > 0.49 is interpreted to show high variability among the responses. They are presented on the basis of the study objectives as laid out in chapter one.

4.3.1 Perceived Ease of Use of ATMs and Customer Satisfaction

In order to get an understanding about perceived ease of use, respondents were asked to give their opinions on statements related to the phenomenon using a five point Likert scale ranging from 1= Strongly Disagree, 2= Disagree, 3= Not sure, 4= Agree, and 5= Strongly Agree. The results are interpreted using mean and standard deviation as shown in table 4.3

Table 4.3: Perceived Ease of Use and Customer Satisfaction

Statement	N	Mean	Std. Deviation
It is faster to withdraw money using ATM	184	4.39	.488
It is easier to make deposits using ATM	184	4.11	.895
I find it easier to check my account balance using the ATM	184	4.35	.660
ATMs give clear direction on use	184	4.25	.647
I use ATM because they are located in convenient locations	184	4.28	.735
I use ATM to withdraw money at my convenient time	184	4.03	.527
I use ATMs because their languages are easy	184	4.62	.519
I often make errors when using an ATM to withdraw money from my account	184	3.85	1.089

I often find it easy to recover from errors encountered while using ATM to make withdraws	184	4.36	.602
I often get confused when I use ATM to deposit money on my account	184	4.13	.468
Global Mean and Standard Deviation		**4.24**	**.663**

Source: **Field Data (2021)**

Legend: *4.21-500 (very high); 3.41-4.20 (high); 2.61-3.40 (moderate); 1.81-2.60 (low); 1.00-1.80 (very low).*

The study sought to determine whether it is easy to make deposits, withdraw money and check balance using ATM. Results in table 4.3 indicate that majority of the respondents supported the augments that: It is easy to withdraw money over the ATM with (M= 4.39, SD = 0.49); it is easy to make deposits using ATM (M = 4.11, SD = 0.89); and that it is easier to check account balance using the ATM (M = 4.35, SD = 0.66). This implied that ATM makes it easy for customers to make cash deposits, withdraw money and check their account balances which increases customer satisfaction. This agreed with Okior (2015) who argued that easy and cheap cash withdraw of funds enables customers to meet their immediate needs which attract customer satisfaction since a single satisfied customer in today's dynamic corporate environment will obviously convince other customers through reference to the business and satisfaction greatly influences customers repurchase intensions.

Through the interviews conducted, key informant **R_1** supported the above findings and this is what he had to say:

> *"ATM facilitates quick cash withdraw and provides effective cash balance inquiry accompanied with financial transaction summary print upon the user's request."*

Key informant **R_1** went on to say that:

"Majority of our customers do not use ATM to make deposits however, the service is available and unlike previously where the ATM would not update the account automatically upon making deposit, today the machine updates the account immediately the deposit is made."

Key informant **R_3** also expressed a similar view and opined that:

"the amount of transactions over the ATM have been increasing overtime, an indication that majority of our customers are using ATMs to make transactions most especially cash withdraws."

The study also assessed whether customers often make errors while using ATM to withdraw money from their accounts. Respondents expressed an agreement to this statement (M= 3.85; SD = 1.09). Likewise respondents agreed to the statement that they often get confused when using ATM to deposit money on their accounts (M = 4.13; SD = 0.47). However, when respondents were asked whether they easily recover from the errors encountered while using ATM to withdraw money, they demonstrated an agreement to this statement (M = 4.36; SD = 0.60). This implied that customers at times get confused and make errors while using ATM to make cash deposits and withdraws, however they can easily correct the errors made. Making errors while using ATMs may scare the would-be users and affect their satisfaction in using the service. This tallied with Athanassopoulos (2010) who found that inserting card incorrectly is a challenge on the use of ATM.

The study also required the respondents to give their views on whether ATMs give clear direction on use, this statement was responded to in agreement with (M= 4.28; SD = 0.74). Similarly, it was agreed by the respondents that they use ATMs because of the languages are easy to use (M = 4.62; SD = 0.51). This implied that ATMs give clear direction on use and they are in languages easy

understood by customers, thus attracting customers and increasing their satisfaction when using ATMs. This finding was supported by Key informant **R2** when asked strategies being used to make many customers embrace the use of ATMs, he said that:

> *"Local languages such as Luganda are being incorporated in the ATM machines to make it easy for use by customers who may not be well conversant with the English language. We believe a section of our customers is semi – illiterate thus may find it easy using ATMs in their local languages."*

The study also assessed whether customers use ATMs because they are located in convenient places. To this statement, respondents demonstrated agreement (M = 4.28; SD = 0.74). On a similar note, there was an agreement that customers use ATMs to withdraw money at their convenient time (M = 4.03; SD = 0.53). This implied that ATMs are located in convenient places, enabling customers to access them at their own convenient time which increases customer satisfaction. Location of ATM points in secure and convenient places ensures security of the users which accelerate customer satisfaction. This conquered with Mcandrews (2011) who argued that secure and convenient location, adequate number of ATM, user-friendly system and functionality of ATM play important role in customers' satisfaction. On the contrary, Madu (2009) opined that the concern of customers about security and privacy while using this service is a major cause of their dissatisfaction.

There was an overall global of mean of (M = 4.24; SD = 0.66). The overall global mean score of was high which implied that perceived ease of use of ATMs has an effect on customer satisfaction. Customers are compelled to use ATMs once they perceive that using ATMs is easier compared to other banking channels, which positively affects their satisfaction. The standard deviation of 0.663 indicates a fair variability among the respondents views which can be explained by the differences

in respondents' opinions regarding the effect of perceive ease of use of ATMs on customer satisfaction. This is in agreement with Cheung et al, (2000) who opined that adopting e – banking is influenced by understanding and ease of use. Likewise Komal and Singh (2009) argue that the design of ATM user interface is complex which deters usability of the system, which vitiate the level of quality of banking services and affects customer satisfaction.

4.3.2 Perceived Usefulness and Customer Satisfaction

The researcher sought to establish the extent to which perceived usefulness affects customer satisfaction at Centenary Rural Development Bank. In order to get an understanding about perceived usefulness in regard to customer satisfaction, respondents were asked to give their opinions on statements related to the phenomenon using a five point Likert scale ranging from 1= Strongly Disagree, 2= Disagree, 3= Not sure, 4= Agree, and 5= Strongly Agree. The results are interpreted using mean and standard deviation as shown in table 4.4

Table 4.4: Perceived Usefulness and Customer Satisfaction

Statement	N	Mean	Std. Deviation
I use ATM to make deposits successfully without visiting the banking hall	184	4.06	.535
I use ATM to withdraw money without visiting the banking hall	184	4.48	.591
Using ATM enables me check my account balance without visiting the banking hall	184	3.91	.801
Using ATM saves my time since transactions are completed within a period of 2 to 5 minutes	184	4.73	.545
I use ATM because it guarantees my PIN security	184	3.84	.782
I always get prompt service while withdrawing money from ATM	184	3.84	.772

It would be difficult to make several bank withdraws without ATMs	184	3.71	.824
Using an ATM gives me greater control over my account	184	4.05	.873
Using an ATM enables me perform my bank transactions quickly	184	4.54	.510
I use an ATM to withdraw money because it gives the exact amount of money requested	184	4.23	.596
Global Mean and Standard Deviation		**4.14**	**.689**

Source: ***Primary Data (2021)***

Legend: *4.21-500 (very high); 3.41-4.20 (high); 2.61-3.40 (moderate); 1.81-2.60 (low); 1.00-1.80 (very low).*

From table 4.4, several statements were put before respondents to find out their view on perceived usefulness of ATMs on customer satisfaction. Respondents expressed agreement to the statements that: I use ATM to make deposits successfully without visiting the banking hall (M = 4.06 and SD = 0.54); I use ATM to withdraw money without visiting the banking hall (M = 4.48 and SD = 0.59); using ATM enables me to check my account balance without visiting the banking hall (M = 3.91 and SD = 0.80); and that using ATM saves time since transactions are completed within a period of 2 – 5 minutes (M = 4.73 and SD = 0.55). This implied that customers are in position to make cash deposits, withdrawals and check balances successfully using ATMs without visiting the banking halls, which saves time that would otherwise be spent travelling to access banking halls, which increases customer satisfaction. In complement to these findings, key informant **R_3** when interviewed opined that:

> *"Most of our customers use the ATM to withdraw cash and ask for balance inquiry. However, a few of our customers use ATM for making deposits."*

Another supplement came from Key informant **R_1** who purported that:

"Our ATMs provide a summary of most recent financial transaction of the account holder, thus they enable users have track record of their accounts which accelerates customer satisfaction."

These findings were in line with Liao and Cheung (2012) who argued that expectation of security and effective cash balance inquiry is essential in shaping customers' perception of service quality thus, their satisfaction in using the service. On the other hand, the finding on cash deposits disagreed with Diniz (2011) who conjure that cash deposit via ATM point is not as effective as cash withdraws since deposit of cash does not update the account automatically in developing countries.

Respondents were further asked whether using ATM guarantees their PIN security, respondents demonstrated an agreement to this statement with (M = 3.84 and SD = 0.78). Consistently, respondents agreed to the statement that using ATM gives them greater control over their accounts (M = 3.71 and SD = 0.82). This implied that using ATM is secure since it guarantees security of customers' Personal Identification Pins and allows customers have control over their accounts. Currently, ATM is the easiest way of making cash financial withdraws any time anywhere as long as a customer has accessed the system. This agreed with Evans and Lindsay (2010) who stated that secure accurate ATM financial transactions stimulate customer satisfaction which creates a good opportunity to convert them into loyal customers who regularly use ATM services.

However, in disagreement to this finding, Diebold (2011) argues that there is PIN theft as the major ATM fraud which is carried out by various means; skimming, shoulder surfing, camera and key pad recorder. Further elucidates that the common type of fraud perpetuated is PIN theft which is mostly as a result of congestion at ATM points.

The study also required the respondents to give their views on whether they always get prompt service while withdrawing money from ATM, the outcomes showed an agreement with (M = 3.84 and SD = 0.77). It was also agreed to by respondents that using ATM enables customers to perform their transactions quickly (M = 4.54 and SD = 0.51). Likewise respondents expressed agreement to the statement that would be difficult to make several bank withdraws without ATMs (Mean = 3.71 and SD = 0.82). This implied that ATMs provide prompt services to customers and can allow them make several transactions a day, which increases customer satisfaction. The customers' perception that using ATMs allows them to get immediate services thus satisfying their needs is one reason why customers choose to adopt the use of ATMs. This conquers with Mathwick et al. (2001) who argued that perceived usefulness enables a person to believe that using a particular system boosts his or her job performance. However, in disagreement to the finding, Howcroft (2012) argues that there has been dissatisfaction among customers associated with frequent interruption and network breakdown which make ATM to work at slowly pace or dysfunctional.

The overall global mean score was 4.14 and Standard Deviation of 0.69. This global mean was high implying that perceived usefulness of ATMs has an effect on customer satisfaction. The way customers perceive the value of using ATMs is linked to their satisfaction n using the service. Customer satisfaction will be high where customers' perception of the value they get from using ATMs is high. This tallies with Frangos (2009) who opines that Perceived usefulness is the overriding motive behind customers' use of e-banking.

When respondents were asked about the weaknesses of ATMs, Key informant **R_2** said that:

> *"The cost is still high for Visa ATM use especially switching from different banks for example, use of Visa ATM of Centenary bank into ATM Stanbic charge Ushs 5,000 which make ATM use not so flexible."*

Key informant **R2** went on to say that:

> *"ATMs also offer limited assistance for example once a customer encounters challenges such as card retention, he/she will have to get assistance from the banking hall not from the ATM."*

Another key informant **R3** said that:

> *"I think one of the weaknesses of ATMs is the theft risk. Here I mean one can easily insert a card in the ATM and gets money without many security checks as long as he/she knows the PIN. This may not be the case with over the counter transactions where there are a lot of authenticity procedures."*

4.3.3 Customer Satisfaction

In order to get an understanding about customer satisfaction, respondents were asked to give their opinions on statements related to the phenomenon using a five point Likert scale ranging from 1= Strongly Disagree, 2= Disagree, 3= Not sure, 4= Agree, and 5= Strongly Agree. The results are interpreted using mean and standard deviation as shown in table 4.5

Table 4.5: Customer Satisfaction

Statement	N	Mean	Std. Deviation
I have a positive passionate association with the bank's ATM	184	4.27	.593

I intend to remain a user of the bank's ATM	184	3.75	1.078
I would recommend a friend to use ATM services	184	4.14	.863
I would stay with using ATM even if its charges are slightly raised	184	4.60	.491
I will most probably switch to an alternative service in the foreseeable future	184	4.62	.519
I use ATMs only because I don't have any other choice	184	3.85	1.089
I feel happy when using ATM to deposit money	184	2.03	.527
If I had another option, I would stop using ATMs	184	2.05	.473
I take pleasure in using the bank's ATMs	184	4.54	.510
I feel I made a right choice to use ATM services	184	4.23	.596
I feel that I am getting banking services at a fair price using ATM	184	4.27	.593
I always receive the exact amount of money I request from the ATM	184	3.75	1.078
I feel that ATM provides accurate account balance information at low charges	184	4.14	.863
I have had a good experience using ATM to make cash withdraws	184	4.60	.491
I feel the banking service is easily accessible through ATMs	184	4.39	.488
Global Mean and Standard Deviation		**3.95**	**0.68**

Source: *Primary Data (2021)*

Legend: *4.21-500 (very high); 3.41-4.20 (high); 2.61-3.40 (moderate); 1.81-2.60 (low); 1.00-1.80 (very low).*

From table 4.5, respondents were asked to give their view on customer satisfaction in relation to using ATMs. Respondents expressed agreement to the statement that they a positive passionate association with the bank's ATM (M=4.27; SD=0.59). Similarly, respondents said they take pleasure with the bank's ATMs (M=4.54; SD=5.1); an indication that they were satisfied by using

ATMs. Respondents also expressed agreement to the statements that: I intend to remain a user of the bank's ATM (M=3.75; SD=1.08); I would recommend a friend to use the ATM services (M=4.14; SD=0.86); I would stay with using ATM even if its charges are slightly raised (M=4.60; SD=0.49). The outcomes showed high mean scores implying that customers were satisfied with the services of ATMs. The high mean scores ranging from 0.86 to 1.08 indicated varying opinions of customers regarding their satisfaction in using ATMs. The findings were in agreement with Sivadas and Baker-Prewitt (2013) who revealed that affordable ATM fees charged indicate satisfaction. ATMs are easier to access compared to banking hall which influence customer satisfaction due to cost reduction. This increases customer benefits towards the services which make them to become loyal. Satisfied customers recommend service users to the ATM after attainment of high customer satisfaction. The findings are further supported by Okior (2015) who argued that cheap cash withdraw of funds enables customers to meet their immediate needs which attract customer satisfaction since a single satisfied customer in today's dynamic corporate environment will obviously convince other customers through reference to the business and satisfaction greatly influences customers' repurchase intensions whereas dissatisfaction has been seen as a primary reason for customers intentions to switch to other dealers in banking industry.

Respondents were further asked whether they have had a good experience using ATM to make cash withdraws, majority of the respondents demonstrated agreement (M=4.60; SD=0.49). However, regarding whether respondents feel happy when using ATM to deposit money, there was a disagreement to this statement (M=2.03; SD= 0.53). This implied that majority of the customers were satisfied with using ATMs to make cash withdraws but not deposits. This tallied with Diniz (2011) who opined that cash deposit via ATM point is not as effective as cash withdraws since deposit of cash does not update the account automatically in developing countries.

Respondents also revealed that they made a right choice to use ATM services (M=4.23; SD=0.59). There was also an agreement to the stamen that customers feel that they are getting banking services at a fair price using ATM (M=4.27; SD=0.59). This is an indication that customers are satisfied with the fees they are charged over the ATM. This was in line with Sivadas and Baker-Prewitt (2013) who opined that affordable ATM fees charged indicate satisfaction. ATM's are easier to access compared to banking hall which influence customer satisfaction due to cost reduction.

Respondents also agreed to the statement that the banking service is easily accessible through ATMs (M=4.39; M=049). Respondents also expressed agreement to the statement that ATM provides accurate account balance information at low charges (M=4.14, SD=0.86). Similarly, respondents revealed they receive the exact amount of money they request from the ATM (M=3.75; SD=1.07). Outcomes demonstrated high mean scores which implied that customers were satisfied with the services of ATMs since they are able to get the exact amount of money and accurate balance statement they request from the ATMs. This was in line with Cacioppo (2000) who argued that use of Automated Teller Machine system of banking brought efficiency in the banking industry majorly in terms of speed, data processing and storage which is anticipated to induce customer satisfaction through instant cash withdrawal, balance enquiry, bill payment, cash and cheque deposit, saving and credit account on a 24 hours basis. This finding was further in line with Gerrard (2013) who asserted that print of readable slips and summary financial min statement from ATM warrant satisfaction of customers. The bank's ability to deliver these benefits on a continuous basis probably has a significant impact on the level of customer satisfaction.

The overall global mean score was 3.95 and Standard Deviation of 0.68. This global mean was high implying high levels of customer satisfaction derived from using ATMs. Standard deviation

of 0.68 showed a fair variability of respondents views regarding customer satisfaction in using ATMs which can be explained by differences in customers opinions. This was supported by Hossain (2010) who avers that on average, debit card users were satisfied and further suggested that through improvement on network service, provision of receipt after transactions and prompt problem solving, banks can make their debit card users fully satisfied. Similarly, Islam and Kumar (2007) who identified that location, personnel response, quality of currency notes, promptness of card delivery and performance were positively and significantly related to customer satisfaction. On the contrary, Namirembe (2004) revealed that much as Electronic Banking ICT carries several benefits to bank, it seems to create a number of threats especially related to electronic fraud, that ATMs in particular wastes a lot of time and seems no different from the former way of withdrawing funds from the banks.

4.4 Relationship between ATMs Adoption Strategies and Customer Satisfaction

The study also sought to examine whether ATMs adoption strategies have a statistically significant relationship with customer satisfaction. This was analysed using Pearson's correlation. However, before conducting Pearson's correction, a scatter plot was drawn with a line of best fit to test for the linearity of the data that was collected. The scatter plot is shown in figure 4.1 below

Figure 4.1: Scatter Plot

From figure 4.1, the R-square was 0.343 implying that that the model explains 34.3% of the fitted data in the regression model. When the R2 value is high, it suggests a better fit for the model. However, it should be note that a good model can have a low R^2 value, depending on the nature of the variables. In this type of study that deals with people who may be hard to predict, may have R^2 values less than 50%, but which can end up in a good predictive model (Armstrong, 2019).The scatter plot above shows that the relationship between ATM adoption strategies and customer satisfaction is linear whereby a unit change in ATM adoption strategies leads to a proportionate unit change in customer satisfaction. Therefore, Pearson's Correlation Coefficient

(r) was suitable to use for this data since it tests the degree of linear correlation between two variables without examining whether a degree of curvature may be present (Armstrong, 2019).

Table 4.6: Relationship between ATMs Adoption Strategies and Customer Satisfaction

		Perceived Ease of Use	Perceive Usefulness	Customer Satisfaction
Perceived Ease of Use	Pearson Correlation	1	.401**	.487**
	Sig. (2-tailed)		.000	.000
	N	184	184	184
Perceive Usefulness	Pearson Correlation	.401**	1	.493**
	Sig. (2-tailed)	.000		.000
	N	184	184	184
Customer Satisfaction	Pearson Correlation	.487**	.493**	1
	Sig. (2-tailed)	.000	.000	
	N	184	184	184

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

Source: ***Primary Data (2021)***

Table 4.6 shows the matrix of Pearson's correlation coefficient for the two variables of ATM adoption strategies and customer satisfaction. The level of significance between the independent and dependent variables was set at probability $P<0.05$ for every statistical test. The relationship is significant with a significance value of 0.000 which is less than the alpha $\alpha = 0.05$. If the coefficient value is 0, means no correlation, when the value lies below +or-0.29, it is a weak correlation, between +or-0.30 and +or-0.49, its moderate relationship, between +or-0.50 and +or-1, the relationship is strong. The relationship is perfect at r = -1 or +1 implying that a change in one variable is associated with a perfectly consistent change in the other.

In the first place, the study tested the relationship between perceived ease of use and customer satisfaction at Centenary Rural Development Bank and revealed a significant positive relationship between the variables (r = 0.487, N = 184, P = 0.000). This implied that perceived ease of use of

ATMs has a significant positive effect on customer satisfaction at Centenary bank. The further implication is that a unit change in perceived ease of use of ATMs may lead to a unit change in customer satisfaction. This finding agrees with Suprenant (2012) who contended that ATM use has a positive significance influence on customer satisfaction, thus banks should invest ATM infrastructure all over to stimulate customer satisfaction since it's a current determinants of customer satisfaction in retail banking in Uganda. However, on the contrary, Pikkarainen et al (2004) argue that perceived ease of use is not positively correlated with ATM banking, indicating that there is no significant effect of perceived ease of use on the adoption and use of ATM banking.

The study also tested the relationship between perceived usefulness of ATMs and customer satisfaction and revealed a significant positive relationship between the two variables (r =0.493, N= 184, p = 0.000). This implied that perceived usefulness of ATMs significantly contribute to customer satisfaction at centenary Bank. This finding tallies with Pikkarainen et al (2004) who found that perceived usefulness is a determinant of actual behavior which encourages the user of the twenty first century banking to use more innovative and user friendly self-service technologies that give them greater autonomy in performing banking transactions, in obtaining information on financial advices, and in purchasing other financial products.

4.5 Regression Analysis

In order to determine the extent of the relationship between ATM adoption strategies and customer satisfaction, a regression analysis was conducted. The results are summarized in tables below.

Table 4.7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.585[a]	.343	.335	.21401

a. Predictors: (Constant), Perceive Usefulness, Perceived Ease of Use

As shown in table 4.7, R square was 0.335 indicating that 33.5% of customer satisfaction is influenced by perceived ease of use and perceived usefulness of ATMs as per this study.

Table 4.8: AVOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.320	2	2.160	47.158	.000[a]
	Residual	8.290	181	.046		
	Total	12.609	183			

a. Predictors: (Constant), Perceive Usefulness, Perceived Ease of Use

b. Dependent Variable: Customer Satisfaction

From table 4.8, the significant value was 0.00 which was less than 0.05 indicating that the model was significant in predicting the effect of ATM adoption strategies as the independent variable and customer satisfaction as the dependent variable.

Table 4.9: Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.435	.291		4.933	.000
	Perceived Ease of Use	.358	.068	.345	5.241	.000
	Perceive Usefulness	.327	.061	.354	5.384	.000

a. Dependent Variable: Customer Satisfaction

From the regression findings in table 4.8, the substitution of the equation $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$ becomes;

$Y = 1.435+0.358X_1+0.327X_2+ \varepsilon$

Where Y is the dependent variable (Customer Satisfaction), X1 is Perceived Ease of Use variable and X2 is Perceived usefulness variable.

From table 4.9, the study determined the extent to which ATM adoption strategies affect customer satisfaction using regression analysis. It was established that perceived ease of use of ATMs has a statistically significant positive effect on customer satisfaction (beta = 0.345, P =0.000). The study also shows that perceived usefulness of ATMs has a statistically significant positive effect on customer satisfaction (beta = 0.354, P =0.000). The P – value obtained for each independent variable was significant since their p - values were less than 0.05. Thus, the null hypothesis that stated that there is no significant relationship between ATM adoption strategies and customer satisfaction at Centenary bank was rejected and the hypotheses that stated that there is a significant relationship between ATM adoption strategies and customer satisfaction at Centenary bank was accepted.

The implication of the study findings is that perceived ease of use and perceived usefulness are significant predicators of customer satisfaction where perceived ease of use significantly contributes to customer satisfaction by 34.5% and perceive usefulness by 35.4%. This practically implies that customer satisfaction from the use of ATMs at Centenary Bank can be improve by perceive ease of use and perceived usefulness of ATMs. Thus an increase in the perception of customers regarding the use and the value gained from using ATMs can lead to an increase in customer satisfaction at Centenary Rural Development Bank.

These findings agree with Wang et al. (2003) who conjure that perceived ease of use has a significant positive impact on behavioral intentions of ATM banking customers. Likewise Eriksson et al. (2005) found that customers' attitude are significant factor affecting customer

behaviors in accepting or rejecting technology, where the relationship between attitude towards using and usage was significant.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of study findings, draws conclusions and recommendations in accordance with the study objectives and suggests areas for further research.

5.1 Summary of Findings

The primary objective of the study was to examine the effect of ATM adoption strategies on customer satisfaction at Centenary Rural Development Bank. Specifically, the study examined the extent to which perceived ease of use and perceived usefulness affect customer satisfaction. The study findings established: a significant positive relationship between perceived ease of use and customer satisfaction ($r = 0.487$, $p = 0.000$); and a significant positive relationship between perceived usefulness and customer satisfaction ($r = 0.493$, $p = 0.000$). The general implication of the correlation coefficients is that perceived ease of use and perceived usefulness of ATMs significantly contribute to customer satisfaction at Centenary bank where a positive change in customers' perception regarding the ease of use and usefulness of ATMs would lead to a positive change in customer satisfaction. Additionally, the overall R square of the variables was 0.343 indicating that 34.3% of customer satisfaction derived from use of ATMs is influenced by perceived ease of use and perceived usefulness of ATMs.

5.2 Conclusions

This section gives a conclusion on the specific objectives of the study basing on the study findings.

5.2.1 Perceived Ease of Use of ATMs and Customer Satisfaction

The study established a significant positive relationship between perceived ease of use of ATMs and customer satisfaction at Centenary Rural Development Bank. Accordingly, the researcher concluded that perceive ease of use of ATMs significantly affects customer satisfaction derived from the use of ATMs at Centenary bank. The perception by customers that using ATMs is easy, significantly influences their satisfaction in using the services provided by ATMs at Centenary bank.

5.2.2 Perceived Usefulness of ATMs and Customer Satisfaction

The study revealed a significant positive relationship between perceived usefulness of ATMs and customer satisfaction. Consequently, the researcher concluded that perceived usefulness of ATMs significantly contributes to customer satisfaction at centenary Bank. Customers' perception of the value they get from using ATMs affects their satisfaction in using ATMs.

5.3 Recommendations

This section provides recommendations made by the researcher basing on the study findings on the specific objectives.

5.3.1 Perceived Ease of Use of ATMs and Customer Satisfaction

The study established a significant positive relationship between perceived ease of use of ATMs and customer satisfaction at Centenary Rural Development Bank. Consequently, the researcher recommended that there should be sensitization of customers on the use of ATM as this will improve the clientele effective understanding on how to use ATM to make transactions, which creates a positive perception regarding the ease of use of ATM and induce customer satisfaction.

5.3.2 Perceived Usefulness of ATMs and Customer Satisfaction

The study revealed a significant positive relationship between perceived usefulness of ATMs and customer satisfaction. Consequently the researcher recommended that banks should provide constant security at ATM points, improve on ATM card security measures, install ATMs in more convenient and secure places and re-design ATM system user inter-face to possess more clear direction of inserting the card without try and error method as this will change the customers' negative perception about the usefulness of ATMs thus, strengthen customer satisfaction.

There should be reduction on transaction financial fees charges on ATM usage especially the cost of Visa ATM inter-switch which is high as Ushs 5,000 should be reduced to make ATM use more flexible.

5.4 Area of Further Research

This study focused only focused on perceived ease of use and perceived usefulness as ATMs strategies relation to customer satisfaction leaving aside other strategies such as accessibility of ATMS, cost of ATMs and availability of ATMs thus, an indication in the contextual scope. The researcher recommends that a similar study should be done to include other strategies such as accessibility of ATMs, cost of ATMs and availability to have a comprehensive understanding of the effect of ATM adoption strategies on customer satisfaction.

The study only covered Centenary Rural Development Bank in the Central Business District of Kampala, leaving aside other areas thus indication of the gap in the geographical scope. A similar study should be done to include other banks in different geographical areas especially bank is in the rural setup to equally find out how ATMs adoption strategies applied affect customer satisfaction.

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APPENDICIES

Appendix i: Questionnaire for customers

Dear respondent,

I am Nanyanzi Immaculate Mary, a student of Uganda Christian University conducting a study titled "Automated Teller Machines Adoption Strategies and Customer Satisfactions in commercial banks in Uganda, a case of Centenary Rural Development Bank", in partial fulfillment of the requirement for the award of a master's degree of Business Administration. You have been scientifically selected to take part in this study. The findings of this study will be treated with anonymously confidentiality and will be used solely for academic purpose.

SECTION A: BACK GROUND INFORMATION

(Please tick where appropriate)

1. Gender

(i) Female ☐ (ii) Male ☐

2. Age

a) Below 20years ☐ b)21-30 years ☐ c) 31-40years ☐ d)41 -50 years ☐

Above 50 years ☐

3. What is your highest level of education?

a) Certificate ☐ b) Diploma ☐ c) Bachelors ☐ d) Masters degree ☐

e) Others specify

……

4. For how long have you been using ATMs available at Centenary bank?

a) Less than 1yr ☐ b) 1-5 yrs ☐ c) 6-10 yrs ☐ d) Above 10 years ☐

SECTION B

For the questions below, tick the number that best indicate your opinion on the question using the following scale.

SCALE	**5**	**4**	**3**	**2**	**1**
	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree

Perceived Ease of Use

No	**Statement**	**Strongly Agree**	**Agree**	**Not Sure**	**Disagree**	**Strongly Disagree**
1	It is faster to withdraw money using ATM	5	4	3	2	1
2	It is easier to make deposits using ATM	5	4	3	2	1
3	I find it easier to check my account balance using the ATM	5	4	3	2	1
4	ATMs give clear direction on use	5	4	3	2	1
5	I use ATM because they are located in convenient locations	5	4	3	2	1
6	I use ATM to withdraw money at my convenient time	5	4	3	2	1
7	I use ATMs because their languages are easy	5	4	3	2	1
8	I often make errors when using an ATM to withdraw money from my account	5	4	3	2	1
9	I often find it easy to recover from errors encountered while using ATM to make withdraws	5	4	3	2	1
10	I often get confused when I use ATM to deposit money on my account	5	4	3	2	1

Perceived Usefulness

No	Statement	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1	I use ATM to make deposits successfully without visiting the banking hall	5	4	3	2	1
2	I use ATM to withdraw money without visiting the banking hall	5	4	3	2	1
3	Using ATM enables me check my account balance	5	4	3	2	1
4	Using ATM saves my time since transactions are completed within a period of 2 to 5 minutes	5	4	3	2	1
5	I use ATM because it guarantees my PIN security	5	4	3	2	1
6	I always get prompt service while withdrawing money from ATM	5	4	3	2	1
7	It would be difficult to make several bank withdraws without ATMs	5	4	3	2	1
8	Using an ATM gives me greater control over my account	5	4	3	2	1
9	Using an ATM enables me perform my bank transactions quickly	5	4	3	2	1
10	I use an ATM to withdraw money because it gives the exact amount of money requested	5	4	3	2	1

Customer Satisfaction

No	Statement	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
	Customer Loyalty					
1	I have a positive passionate association with the bank's ATM	5	4	3	2	1
2	I intend to remain a user of the bank's ATM	5	4	3	2	1
3	I would recommend a friend to use ATM services	5	4	3	2	1
4	I would stay with using ATM even if its charges are slightly raised	5	4	3	2	1

5	I will most probably switch to an alternative service in the foreseeable future	5	4	3	2	1
	Customer commitment					
6	I use ATMs only because I don't have any other choice	5	4	3	2	1
7	I feel happy when using ATM to withdraw money	5	4	3	2	1
8	If I had another option, I would stop using ATMs	5	4	3	2	1
9	I take pleasure in using the bank's ATMs	5	4	3	2	1
10	I feel I made a right choice to use ATM services					
	Perceived value					
11	I feel that I am getting banking services at a fair price using ATM	5	4	3	2	1
12	I always receive the exact amount of money I request from the ATM	5	4	3	2	1
13	I feel that ATM provides accurate account balance information at low charges	5	4	3	2	1
14	I have had a good experience using ATM to make cash withdraws	5	4	3	2	1
15	I feel the banking service is easily accessible through ATMs	5	4	3	2	1

Thank you so much for your cooperation.

Appendix ii: Interview guide for the staff

1) Do many customers use ATM services available at Centenary bank?

……

a) If yes to question 2, what do you think are the reasons?

……

……

b) If no to question 2, what do you think are the reasons?

……

……

2) What are some of the strategies being used to make many customers embrace the use of ATMs?

……

……

3) Briefly state the strength, weakness, opportunities and threats of the ATMs available at Centenary Bank

A) Strength

……..

B)Weakness

……..…

C)Opportunities

…….…….

D) Threats

……

4) What do you think are some of the security threats to ATM users?

……

……

5)What do you think is the future of ATM usage in the financial sector?

……

……

Thank you so much for your cooperation.

Appendix iii: Table for determining sample size from a given population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size

"S" is sample size.

UGANDA CHRISTIAN UNIVERSITY

"A Centre of Excellence in the Heart of Africa"

School of Research and Postgraduate Studies

P.O. BOX .....

.....

TEL.....

The Dean,
Faculty of BUSINESS AND ADMINISTRATION
Uganda Christian University,
P.O. Box 4, Mukono.

Thru:
The Supervisor

Dear Sir / Madam,

SUBMISSION OF DISSERTATION/THESIS FOR EXAMINATION

I hereby submit my dissertation/thesis entitled AUTOMATED TELLER MACHINES ATM ADOPTION STRATEGIES AND CUSTOMER SATISFACTION ON COMMERCIAL BANKS IN UGANDA

for examination for the award of the degree of MBA in UGANDA CHRISTIAN UNIVERSITY

of Uganda Christian University.

NAME OF CANDIDATE: [illegible] IMMACULATE M REG NO K518M15/213

SIGNATURE: [signature]

DATE: 24/06/2021

NAME OF THE SUPERVISOR: Dr. Otobo. Marice

SIGNATURE: [signature]

DATE: 29/06/2021

(TO BE FILLED AND SUBMITTED IN TRIPLICATE)