EFFECTIVENESS OF THE STUDENT'S ELECTRONIC PAYMENT SYSTEM: A CASE STUDY OF THE UNIVERSITY OF ZAMBIA

BY

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A dissertation submitted to the University of Zambia in collaboration with Zimbabwe Open University in partial fulfilment of the requirement for the award of the degree of Master in Business Administration.

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DECLARATION

I, Mukonde Mwewa, hereby declare that this dissertation is a result of my own independent work/investigation, except where otherwise stated. All other source of information are acknowledged by giving references. This work has not previously been submitted for any academic qualification at the University of Zambia or any other University.

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APPROVAL

This dissertation has been approved as a partial fulfillment of the requirement for the award of the degree of Masters of Business Administration of the University of Zambia in collaboration with Zimbabwe Open University.

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DEDICATION

This work is dedicated to my parents Mr. Bernard Mwewa and Mrs. Scholastica M. Mwewa

for their encouragement and support in my studies.

ACKNOWLEDGEMENTS

ACRONYMS

BMPS	-	Bill Muster Payment System
BOZ	-	Bank of Zambia
FIP	-	Finance and Investment Protocol
GRZ	-	Government of the Republic of Zambia
MOGE	-	Ministry of General Education
MOHE	-	Ministry of Higher Education
MMD	-	Movement for Multiparty Democracy
NIPA	-	National Institute of Public Administration
RFI	-	Regional Financial Integration
RISDP	-	Regional Integration Strategic Development Programme
SADC		Southern African Development Countries
UNILUS	-	University of Lusaka
UNIP	-	United National Independence Party
UNZA	-	University of Zambia
ZANACO	-	Zambia National Commercial Bank
ZAMREN		Zambia Education Research Network
ZNBC	-	Zambia National Broadcasting Corporation

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ABSTRACT

The University of Zambia is a Public University which was formed by an Act of Parliament Number 66 and saw its first intake of students in 1965. From inception to 2009 the student made their payments manually and this had challenges on the part of students as they had to stand in long queues. Registration used to take long and students used to face risks of loss of funds in the process.

The aim of the study was to examine the effectiveness of the student's electronic payment system used at the University of Zambia and the challenges associated with it. A descriptive survey was used in the study as it was conducted using questionnaires and interview guide, data was collected from 92 participants from a cross selection of the School of Natural Sciences students that where randomly selected, management and other stakeholders such as Zambia National Commercial Bank and Zambia Education Research Network who were purposively selected.The results revealed that the system was effective though had challenges that needed to be worked on in order for the system to be more effective. The challenges identified from the current student's electronic payment systems were, failure to update the students account within 48hours (32%), poor internet connectivity (28%) and lack of network accessories and information (26%). The initiatives suggested by participants that the University can put in place are investing in Information Communication Technology (ICT) so as to ensure that all payments are updated and able to handle the challenges that come with the ecommerce world.

The study recommended that the University of Zambia should invest in effective ICT on which the electronic payment system depends on; broaden the scope of the payment system to include more banks as well as non-bank related payment options like mobile banking; the University should request the banks for an electronic interface to reduce physical human interaction. This would increase the efficiency and effectiveness of the system.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter focuses on the background of the study and gives the reader an outline of the research. These includes the statement of the problem, purpose of the study, main objectives of the study, specific objectives to the study, the significance of the study, scope of the study, limitation of the research and definition of terms.

1.1 Background of the study

The University of Zambia (UNZA) is a public University which was formed by an Act of Parliament Number 66 in 1965. The University opened on 23rd February 1965 with the following schools: Education, Humanities and Social Sciences and Natural Sciences. In its first academic year in 1966 enrolled the first intake of 312 students. In later years, new Schools were opened such as Law, Engineering, Medicine, Agriculture Mines, Veterinary Medicine, the Institute of Distance Education, Directorate of Research and Graduate Studies, Graduate School of Business (2015) and in 2016 the School of Medicine which separated into four Schools namely Nursing Sciences, Public Health, Healthy Sciences and Medicine were introduced at the university (Unza Strategic Plan, 2018).

At inception, the primary objective of the United National Independence Party (UNIP) government was to provide free education to meet the much needed human resource to serve in all sectors of the economy. However, just like any other organization, the university still had to cope with the demands of handling and managing finances that came in from government and other sponsors. The university also had to pay salaries for staff as well as sustaining the obligations of procuring goods and services. Additionally, the university also had to bank these financial resources. All the above processes were manually based.

In the past, all Zambian students admitted to study at the university were automatically placed on the bursary scheme which covered tuition, accommodation, book allowances and a stipend for students. Book allowances were deposited in the university bookshop while meal allowances were paid directly to the university to enable students take meals at the available dining halls.

However, UNZA has reinvented in several ways to match the economic challenges that engulfed the country in the mid 1980's. During this time, the country faced low prices of copper, which negatively affected the national treasury. Following this development, the government could no longer sustain the bursary system fully. Consequently, the university began facing challenges in providing meal allowances to students resulting in numerous calls for boycotts. To resolve the matter, the university proposed to government that the meal allowances should be paid directly to the students and in turn, the recipients would buy their meals from the dining through cash payments. The government accepted this advice and started paying meal allowances directly to deserving students.

Along the same line, the government stopped remitting book allowances which regrettably resulted in the closure of the university's bookshop and the lease of the facility to a private company called Book-World. Another change that was witnessed entailed the delinking of admission of students from available bed spaces. This policy was changed through the introduction of enrollment of self-sponsored students. Thereafter, another change that was noted entailed the introduction of parallel programmes where students enrolled to start classes in the afternoon. These students attending the parallel programmes were expected to pay tuition fees in full as they were not eligible for government bursary. All the above changes did not trigger a shift from manual payment system to electronic.

All these changes were initiated to make the university more financially reliant in the face of reduced government funding. With these expected direct payments, the university was able to meet some of its financial requirements such as staff emoluments and current expenditure.

With the coming into office of the Movement for Multiparty Democracy in 1991, most socialist policies left by the UNIP administration were shelved aside and a free market economy emerged. The MMD administration clearly stated that government would not be involved in business.

Following the introduction of a free market economy, the education sector was also liberalized and saw the emergence of private universities. With this emerging competition for income, UNZA was forced to re-invert itself into a profit making organization. This meant that UNZA now had to re-invert itself to compete with rival universities like Apex, Cavendish, DMI St. Eugene, Copper belt, Eden, Lusaka, Mulungushi, NIPA, Rusangu, Rock View and Victoria among others.

It must be mentioned that during the period, 1965 to 2009, most of the payments were handled manually. This meant that accounting personnel had to receive payments and record these transactions in books manually. One of the major transactions that accounting officers handled manually was receiving tuition fees from students.

At the time, students paid fees directly to the individual school financial officers which was a challenge on the part of students as they had to stand in long queues and registration used to take long and in the process: students used to face the risks of loss of funds. These financial officers would then remit the fees received from the students to Central Administration to meet the obligations of the university and bursary system. However, the administration faced numerous challenges, which included some schools not remitting the fees that they received from the students. To ensure accountability and to speed up the receipt of tuition fees, management was prompted to involve the cash office, which is also under the Bursar's department. The role of the cash office was to collect all the fees and then remit the same to the individual schools through the students' finance department (Accounts office).

Therefore, to improve efficiency, effectiveness, accountability and minimize the risk of fraud, the University Of Zambia (UNZA) in 2009 introduced the student's electronic payment system. The university management signed an agreement with Zambia National Commercial Bank (ZANACO) to adopt one of the electronic products known as the Bill Muster Payment System. This new payment system was meant to improve decongestion, efficiency, effectiveness and accountability.

The Zambia National Commercial Bank (ZANACO) Branches that offer the Bill Muster Payment System were Avondale, Cairo Road Business Centre, Manda Hill, Northmead and UNZA Agency all based in Lusaka. Currently this has been rolled out throughout the country. Under this arrangement, ZANACO collects the fees for UNZA on a commission basis.

1.2 Statement of problem
Public universities worldwide have introduced electronic and online payments systems to address the inefficiencies caused by the use of the manual student payment system. The University of Zambia is amongst them. The ever increasing student populace contributed greatly to accounting staff failure to cope with volumes of payments (Strategic Plan 2018-2022).

Despite the introduction of the new electronic payment system at the University of Zambia some students have continued facing challenges with the system (field data, 2018).Some students still physically have to go to the University to complete their payment and registration process, which was not the initial plan. It is therefore important that a new way of processing student's payments is found. This will ensure that the automated system is fully functional and serves its purpose. Thus, this study assesses the effectiveness of the new electronic payment system that was meant to easy the payment and registration process at the University of Zambia.

1.3 Purpose of the study

The purpose of the study was to investigate the effectiveness of the student's electronic payment system at the University of Zambia.

1.4 Main Objective

The main objective of this study was to investigate the effectiveness of the student's electronic payment system at the University of Zambia.

1.5 Specific objectives of the study

The objectives of the study were to:

i. To understand the role that electronic payment system plays in aiding students at the University of Zambia.

ii. To establish the challenges of the student's electronic payment system at the University of Zambia.

iii. To identify initiatives that the University could put in place to handle the challenges and improve its service delivery to the students.

1.6 Research Questions

i. How useful is the student's electronic payment system at the University of Zambia?

ii. What are the challenges of student's electronic payment system at the University of Zambia?

iii. What initiatives could the University Management put in place to enhance the effectiveness of student's electronic payment system?

1.7 Significance of the Study

The study will provide Policy Makers and Top Management at the University of Zambia with an insight into possible strategic decisions that may help in enhancing the effectiveness of the student's electronic payment system at the University. The findings are also important as a feedback to key partners such the internet provider ZAMREN and the Bank. This study also adds to the body of knowledge on the challenges that the students are facing in using electronic payment system. Furthermore, it will bring into focus the role that stakeholders must play in providing an effective student's electronic payment system at the University of Zambia.

1.8 Conceptual Framework

The term "electronic payment" refers to as convenient, safe, and secure methods for payment of bills and other transactions by electronic means such as card, telephone, the Internet, Electronic Fund Transfer. Electronic payment gives consumers an alternative to paying bills and debts by cash, cheques and money order as shown in figure 1 below.
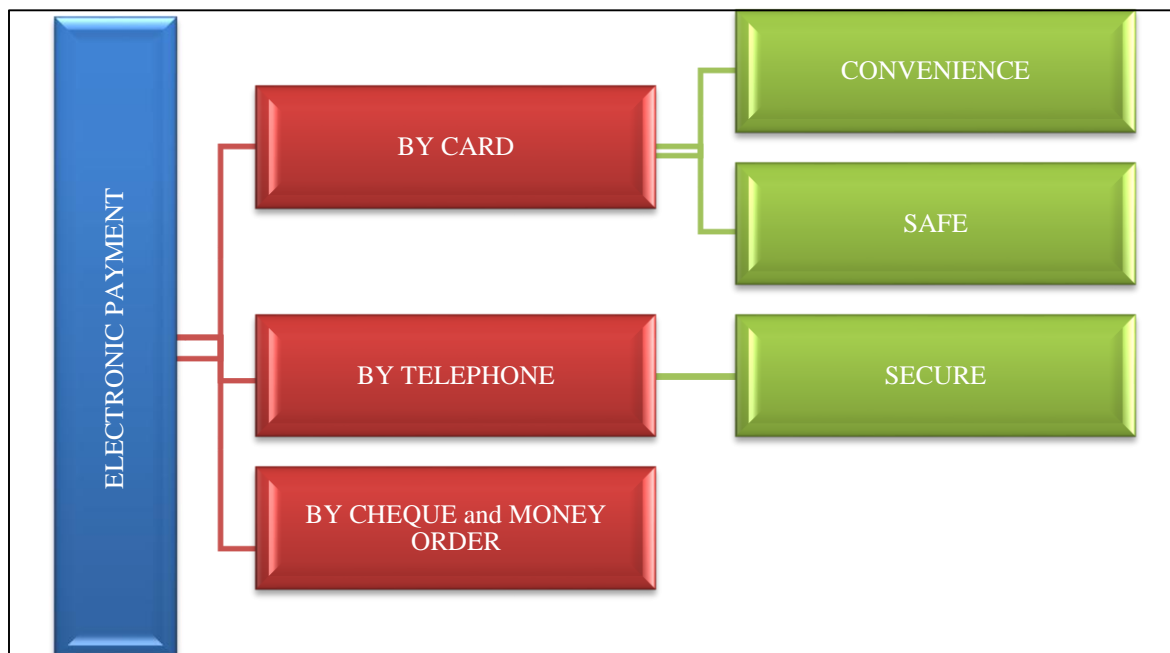
Figure 1 Conceptual Framework

1.9 Scope of the Study

The scope of the study focused on the University of Zambia Management, ZANACO, ZAMREN and School of Natural Sciences undergraduate students. The School of Natural Sciences has a

population of 1,223 in 2017/2018 academic year. Management comprised of the Registrar's Office, the Dean of Academic Affairs, Bursar's department and Center for Information Communication Unit (CICT).

1.10 Delimitation of the Study

The study is limited to payment system for the students at the Great East road Main Campus in the School of Natural Sciences. The key actors are limited to ZANACO Head Office Transaction Banking department, ZAMREN the internet providers, and UNZA administration. The researcher reached participants from various Management Units but did not reach to the lecturers even though the lecturers might provide valuable information however, they do not use the system. Further, the researcher used questionnaires and interview and not observation methods in order to minimize her obtrusiveness and her influence on the participants.

1.11 Limitations of the study

The researcher faced limitations as she conducted the research while working. Furthermore, owing to the sensitivity of the electronic payment system at the University of Zambia, some participants withheld some relevant information for fear of being victimized.

1.12 Definition of Terms

Unless otherwise stated, the following are the meanings used for the key terms used in this study:

Electronic payment systems: is a way of paying for goods or services electronically, instead of using cash.

Electronic Cash (E-Cash): Digital signatures to enforce public/private keys to identify buyers/sellers.

Electronic Check: Opening a checking account and sending checks through email to the seller; then seller sends this check to the bank through an accounting server.

Smart Card: These are credit cards with microprocessor chips that can hold much more information as compared to traditional credit cards.

1.13 Summary

This chapter looked at the outline of the research. The statement of the problem was focusing on the reason why the students where facing challenges with the electronic payment system

when it was expected to ease the payment and registration process at the University of Zambia. The study had three objectives of which one of them was to identify initiatives that the University of Zambia could put in place to handle the challenges as well as to improve its service delivery to the students. The study was limited to the payment system for the students at the Great East Road Main Campus in the School of Natural Sciences.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Literature review is an account of what has been published on a topic by accredited scholars and researchers. It is critical to look at the existing research that is significant to the work that the researcher was carrying out (Cooper and Schindler, 2016). This chapter will review the key literature in the area of students' electronic payment system. It would focus on the global, regional and local perspective of the study. It then reviewed the theoretical framework literature relevant in analyzing the effectiveness of student's electronic payment systems in public universities. This will facilitate the development of an appropriate conceptual framework for the study.

2.2 Global perspective

In the early 1990s, the business and consumer world encountered new ways of conducting trade business, which was named electronic commerce (e-commerce). Over the year's electronic commerce has evolved into a popular and acknowledged way of conducting business. While researchers are still trying to understand its importance and turnover, e-commerce is changing and growing incredibly quickly, producing such extraordinary results from both business and customer perspective that its phenomenon cannot be overlooked by anyone who has ever thought of conducting business, whether in online or offline environments. With many organizations and people, laboring in the field of e-commerce it has become very clear that e-commerce is here to stay and organizations and customers are trying to get maximum benefit from it.

The development of new types of e-commerce purchasing relationships and business models has created the need for new ways of money exchange and new EPSs. For instance, online auctions, (Robbers and Heck, 2004), has spurred the necessity for person to-person payment systems to allow online money exchange between individuals. Certain types of information products and services require small payments and micropayments. Businesses would like to sell information content that costs very little, accumulating revenues with high turnover. E-commerce EPSs can be designed for selling specific types of products, for example for trading copyrighted online content, such as music. Another unforeseen earlier requirement is conducting e-commerce using wireless mobile devices, such as mobile phones or personal digital assistants (PDA). The need for paying

with mobile devices has urged the development of payment systems for mobile electronic commerce (Loudon and Trever, 2012). In addition, e-commerce provides the possibility to enhance current payment systems or substitute them with online variants.

The need for online payments was first addressed by using extant payment methods of the offline world for online payments. For example, credit cards, originally intended as an offline credit instrument, have become the major payment instrument for e-commerce. As e-commerce and online purchasing grows, the weaknesses of credit and debit-cards, and cheese are becoming more apparent. The lack of the fit-for purpose payment mechanisms and infrastructure is one of the main restricting factors that hold back the growth and evolution of e-commerce (Guttmann, 2013).

Shon and Swagman (2018) introduced the electronic payment system to describe the exchange of funds initiated through electronic communication channel, while Kalakos and Whinstone (2017) stated that an e-commerce electronic payment is a financial exchange that takes place in an online environment. Abrazhevich (2014) stated that electronic payment systems are used to facilitate the most important action to which the after customer's decision to pay for a product or service. Several initiatives have been undertaken to create and develop electronic payment systems (Kalakota and Winston, 2016), and successful ones include various types of smart cards, electronic cash, and electronic cheque mechanisms. (Harris, Guru, and Avvari, 2011). Singh (2009) broadly classified electronic payment systems into four categories: online credit card payment system, online electronic cash system, electronic cheque system and smart cards-based electronic payment systems.

In addition, Briggs and Brooks (2011) sees e-payment as a form of inter-connections between organizations and individuals aided by banks and inter-switch houses that enables monetary exchange electronically.

In another perspective, Peter and Babatunde (2012) viewed e-payment system as any form of fund transfer via the internet. Similarly, according to Adeoti and Osotimehin (2012), electronic payment system refers to an electronic means of making payments for goods and services procured online or in supermarkets and shopping malls. Another definition suggests that e-payment systems are payments made in electronic commerce environment in the form of money exchange through electronic means (Kaur and Pathak, 2015).

According to Slozko and Pello, (2015) online - payment systems are important mechanisms used by individual and organizations as a secured and convenient way of making payments over the internet and at the same time a gateway to technological advancement in the field of world economy. In addition, it has also become the major facilitating engine in ecommerce through which electronic business success relies upon. Electronic payment system has also brought about efficiency, fraud reduction and innovativeness in the world payment system. Online payment system has increasingly becoming a daring means of payments in today's business world. This is due to its efficiency, convenience and timeliness. It is a payment system that is continuously being embraced and adopted in the financial system of both developed and developing countries with a view to simplify and ease payments in business transactions. As a result, many studies were conducted around the globe by scholars on online-payment adoption.

According to Luanga, (2014), Uganda's Makerere University has a large number of students who pay all the university fees through cash deposits, electronic funds transfer or bank drafts to the university's accounts in specific bank branches. These methods of paying fees have not been efficient enough especially during periods of tests and examinations when most of the students are paying fees to meet the requirements for entering examination rooms. The process of paying fees is characterized by long queues, too much waiting by students and congestion at banks where payments are made. This has always resulted in students missing to sit for their tests and/or examinations while they are queuing to make payments. It was upon such background that the researchers embarked on the project to develop of an alternative system that enables online fees payment by students and their sponsors. With the use of questionnaires, interviews, observation and document reviews, data was collected from project stakeholders and analyzed. Data flow diagrams and Entity relationship diagrams were used to accomplish system analysis and design. The system was implemented using Apache web server, MySQL database server, Hypertext Preprocessor, Hypertext markup language, Cascading style sheets and JavaScript. System testing and validation was also done by allowing users of the system interact with it using test data. Findings showed that most of the students were unsatisfied with the current modes of paying fees to the university and agreed that an online fees payment system could improve the process of fees payment. The result of the project was an online fees payment system for Makerere University (MUK-OFPS) and researchers recommended the university to implement the system that provided relief of the long endured problems of the current modes of payment at the university.

The aim of the study by Makerere University was focused on web-based system that would allow secure online fees payment and the research design used in the study was random sampling. The findings where that 50% of participants agreed that the University would improve fees payment system.

In another study conducted by University of Business 2017, its aim was to meet new demands from students and parents so as to save money through the online system. A survey was conducted at the University of which revealed that 90% of the students and parents that payed by calling or walking into their office would switch to paying online. They wanted a few upgrades to the University's system so that payments could be easier such as sending text message to remind the students to pay, attending to online answers to the billing questions. In having to implement the changes and moving the payments would save staff time.

Both Makerere and Business Universities looked at students' payment systems however, the current study is looking at students as well as administrators. From the study conducted at Makerere University random sampling research design was used whilst the current study is looking at random stratified sampling.

The findings of Makerere were that participants agreed that the university would improve the fees payments system whilst University of Business wanted few upgrades to their student's online payment system. The current study's findings where that the University of Zambia should extend the system to other banks and branches as well as non-bank related payments.

In a study that was carried at St Edward's University was focused on making payments at the speed of now. Previously the system had a legacy of ERP system that was used to accommodate different functions as well as being a pioneer in using the system to accepting online tuition payments. The old payment system for the University indicated inefficient processes to the office of Student Financial Services as well as limited reporting capabilities hence the staff had to use multiple databases through a difficult process of identifying the account that has been paid and how payment was made.

In another study conducted at Kwane Nkrumah University of Science and Technology (2012) its aim was to look at the methods of payment and their impact on fees paying in tertiary institution.

The survey conducted reviewed the current characteristics in the payment methods and the willingness to accepting the new and improved payment methods.

However, St Edwards and Kwane University of Science and Technology looked at the payment systems that students where using to make payments. From the survey at St Edward University reviewed that the when compared to the old system 99% using the Eulllucian payment center where the figures lie the outcome proved success for instance the students had more control in that it meant that more activities would be done online meaning less standing in lines.

Bursar Peter Beilharz, St Edward University (2018) stated; "We now work with two Eulllucian systems that are in compliance with PCI and operations are simpler   because of the functionality and there's a lot less and hoc report writing."

The findings of and Kwane University of Science and Technology respondents said that the current payment method needed to be flexible and accurate for any form of business transactions that was to take place as the concerns where in relation to the payment methods and called for an immediate solution whilst that of St Edward University with the use of Eulllucian payment center there would be less time involved in identifying issues such as misapplied payments for those students who are using the wrong payment plans or those who have paid with a cheque visa fee credit card hence yielding continuous improvements in efficiency. The current study's findings where that the system was used current was effective and that the university needed to invest in an effective Information Communication Technology (ICT) on which the electronic payment system would depend on for an effective and focused payment processes.

Several authors including Dave (2016) note that online payment systems have a range of advantages in comparison to traditional banking services as follows: -

Time Savings: This enables money transfers between virtual accounts usually to take a few minutes, while transfer or a postal one may take several days. Also, one will not waste time waiting in lines at a bank or post office (Lynch and Lundquist, 2016).

Expenses Control: This helps the account holder to control their expenses. This virtual account system contains the history of all transactions indicating the store and account that one spent (Asokan et al., 2007).

Reduced Risk of Loss and Theft: The online payment systems help to reduce incidents of loss and theft. Since the Internet is an open network with no centralized control, the infrastructure, supporting electronic commerce and payment systems in particular, must be resistant to attacks in the Internet environment. Security can be viewed as a two-fold issue. On the one hand, users would like to be sure that their money is safe when paying online. On the other hand, banks and payment services organizations would like to protect themselves so that no money, financial, or personal information can be stolen or misused. Security of electronic cash systems has an aspect of counterfeiting: no one should be able to produce electronic tokens on their own, otherwise banks or governments will have to pay for such counterfeiting. Another aspect of security of electronic cash is double spending (Chaum, 2012). What cash transactions achieve by the physical nature of cash is that money can be spent only once. In the computing environment, where copying information and modifying records is easy, this property becomes a challenge for engineers. An online payment system operator should ensure that electronic cash could not be spent twice. In this aspect, security is often viewed in connection to anonymity, cryptography, and unforgeability (the inability to create 'counterfeit money' for the use in the system) (Asokan et al, 2007).

Low Commissions: The online payment system has cheaper fees than the traditional banking model.

User Friendly: The online payment system is designed to reach the widest possible audience, so it has the intuitively user interface. It should not be a sophisticated or complex task to pay online, payments are to be done in an easy and user-friendly way (Guttmann, 2013). This requirement can be manifested in ease of use of the system. In such a responsible task as a payment process, users should have minimum factors that make paying complicated or distract them. An overly complex payment process, accompanied by other complications associated with online payment systems or an e-commerce payment environment, can turn customers away from a financial transaction and even future e-commerce activities. For example, the processes of paying when you have to fill in a lengthy form with name, address details, a 16-digit credit card number and expiration date cannot be called an easy one when compared with cash payments (Lynch and Lundquist, 2016).

Convenience: All the transfers can be performed at anytime and anywhere as long there is internet access. Naturally, users and businesses want a system that is reliable, because the availability of services and the smooth running of an enterprise will depend on the availability and successful

operation of the payment infrastructure. Whether in the result of a hackers' attack or simply poor engineering, the costs of breakdowns can be substantial, and the failure to maintain reliable operations can be unrecoverable (Medvinsky, 2013).

Electronic payment systems have brought about efficiency, reduction in fraud and advanced in the world's payment system (Oladeji, 2014).

2.3 Regional Perspective

Payment, clearing and settlement systems (also known as financial market infrastructures) are an essential part of the global financial system, which allows financial institutions to serve customers and clients across the world. This payment system consists of a set of instruments, banking procedures and interbank fund transfer mechanisms that ensure the circulation of money regionally in SADC and worldwide. Successful regional financial integration (RFI) leads to an increase in capital flows moving towards an equalization of commodity and asset prices, and returns on financial assets traded in member states. Monetary and financial integration is a complex set of processes from collaboration to co-operation, to unified financial market codes, markets and services – and is reliant on stable domestic financial systems within the particular region.

In the late 1980s, a process of financial reform and liberalization took root in many African countries, prompted by structural adjustment programmes supporting loans from the Bretton Woods Institutions. SADC member countries have, largely, liberalized their financial systems and have recorded solid macroeconomic performance in recent years in their common pursuit of macroeconomic convergence. The convergence targets specified in the Regional Integration Strategic Development Programme (RISDP) have the aim of maintaining macroeconomic stability in the, thereby contributing to faster economic growth and laying the basis for an eventual monetary union.

The SADC Finance and Investment Protocol (FIP) is a vehicle for the implementation of the RISDP, which provides strategic direction to the SADC integration process. The RISDP economic targets include the creation of a free trade area by 2008, a customs union by 2010, a monetary union by 2016, and a single currency by 2018. These targets have had to be delayed, especially with the impact of the European sovereign debt crisis on the region – the latter event calling into question the long-term prudence of monetary unions. The FIP was signed in August 2006 by 14

SADC member states (excluding Seychelles), was ratified by a two-thirds majority in 2010, and came into force on 16 April 2010 with two broad objectives. These were

1. To improve the investment climate in each member state and improve foreign and intraregional investment flows.
2. To enhance co-operation, co-ordination and harmonization in financial sectors at national level in the region.

At the May 2009 meeting of the SADC Committee of Central Bank Governors (CCBG), approval was given for the initiation of the SADC Payment Integration System project. The project team responsible for the payments system was tasked with, among other things, involving other CCBG subgroups to ensure that the intersecting functional areas and requirements for regional integration are considered when coming up with the conceptual design of the payment system. The official launch of the SADC Payment Integration System project took place in February 2010. The SADC CCBG has since developed a monetary and financial statistical database; developed an information bank on the policies and structures of SADC central banks; improved the national clearance, payments and settlement systems; and facilitated the repatriation of bank notes and coinage among SADC countries. The SADC CCBG adopted the SADC Central Bank Model Law in 2009, whose Chapter VI enshrines central banks' strategies for stabilizing financial systems in the SADC region. The law's provisions on 'disclosure, the accommodation of banks, emergency liquidity assistance, and central bankers' banker role, including as lender of last resort are considered robust. However, there is a perceived omission of capital and liquidity requirements.

A proposal by the project team set out the advantages of using the SADC CMA to test the possibility of implementing a single-currency cross-border settlement system. The introduction of this system will mean that participating banks will be able to exchange financial transactions through a single settlement authority; and cross-border payments made in the member state's currency will be denominated in the South African rand. This test case using the CMA went online in July 2013 as discussed. It is further envisioned that other SADC countries will adopt the system through a type of 'variable geometry' approach towards the SADC monetary union.

2.4 Local Perspective

The University Of Zambia (UNZA) adopted the electronic payment system in 2009. Before going electronic, the cash office handled cash and cheque payments manually as well as recording the

transactions in books. But, with the growing number of students, the use of the manual payment system experienced the following obstacles; Accounting staff were failing to cope with the volume of payments, there were risks of fraud /theft, there were challenges of accountability, there were also delays in producing financial reports and students were spending more time lining up to pay fees at banks within the university premises.

Therefore, to minimize these challenges, the university management decided to consider embracing changes in technology which had seen the introduction of online payment system. Plymouth and Martin (2009) stated that, "For nearly every business, the simple act of collecting payments from consumers is actually quite complex. Organizations want to make it easy and convenient for customers to pay, hence, the University of Zambia management introduced electronic payment system to the students and their sponsors." Electronic payments of fees by students are done through cash deposits, cheques electronic transfer to the University's bank accounts in specific branches.

Other universities in Zambia are equally moving towards the automation of their payment systems. The first step has been to let students make payments at using local banks by providing them with account numbers to deposit the money in. UNILUS, Mulungushi and the Copperbelt University have all approached Zanaco to have them integrated on the bill muster platform. With the digital steps that Zanaco is taking, it will not be long before students can make payments using other platforms like agency banking. The challenge however still remains the effectiveness of the electronic payment systems even though implemented at the other universities. There is also need to establish whether the other universities have the technical capability to integrate with the bank and facilitate online payments.

2.5 Types of Online Payment Systems

New online payment systems are being introduced into Zambia at an increasing rate. Forecasts indicate that this trend will continue for near future. Works by Deutche Bank Research (2001), Vartanian (2010) and Birch (2018) looks at the future of electronic payments.

A number of studies have also concluded that information technology has appreciable positive effects on bank productivity; cashiers' work, banking transaction, bank patronage, bank services delivery and customers' services (Balachandher et al, 2011). In effect, it enhances savings

mobilization and financial intermediation. Efficient payment systems rely on non-cash payments, and that an efficient and reliable payment system facilitates economic development (Annon, 2013).

Carow and Staten (2009) used a logistic regression model to investigate preferences of consumers in using debit cards, credit cards, and cash for gasoline purchases. Humphrey and Hancock (1997) have provided an extensive survey of the payments literature. Using the Federal Reserve's 1995 Survey of Consumer Finances (SCF), Kennickell and Kwast (2017) analyzed the influence of demographic characteristics on the likelihood of electronic payment instrument usage among households.

2.5.1 Card Payments
Automated Teller Machine (ATM)

ATM is a combined computer terminal, with cash vault and record-keeping system in one unit, permitting customers to enter the bank's book keeping system with a plastic card containing a Personal Identification Number (Rose, 2009). Mostly located outside of banks, it can also be found at airports, shopping malls, and places far away from the home bank offices, and offering several retail banking services to customers thus reducing workload of human tellers. First introduced as cash dispensing machines, it now provides a wide range of services, such as making deposits, funds transfer between two or more accounts and bill payments (Abor, 2014).

The Trust Bank first introduced ATMs in 1995 that allow customers 24-hour access to their funds. Since then almost all the major banks have followed suit.

2.5.2 Credit and Debit Cards
This plastic card assures a seller that the person using it has a satisfactory credit rating and that the issuer will see to it that the seller receives payment for the goods or items delivered. This represents the automated capture of data about purchases against a revolving credit account (Pierce, 2001). Introduced more recently, debit together with credit cards represent the most rapidly growing method of payments in several countries (Pierce, 2011). When a payment is made through a debit card, the funds are immediately withdrawn from the purchaser's bank account. The advantage is that the buyer has the funds to make the purchase and paid for right away, so there's no credit card shock when the statement arrives in the mail (Pierce, 2011).

Major international credit cards such as Visa, MasterCard, American Express and others such as Maestro are accepted as a medium of payment in major shops, hotels, restaurants, supermarkets and travel agencies in Zambia. Most of these cards may be also used at ATMs belonging to some of the banks to collect small amounts of local currency.

2.5.3 Smart Cards

A smart card is a plastic card with a computer chip inserted into it and that store and transacts data between users. The data in a form of value or information is stored in the card's chip, either a memory or microprocessor. Smart card-enhanced systems are in use today throughout several key applications, including healthcare, banking, entertainment and transportation. One of the features of this card is that it improves the security and convenience of transactions. The system works in virtually any type of network and provides security for the exchange of data.

2.5.4 Telephone Banking

Telephone banking or telebanking is a form of virtual banking that deliver financial services through telecommunication devices. Under this mechanism, the customer transacts business by dialing a touch-tone telephone connected to an automated system of the bank. This is normally done through Automated Voice Response (AVR) technology" (Balachandher et al, 2011).

Telebanking has numerous benefits for end users. To the customers, it provides increased convenience, expanded access and significant time saving. Instead of going to the bank or visiting an ATM, retail banking serves the same purpose for customers to get the services at their offices or homes. This saves customers time and money, and gives more convenience for higher productivity (Leow, 2009).

2.5.5 Personal Computer Banking (Home Banking)

This term is used for a variety of related methods whereby a payer uses an electronic device in the home or workplace to initiate payment to a payee. In addition to computer technology, it can be performed using the telephone and interactive voice response (Chorafas, 2008). "PC- Banking is a service which allows the bank's customers to access information about their accounts via a proprietary network, usually with the help of proprietary software installed on their personal computer" (Abor, 2014). It is used to perform a variety of retail banking tasks, and offers the customer 24-hours services. "PC-banking has the advantage of reducing cost, increasing speed and improved flexibility of business transactions" (Balachandher et al, 2011).

2.6 Factors Influencing the Choice of Payment Systems

An individual's choice of a payment system is as a result of certain factors. Discussed below are the factors; Customer's Wealth/Levels of Income, Educational Level, Employment Level, Personal Preferences, Transaction-Specific Factors and Marketing Campaigns.

2.6.1 Customer's Wealth/Income Level

According to Kennickell and Kwast (2017), wealth has an important role to play in terms of consumer's decisions on payment choice. Consumer's wealth may influence payment choice and the availability of payment instruments that one can choose. For instance, while wealthy consumers may be able to fund their obligations generally, consumers that experience brief financial shortfalls may not find online bill payment desirable as a payment instrument (Mantel, 2000). In such a situation, the consideration of the risk factor will let some consumers to avoid using pre-authorized online bill payment.

2.6.2 Customer's Educational Level

On the bank customer's survey, it is focused on education, because this affects the demand for online banking products. For example, Kennickell and Kwast (2017) have illustrated how education play important role in determining household use of online-money products. Kwast and Kennickell concluded that the US market for such products is still highly specialized, with the demand coming almost entirely from higher income, younger, and more educated households that have accumulated significant financial assets.

Educational levels of customers determine whether consumers will adopt online payment or not. Studies have shown that highly-educated people patronize online payment products than less-educated people. The technicalities involved in some online payment transactions discourage less educated customers to patronize its use (Annon, 2009).

2.7 Theoretical Framework

This human capital theory is based on building and enhancing the competencies of knowledge habits, social and attributes held by a person that can be used by an organisation to achieve its goal (Sweetland, 2016). Development in the theory has shifted the manual based system to the computer based system consequentially various models in the various sectors have been developed to take advantage of technological advancements.

2.7.1 Transaction-Specific Factors

Transaction-specific is another factor that influences consumer decision-making in payments. This relates to the specific nature of the payment being made, where it is being made, and how the consumer views their relationship with the merchant (Mantel, 2010). The use of a particular payment instrument may depend on the value of the bill (whether it is large or small). Also the availability of payment infrastructure determines the choice of payment instrument (Mantel, 2010).

2.7.2 Account-based Systems Model

Abrazhevich (2014) noted that Online Payent Systems built on the basis of this model have therefore a potential for good scalability, which allows more users to join the system without great loss of performance. Additionally, he pointed out the potential benefits which will be gained from the usage of payment systems; while traceability and high overhead cost for transaction processing are main limitation of these systems.

Thus, this system, particularly its master or debit systems as Wayner (2017) pointed out, have played the fundamental role for providing online payment system with its pros and cons.

Account-based systems are divided into three categories:

1. **Generic Systems:** Online money transfer service like Western Union for business, online auctions and person-to-person payments or Net-Bill that has a central server as a mediator of purchases (Prins 2012).

2. **Specialized Systems (E-mail systems):** These account-based systems utilize e-mail for money transfer like PayPal that is a user-to-user account-based payment system.

3. **Credit and Debit Systems:** The credit-debit approach means that records in bank accounts represent money, and this information is electronically transferred between parties over computer networks (Abrazhevich 2014).

The basic principle of account-based systems is that the exchange of money between accounts is maintained by a payment service provider. Users can authorize charges against their electronic payment system (EPS) accounts, as they would do with usual bank accounts, though the ways of authorization are different for various systems. With the debit approach, the customer maintains a positive balance of the account and money is subtracted when a debit transaction is performed.

With the credit approach, charges are posted against the customer's account and the customer is billed for this amount later or subsequently pays the balance of the account to the payment service.

One of the most widely used systems for electronic payments is the debit card, which as the name suggest, is a clear example of a debit system, (Evans and Schmalensee, 2015). Debit cards combine the service of Automatic Teller Machines (ATM) cards and cheques. When customers pay with a debit card, the money is automatically deducted from their checking bank account. In contrast with the credit cards, the spent money comes from the bank account directly. Many banks issue a combined ATM/debit card that looks like a credit card and can be used in places where credit cards are accepted. In this case, when users pay with a debit card, the payment will still be processed as a debit transaction.

Other payment mechanisms that use the credit-debit model are Yahoo PayDirect, Pay- Pal.com, and theoretical payment projects like NetBill, and NetCheque. Special groups of account-based instruments that are currently in wide use are credit card systems. A great part of trade on the Internet is done using credit cards and these payment systems should not be overlooked. The biggest advantage of this approach is that the customers, who have already received credit cards offline, can use them directly for online payments. This also results in high scalability, as no additional installations are necessary. Credit cards provide a large customer base for merchants who accept them, thus their applicability is quite high.

There are critical security issues associated with the use of credit cards in an online environment. When using credit cards over open networks, encryption mechanisms, such as widely used Secure Socket Lauer (SSL), in principle can prevent a hacker or eavesdropper from intercepting the customer's credit card number. There are some schemes that even hide card numbers from the merchant, providing protection against intercepting the card details from merchant databases or against fraud by the merchant. Nevertheless, these incidents happen regularly (Wales, 2013).

It is important to note, however, that without some form of customer registration with a payment service or substantial proofs of identity, credit cards can be very risky to pay with and can be easily abused. Even encrypted Internet credit card transactions do not include the owner's signature, and anyone with knowledge of the customer's credit card number and expiration date can create a payment order. An important aspect of credit card payments in the online world is referred to as *card-not-present* (CNP) transactions. CNP transactions are those where neither the card, nor its

holder are present at the point of sale, e.g. in orders by mail, telephone, fax or the Internet. The buyer does not have to demonstrate the physical presence of the card, or the card and the buyer do not have to be co-located. This imposes issues with card validation, security and fraud (Caunter, 2011).

2.8 The determinants of electronic payment systems usage from consumers' perspective

The extensive use and commercialization of the Internet have created a dynamic electronic commerce world. Lee, Yu, and Ku (2010). *An analysis and comparison of different types of electronic payment systems*. Electronic commerce (EC) provides numerous advantages over traditional commerce such as openness, speed, anonymity and global accessibility, which simplify life and increase individuals' quality of life. These advantages boost the popularity of EC and enhance the competitive edge of the companies which adopt it. Due to its popularity, EC has been defined in various ways; however, the best definition for the purpose of this article suggests that EC is 'the sharing of business information, maintaining business relationships and conducting business transactions by the means of telecommunication networks'.

EC is built upon electronic payment systems (EPS) and with the increasing volume of electronic commerce, EPS is becoming more crucial for both businesses and consumers (Kim, Tao, Shin, and Kim, 2010). EPS are used for the completion of electronic commerce transactions and have been defined as 'any payment system that facilitates secure electronic commerce transactions between organizations and individuals'.

Although EPS have improved significantly over the last decade, security and trust issues were still matter of concern for users back in the 2000s, and such concerns still exist (Shon and Swatman, 2018). Within the context of EPS, both security and trust are essential; security has been defined as 'a set of procedures, mechanisms and computer programmes to authenticate the source of information and guarantee the integrity and privacy of the information (data) to abstain this circumstance to lead to a hardship (economic) of data or network resources' (Tsiakis and Sthephanides, 2015)

2.8.1 Security and trust issues in EPS

The lack of perceived security and trust has been identified as one of the most vital factors slowing the development of e-commerce Centeno, (2012). Thus, it is expected that past experience should influence customer perception of security and trust in EPS.

Based on the literature review, four factors that influence consumers' perception of security and trust in EPS have been identified. These factors are security statements; transaction procedures; technical protection and personal past experience with EPS.

2.8.2 Payment Distribution System Model

The e-zwich Payment Distribution system is an application which provides a secure and convenient method that allows an organization to pay its beneficiaries on their e-zwich smart cards. The Online Payment Distribution System can be used for the distribution of SALARY/ WAGE/ PENSION/ LOAN Payments. This application can be run by a Financial Institution on behalf of an employer or by the employers themselves. Payments can be made in a batch or single transaction by importing the payment file into the Payment Distribution system and processing the payment online. The switch creates individual 10-digit codes for each recipient representing the amount paid and is immediately available to be loaded. Laudon and Traver, (2012) posit that paying unto e-zwich cards empowers employers and institutions to control when their beneficiaries receive payments as the funds are immediately available after processing is complete. The under listed are the effectiveness associated when an organization adopts e-zwich as a means of making payments; Recipients receive their funds as soon as processing is complete, Processing can be made to cardholders of all participating financial institutions and Processing is secure as the processing agent/official is biometrically verified (Dave, 2016). Previous research has highlighted various definitions of Electronic (online) payment system. Electronic payment system does not lend itself to universal definition. According to Humphrey et al (2011), electronic payment refers to cash and associated transactions implemented using electronic means. Typically, this involves the use of computer networks such as the Internet and digital stored value systems. The system allows bills to be paid directly from bank accounts, without the account holder being present at the bank, and without the need of writing and mailing cheques.

Electronic payment (E-payment) can be defined as, payment by direct credit, electronic transfer of credit card details, or some other electronic means, as opposed to payment by cheque and cash (Agimo, 2014). It was also defined as "a payer's transfer of a monetary claim on a party acceptable to the beneficially" (European Central Bank, 2013).

According to Kalakota and Whinston (2017), electronic payment is a financial exchange that takes place online between the buyer and the seller. The content of this exchange is usually the form of

digital financial instrument such as encrypted credit card numbers, electronic checks, or digital cash that is backed by a bank or an intermediary, or by a legal tender.

2.9 Summary

This chapter has reviewed the literature on the effectiveness of online payment systems. Many factors have been identified by researchers and authors as being responsible for the effectiveness of an online payment system. Among these factors are time savings, expenses control, reduced risk of loss and theft, low commissions, user friendly and convenience. The challenges such as security, trust and infrastructure together with the theoretical and conceptual framework have been reviewed.

2.10 Future research

There is need to conduct further research to ascertain the technical capacities that universities need to have in order for them to be able to integrate with banks on the online payment platform. Further, research can be conducted to analyse the possibilities of universities engaging other FINTECHs to collect payments on their behalf. There has been an increase in the number of FINTECHs lately and as such, this presents an opportunity for banks to increase the number of touch points for students to make payments.

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the research methodology that will be used for this study under the following sub-headings: research design, target population, sampling techniques and sample size, data collection instruments, interview guide, observation schedule and data analysis techniques.

3.1 Research Design

Research design is the structure of research; it is the "glue" that holds all of the elements in a research together. Patton (2011) describes a research design as a structure that is followed in the process of conducting research. It constitutes the blue print for collection, measurement and analysis of data. Francis (2010) defines research design as an organized and systematic way of carrying out research. This study used a descriptive survey design. A descriptive survey involves procedures of induction, analysis, classification, enumeration and measurement (Check & Schutt, 2012). It gathers data at a particular point in time with the aim of describing the nature of existing conditions or identifying standards against which existing conditions can be compared. The design was considered appropriate for this study because it would make it possible to secure evidence on the different selected stakeholders at the University of Zambia.

3.2 Study Population

Borg and Gall (1989) define target population as the number of real hypothetical set of people, events or objects to which a researcher wishes to generalise his findings. The School of Natural Sciences comprises of a target population of 1,230 students. The study was drawn from School of Natural Sciences comprising of a target population of 1,223 registered students, University management, Zanaco and Zamren.

3.3 Study Sample

The sample size for this study was calculated using a simplified formula for Proportion that Yamane (1967:886) used to calculate sample sizes. A 90% confidence level and a margin of error (confidence interval) of +/- 10%

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{1,230}{1 + 1,230(0.1)^2}$$

$$n = 92 \text{ Participants}$$

Where n =is the samples size

N=population size

e=margin of error (confidence level)

The study sample of hundred (92) participants comprising five (5) from management ,eighty five(85) from the University of Zambia students , one(1) from ZAMREN and one (1) from Zanaco Transaction Banking department . The participants were broken-down as follows; 1 is the University Registrar- whose office conducts the registration of all students in the University, 1 is the Dean Academics- whose office presides over all academic affairs, 1 is the Bursar whose office is responsible for the collection of all fees and income due to the University, 1 is from the Computer Information Centre- which is equipped with the hardware needed to support information technology services, 1 is the Accountant Student Finance- whose office verifies the accuracy of all money transactions ,Students who are the major stakeholders and other stakeholders. This sample size is a representative of the entire population at the University of Zambia. The participants were broken-down as follows:

Table 1 Study Sample

POSITION	NUMBER OF PARTICIPANTS
University Registrar	1
Dean Academics	1
Bursar	1
Computer Information Centre specialist	1

Accountant Student Finance	1
Zambia National Commercial Bank(ZANCO)	1
Zambia Research and Education Network(ZAMREN)	1
Students	85
TOTAL	**92**

3.4 Sampling Techniques

Purposive and Simple random sampling technique were used in the study. Purposive sampling (also known as judgment, selective or subjective sampling) is a sampling technique in which researcher relies on his or her own judgment when choosing members of population to participate in the study. Purposive sampling is a non-probability sampling method and it occurs when elements selected for the sample are chosen by the judgment of the researcher (Payne and Payne, 2004). Through this sampling method the researcher believed that she would obtain a representative sample which would result in saving time as well as concerned with the understanding of the participants.

Simple random sampling method was also used to which is repeatedly used as the only possible method though it can be difficult to conduct structured interviews to large groups of people (Donald and Delno, 2006). The purpose of this study was to investigate the effectiveness of the student's electronic payment system.

3.5 Data Collection Instruments

This refers to the tools that were used to collect data from the population. For this study both primary and secondary data were used in the collection. The primary data would be collected using the research questionnaires while the secondary data would be collected from research journals, publications and past research.

3.5.1 Primary data

Primary data was used to collect data through using a self-administered questionnaire. The questionnaire is the most common data collection instrument in business research (Cooper and

Schindler, 2014). Questionnaires are instruments used for collecting data in research. The researcher made use of self - administered questionnaires to capture data which was used to measure the effectiveness of student electronic payment system at the University of Zambia.

Advantages

➢ It covers a large number of people that can be easily reached and economically

➢ The participants and researcher will not be bias

Disadvantages

➢ The participants at times misunderstand and misinterpret the questions asked

➢ The questions asked allow the participants with limited choices of the responses

➢ Some questions are difficult to analyse

3.5.2 Secondary data

The study used secondary data sources to supplement primary data and however the same data may lack authenticity. It is important to note that in primary data, the individuals who collect the data also analyse it to reach a conclusion. Secondary data may be based on the published data or may be based on original data. In this research, both published and gray literature were consulted to enrich the study. Books and journal articles were reviewed and helped in the interpretation of the study findings. The source of data concerning the types of online payment methods is feasible and available in the field of online payment systems in the Zambian banking system.

3.6   Data Analysis Techniques

 Marshall and Rossman (2018) describe data analysis as the process of bringing order, structure and meaning to the mass of collected data. It is described as messy, ambiguous and time-consuming, but also as a creative and fascinating process. Broadly speaking - while it does not proceed in linear fashion -it is the activity of making sense of, interpreting and theorizing data that signifies a search for general statements among categories of data (Schwandt, 2007). Therefore, one could infer that data analysis requires some sort or form of logic applied to research. In this regard, Best and Khan (2016) clearly posit that the analysis and interpretation of data represent the application of deductive and inductive logic to the research. Verma and Mallick (2009) and Morrison (2012) on the other hand, state that the interpretive approach, which involves deduction

from the data obtained, relies more on what it feels like to be a participant in the action under study, which is part of the qualitative research. Very often, the researchers rely on their experience of particular settings to be able to read the information provided by the subjects involved in the study. While this thesis employed a mixed method of data collection, namely a combination of qualitative and quantitative methods, it focused on the adoption of a practical position and also used a study of experience approach in conducting this research. Antonius (2013) succinctly states that the word data points to information that is collected in a systematic way, organized, and recorded to enable the reader to interpret the information correctly. As such, data are not collected haphazardly, but in response to some questions that the researcher wishes to answer. Schostak and Schostak (2008) capture the essences of capturing data well when they further add, that data are not given as a fixed, but are open to reconfiguration and thus alternative ways of seeing, finding answers to questions one wishes to answer. Implicated in the preceding views of Antonius (2013) and Schostak and Schostak (2008) are the two methods used to analyse data, namely qualitative and quantitative.

The researcher analyzed quantitative data using the Statistical Package for Social Sciences (SPSS) version 20. Data was entered in SPSS using a data entry module. Entered data was prepared prior to analysis. Frequency of all study variables were done including reliability tests for some variables.

Open ended questions generated qualitative data which were analyzed manually. Qualitative data were analyzed using thematic analysis to the data was grouped under themes and in each theme content analysis was done and representative quotes extracted for the report. The analysis of data was through disclosing the method of analysis with sufficient details to determine the process of credible. (Attride-Stirling, 2001; Côté & Turgeon, 2005; Ryan, Coughlan, & Cronin, 2007).

3.7 Data reliability

Lee Cronbach in 1951 established the Cronbach Alpha to offer a measure of the internal consistency of a scale or test, expressed as a number between 0 and 1 (Cronbach, 2001) which is used for items whose responses are on a scale. According to Tavakol and Dennick (2011), internal consistency, is related with the interrelatedness of a sample of items on a test. It is significant to communicate that internal consistency is a necessary condition but not sufficient enough for the measure of consistency or a specific measurement scale in a sample of test items. The reliability

of the questionnaire was tested using cronbach's alpha. Cronbach's alpha which is most commonly used when a researcher wants to assess the internal consistency of a questionnaire. All this was done to validate the research instrument which were used so as to ensure content validity and reliability.

3.8 Ethical Consideration

Ethics that guides the researcher were adhered to ensure that the credibility of the research was promoted at its highest degree. Permission from the University Registrar and the Research ethics committee was obtained. For example, participants were informed in advance before approaching them in answering the questionnaires. The informed consent were given as a form of notice so that the respondents could choose the convenient time they would like to be offered the questionnaire. Anonymity and confidentiality were also recognized to avoid breech of research ethics. In this regard, identity of the participants would not be revealed to anyone. Furthermore, honesty and integrity in questioning and explaining the purpose of the study would be truthfully exculpated. Confidentiality and secrecy is important in the method in which data is collected and how the participants are identified, (Schuman, 2002)**.** Due to the type of information that is being collected, the questionnaires were numbered to preserve privacy and confidentiality of the participants.

Other ideals are unacceptability of dishonest as a means to retrieve information as well as full and honest report of findings, (Neuman, 2006). The information obtained from the participants and secondary sources was strictly confidential and would be used for the research purpose only.

3.9 Summary

The chapter was looking at the research methodology .The study used a descriptive survey design that was considered appropriate for the study as different stakeholders were selected at the University of Zambia. The study population was selected from the School of Natural Sciences to which the study was drawn and the study sample was calculated using Yamane (1967: 886) to which 92 participants were calculated primary and secondary .Data sampling techniques, which were used in the study concerned, purposive and simple random, sampling technique. However, data instruments were used in the collection of data through primary and secondary Data analysis

technique was used of which the researcher analyzed the information using Statistical Package for Social Science (SPSS) version 20.Ethical Consideration was sought as the information collected preserved privacy and confidentiality of the participants.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.0 Introduction

This chapter presents the findings and analysis of the study according to the research objectives. The results are presented under respective subheadings organized based on the objectives of the study. The findings relate to the questions that were used in the study.

4.1 Descriptive Statistics Summary

Data were collected from self-administered questionnaires, completed by five from management (n=5) representing a response rate of 100%, 71 students (n=71) representing 84 % response rate, ZAMREN (1) representing response rate of 100% and ZANACO (1) representing response rate of 100%. 79 questionnaires were received, however, only 78 questionnaires were usable and for this study and met the required inclusion criteria. This represented 85 % of the expected population. There was no refusal for the failure to participate, as this was voluntary nor the characteristics of the non-respondents are known typically, low response to surveys about the effectiveness of the electronic payment system could be a partial explanation for the low response rate in this study. Of the remaining one questionnaire deemed unusable with one participant not completing the questionnaire in that two or more subsections of the questionnaires were omitted when answering.

4.2 Demographic Characteristics

Personal and social characteristics of respondents have a very significant role to play in expressing and giving the responses about the problem under study (Gjonca and Calderwood, 2004). Characteristics such as race, ethnicity, gender, age, education, profession, occupation, income level, and marital status are all typical examples of demographics that are used in surveys. All closed-ended questions were used with the aim to define a characteristic for the participants. The idea was to gain an understanding of traits or behaviors of the participants. When compared, survey responses from men and women do vary and may affect the data accordingly. Keeping this in mind, this study has a set of personal characteristics namely, gender, age, professional qualification (education) and years of service (experience) of the participants were examined.

4.2 Gender of Participants

The gender of participants were considered in the study and it was found that out of all respondents who participated in the study 55 out of 78 respondents representing (70.5%) were male while 23 out of 78 respondents representing (29.5%) were female. The table below show the responses.

Table 2 Gender of the Participants

What is your gender?					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	**Male**	55	70.5	70.5	70.5
	Female	23	29.5	29.5	100.0
	Total	78	100.0	100.0	

Source: Field data, 2018

4.2.1   Participants

The participants of the research on the effectiveness of the electronic payment system, which was studied, and the bar chart below shows the outcome.
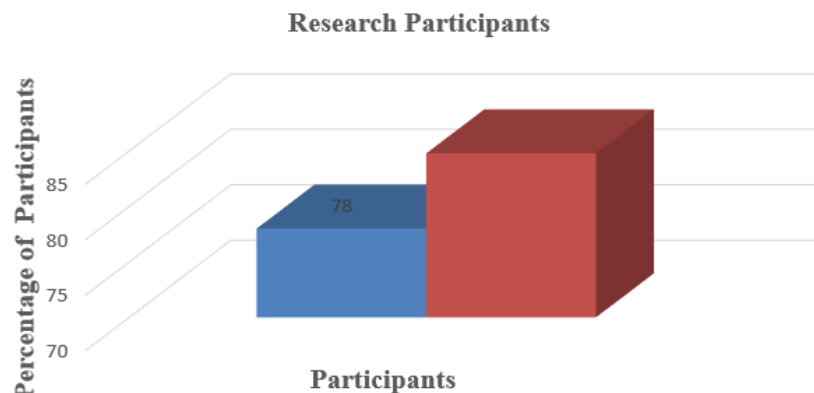
Figure 2: Research Participants

 Sourced: Field data,2018

The results above show that 78 participants represented 84.8% of the distribution participated in the research study.

4.2.2 Year of Study

The respondents' year of study at the University of Zambia was analysed and the table below shows the outcome.

Table 3:Year of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**First**	10	14.1	14.1	14.1
	Second	15	21.1	21.1	35.2
	Third	13	18.3	18.3	53.5
	Fourth	15	21.1	21.1	74.6
	Fifth	18	25.4	25.4	100
	Total	71	100	100	

Source: Field data, 2018

From table 3 it is evident that 18 or 25.4 % were fifth year students, followed by fourth year students who were 17 representing 21.8%. The third years' respondents were 13 making up 18.3% while second year students were 17 representing 21.8 %. The first year students were 10 and made up 14.1% of the total respondents reached. These results showed that the majority of the respondents were those who were familiar with the University of Zambia's payments system as they had been with the University.

4.3 Reliability Analysis

Reliability refers to the fact that the scale should consistently reflect the construct, which it is meant to measure. Reliability is used in situations where two or more observations under the study are equivalent to each other in terms of the construct being measured. The Cronbach's alpha is used to measure reliability. This study used the Cronbach's alpha to assess the internal consistency

of the survey. George and Mallery (2003) provide the following rules of thumb: "Alpha > 0.9 Excellent, Alpha>0.8 Good, Alpha > 0.7 Acceptable, Alpha > 0.6 Questionable, Alpha > 0.5 Poor and Alpha < 0.5 unacceptable."

The study yielded a reliability coefficient ranging from 0.768 indicating a good reliability of the study and the table below shows the reliability statistics.

Table 4: Reliability of statistics

Reliability Statistics		
Cronbach's Alpha	**Cronbach's Alpha Based on Standardized Items**	**N of Items**
.768	.778	13

Source: Developed by the author, 2018

4.4 The effectiveness of student's electronic payment system at the University of Zambia

The researcher used the five point Likert scale ranging from strongly disagree to strongly agree. An option mid-way for indifferent respondents was provided were the respondents were either not sure or elected to be neutral. The responses were one for strongly disagree; 2 for disagree; 3 for undecided; 4 for agree and 5 for strongly agree. For example for the question, "Do you use the electronic payment system?" the responses ranged from a minimum of one to a maximum of four. No respondent strongly agreed to use electronic payment system. For other questions like "What factors affect the choice of the payment systems that you adopt for banking transactions?" actual solutions were provided. Five responses were available, for which the respondents were given a choice to choose only one. The responses were then profiled to assess the data quality. The profile of the data was done using descriptive statistics shown below.

4.4.1 Descriptive statistics

Table 5 Descriptive statistics

	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
Do you use the electronic payment system?	71	1.32	0.555	1	4	1	1	2
Has the introduction of the electronic payment system been helpful	71	1.2	0.435	1	3	1	1	1
Is it necessary to use electronic payment system after being enrolled?	71	1.75	0.823	1	4	1	2	2
What type of electronic payment system do you use for transactions?	71	3.3	1.235	1	5	2	4	4
What factors affect the choice of the payment systems that you adopt for banking transactions?	71	1.52	0.79	1	4	1	1	2

Are there security features in electronic payment system?	71	1.42	0.577	1	4	1	1	2

Source: Field data, 2018

In table 5, the number of valid respondents were 71. The study reveals that all the observation four items had a median of 1 while two items had a median of 2 and 4 respectively. In terms of means; the items "Do you use the electronic payment system?" and "Has the introduction of the electronic payment system been helpful?" had means of 1.32 and 1.20 respectively. These means as seen from the table were greater than the medians. This suggested that the distributions for these items could be skewed towards the right. All the distributions showed a skewness to the right as the data is moving away from the normal distribution moving towards the right were approximately symmetric within 0.555 standard deviations from the mean for "Do you use the electronic payment system?" and 0.435 standard deviations from the mean for "Has the introduction of the electronic payment system been helpful?"

Alternatively, the items "Is it necessary to use electronic payment system after being enrolled?" and "what type of electronic payment system do you use for transactions?" had means of 1.75 and 3.30 respectively. The two items had means which were less than the medians. This suggested that the distributions for these two items could be skewed towards the left. All the distributions showed some significant skewness to the left in that the data was moving away from the normal distribution directing toward the left within 0.823 standard deviations from the mean for "Is it necessary to use electronic payment system after being enrolled?" and 1.235 standard deviations from the mean for "What type of electronic payment system do you use for transactions?"

The study further showed that the means, the items "What factors affect the choice of the payment systems that you adopt for banking transactions?" and "Are there security features in electronic payment system?" had means of 1.52 and 1.42 respectively. These means as can be seen from the table were greater than the medians suggesting that the distributions for these items could be skewed towards the right. The distributions were within 0.790 standard deviations from the mean for "What factors affect the choice of the payment systems that you adopt for banking

transactions?" and 0.577 standard deviations from the mean for the item "Are there security features in electronic payment system?"

Almost all the responses were within one standard deviation from the mean suggesting the data collected was normally distributed.

4.4.2 Mean ranks

From table 6 of mean ranks below the highest mean recorded for the items was 5.30 for the item "What type of electronic payment system do you use for transactions?" This meant that the majority of the participants in the study regarded the type of electronic payment system use for transactions as significant in determining the effectiveness of electronic payment systems. The item "Is it necessary to use electronic payment system after being enrolled?" was ranked second while the item "What factors affect the choice of the payment systems that you adopt for banking transactions?" was ranked third. Ranked fourth was the items

"Are there security features in electronic payment system?" while fifth was "Do you use the electronic payment system?" The sixth was "Has the introduction of the electronic payment system been helpful".

Table 6: :Mean ranks

	Mean Rank
Do you use the electronic payment system?	2.91
Has the introduction of the electronic payment system been helpful	2.61
Is it necessary to use electronic payment system after being enrolled?	3.79
What type of electronic payment system do you use for transactions?	5.30
What factors affect the choice of the payment systems that you adopt for banking transactions?	3.23
Are there security features in electric payment system?	3.15

Source: Field data, 2018

Do you use the electronic payment system?

Table 7: Use the electronic payment system

Has the introduction of the online payment system been helpful					
		Frequenc y	Perce nt	Valid Percent	Cumulative Percent
Vali d	Yes	49	69.0	69.0	69.0
	No	22	31.0	31.0	100.0
	Total	71	100.0	100.0	

Source: Field data, 2018

The table 7 shows that 49 participants representing 69 % of the participant's students were using the electronic payment system while 22 representing 31% said they were not using the electronic payment systems.

4.4.3 Type of electronic system used

Those who used the electronic payment system were further asked the type of electronic payment system they used. The chart below shows the results.
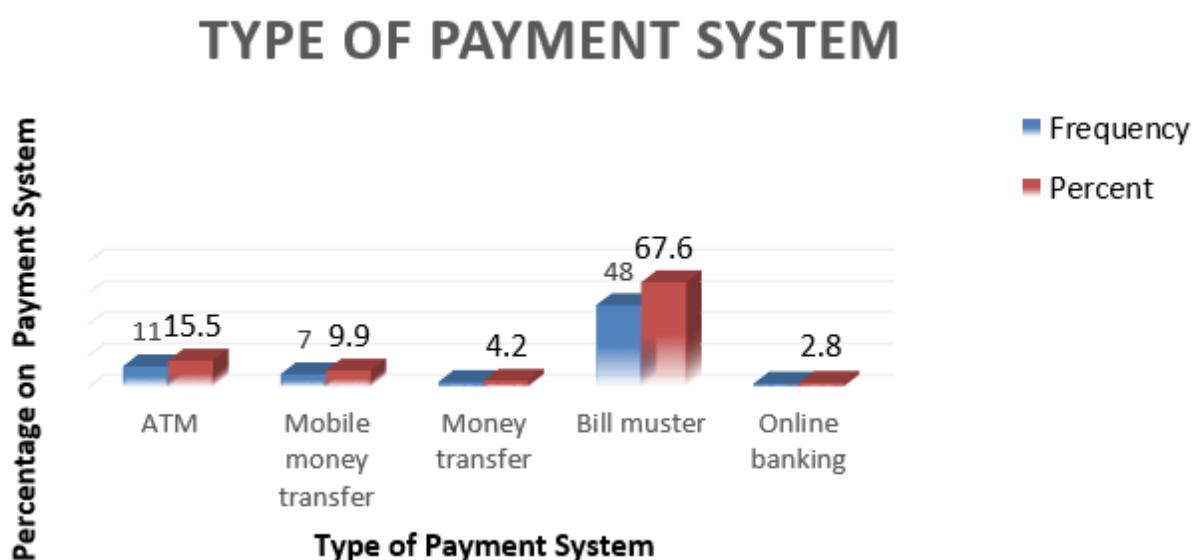
Figure 3: Type of electronic payment used

The results in figure 3 above show that 48 respondents or 67.6% who use the electronic payment system were using the bill master payment system, 11(15.5%) were using the Automated Teller Machines (ATMs), 7(9.9%) were using mobile money transfer system, 3 (4.2%) were using the money transfer method and 2 (2.8%) were using online banking. The least used payment system was the online banking as indicated from the results.

4.4.4 The electronic payment system has been helpful

Further, the participants were asked if the electronic payment system used was helpful. The table below shows the results.

Table 8 :Electronic payment system was helpful

Has the introduction of the electronic payment system been helpful					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	58	81.7	81.7	81.7.
	No	13	18.3	18.3	100.0
	Total	71	100.0	100.0	

The results in table 8 above show that 58 participants or 81.7% of the participants said the electronic payment system was helpful while 13 representing 18.3% were of the view that electronic payment system was not helpful.

4.4.5 Is it necessary to use electronic payment system after being enrolled?

The researcher wanted to find out the percentage of participants who found it necessary to use the electronic registration after being enrolled. The results are shown below:

TYPE OF PAYMENT SYSTEM
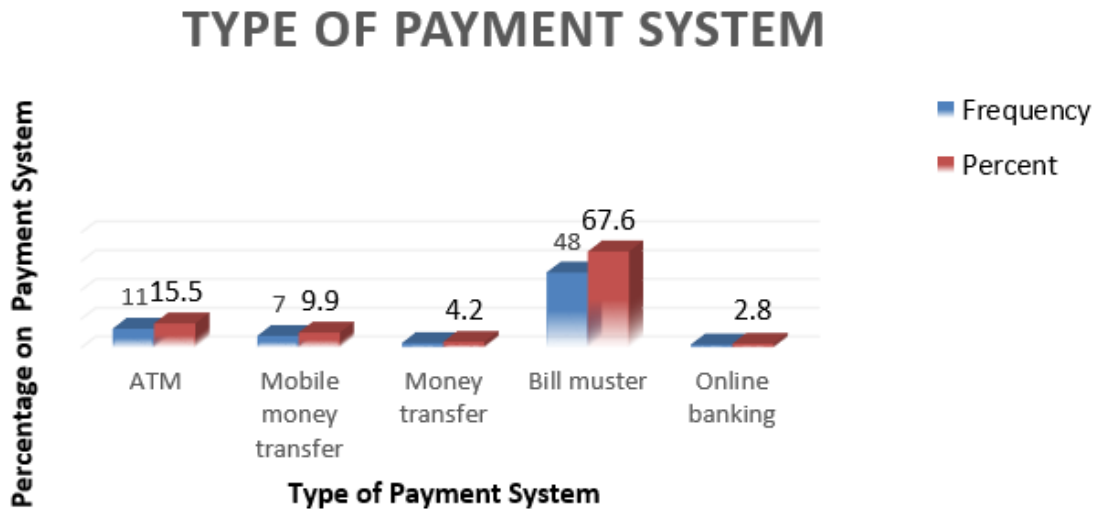
Figure 4: Use electronic payment system after being enrolled

From the chart in figure 4, it is evident that 36 participants representing 46.2% and 29 respondents representing 37.2% strongly agreed and agreed that it was necessary to use the electronic payment system after being enrolled in the University. Conversely, 14% were undecided while 2 participants 2.6% disagreed that it was not necessary to use the electronic payment system after being enrolled in the University. 11 participants or 14. 1% were undecided on whether to use the electronic payment system after being enrolled. The undecided could not be aware to the fact that they needed to use the electronic payment system once they have been enrolled according to (Rachna and Singh, 2013)

4.4.6 Factors affecting the choice of electronic payment systems

The factors affecting the choice of electronic payment system was investigated. The participants were asked to identify the factors which affected the choice of the electronic payment system and the table below shows the results.

	Frequency	Percent	Valid Percent	Cumulative Percent
Convenient	46	64.8	64.8	64.8
Secure	14	19.7	19.7	84.5
Valid Safe	11	15.5	15.5	100.0
Total	71	100.0	100.0	

Figure 5 :What factors affect the choice of the payment systems that you adopt for banking transactions?

Source: Field data, 2018

From the chart in figure 5 it is evident that 46 participants were representing 64.8% said convenience was a factor which affected their choice of electronic payment system. 14 or 19.7% said security was a factor which affected their choice of electronic payment system while 11 respondents or 15.5% said safety affected their choice of the electronic payment system. The study find out that the above reasons were related to the student's electronic payment system as stated in accordance to Rachna and Singh, (2013)

4.4.7 Are there security features in the electronic payment system

The researcher wanted to find out whether the electronic payment systems used by the University of Zambia had security features. The responses were as in the table 8 which follows

Security features

Table 9 :security features in electronic payment system

Are there security features in electronic payment system?

		Frequency	Percent	Valid Percent	Cumulative Percent
	Yes	46	64.8	64.8	64.8
Valid	No	25	35.2	35.2	100.0
	Total	71	100.0	100.0	

Source: Field data, 2018

From the table 9, 46 participants representing 64.8% said the electronic payment system had security feature while 25 or 35.2% were of the view that said the electronic payment system did not have security features.

4.4.8 The security features put in place in electronic payment system

Those who said the electronic payment systems had security feature were further asked to state the security feature of the electronic payment systems. The table below shows the responses.

Table 10 :Security features put in place in electronic payment systems

Some of the security features put in place in electronic payment system			
		Frequency	**Percent**	**Valid Percent**
	It is confidential as it requires password and user name before login in	22	46	46
	Each student has his/her own password and a pin code	5	10	10
	More fields for filling in enables consistence and enhances security of information	1	2	2

Reference numbers are given to make the follow-ups easier	1	2	2
The computer number owned by a student have enough security to safeguard a payment	3	6	6
The copy of the bill master that remains with me acts as a receipt	4	8	8
The request for an identification number	6	13	13
The use of the student identity number and other credentials of the person making a payment makes it safe	4	8	8
There is an electronic confirmation receipt via email	2	4	4
Total	48	100	100

Source: Field data, 2018

The table shows that 46% of the valid respondents said that the requirement of a password and username to log in were the main security feature of the electronic payment system. 10% said each student had his/her own password and pin code, 2% of the participants said the system had many fields filling in to enable consistence and security of information, another 2% said reference numbers are given to make follow-ups easier. A further 6% noted that the computer numbers owned by students had enough security to safeguard payments, 8% said a copy of the bill master which remains with the student acts a receipt, 13% were of the view that the electronic payment system requests for an identification number. Some other 8% of the students said the use of student identification and other credentials of the person making the payment made the system safe. Lastly 4% of the respondents said there was an electronic confirmation receipt which was sent via email.

4.5. Challenges of the electronic payment system

In order to analyse the challenges of the University of Zambia student electronic payment system the participants were asked to state the challenges the faced when doing electronic payments on the system. The following responses were recorded.

One (1) student respondent (2018) stated,

The main challenge with the electronic payment system involving the Bill Muster is that it has difficulties and inconveniences because the student has to physically visit the Zambia National Commercial Bank (ZANACO) to complete the transaction

Another student (2018) stated,

The electronic payment system for the University is linked to other systems of the University. It should be linked to all databases involved with student academic affairs, be it bursaries, room etc.

The other challenges which the 6(8.4%)student participants mentioned included lack of mobile and internet network in rural areas which made electronic payment system impossible from such areas, two participants (2.8%) said they were higher internet charges and the results are that twenty two (31%) participants mentioned that they experienced poor internet connections, Twenty five (32.5%) mentioned that it took not less than 48 hours for a payment to be processed as well as stating that the system breakdown most often and the system sometimes failed to update electronic payments due to network problems while twenty (28.2%) participants said there was lack of network support accessories and that students lack information on how to use the system.

Still on the challenges the University Management participants stated the following challenges. Out of the five management participants three (60%) participants strongly agreed that users lacked knowledge and skills in basic computing while the two (40%) agreed that users lacked knowledge and skills in basic computing.

According to the bank the challenges that students experience is that of not having access to the payment platform for instance those that are using banks need to travel long distances to access banking services. The American bankers have in a number of recent industry reports attempted to detail how banks are responding to the challenge, whether it could be through investment, data management or new strategies to engage with customers. Though in every step, there are obstacles as customers primarily conduct transactions over mobile, banks are learning that they still expect branch services to be an option. Traditional apologies for service interruptions possibly will not sit well with a customer base both expecting an efficient service and actually be able to choose technology firm offerings as an alternative. With technology investments they themselves are up for scrutiny, either because of potential workforce impact, or just the burden of increased costs.

On the complex procedures for conducting payments, three (60%) agreed that the electronic payment systems involved conducting complex procedures while the two (40%) others disagreed that the electronic payment system involved complex payment system involved complex procedures.

On the preference for human tellers, one participant strongly agreed while three agreed and one disagreed that the users of electronic payment systems preferred human tellers to machine tellers whilst from the corporate which is Zambia Research Education Network(ZAMREN) disagrees that the human aspect should be cut down so that they are less errors and inefficiencies (Sweetland ,1966).

Further, all the five participants lacked trust in non-cash transaction and preferred cash/ paper transactions. Kim et al. (2010) argued that to attract electronic payment users, it is important to improve customers' awareness of security and maintain customers' trust during electronic payment transactions this was also said by Heidarzadeh and Alinejad (2012) who suggested that a model based on these areas for electronic payment system use that measured roles of trust with security for electronic payment systems. The other challenge cited was inadequate points of sale terminals for the payment system. All the five management participants agreed with the statement that the points of sale terminals for the payment system were inadequate

4.6 Summary

This chapter looked at the findings of the study. The effectiveness of the electronic payment system at the University of Zambia depended on whether it was helpful to the user and how necessary the system was in relation other non-electronic systems. The chapter further revealed that the system was marred by challenges such as lack of mobile and internet network in rural areas which made electronic payment system impossible from such areas, higher internet charges and poor internet connections, it takes not less than 48 hours for a payment to be processed, the system crushes most often, the system sometimes fails to update electronic payments due network problems, lack of network support accessories and many students lack of information on how to use the system. The suggested solutions to the challenges by the participants included teaching the users how to use the electronic payment system, computer engineers always being available to fix problems that occurred within the system, constantly upgrading the network, introducing more payment terminals, and making the system easier of access and having prompt response assurances.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This chapter will discuss the stated objectives based on the findings of the research presented in chapter four. The focus is on the presentation, findings as well as discussion of data collected from the staff of the University of Zambia, ZANCO, ZAMREN and students. It is important to discuss the theoretical viewpoint of the finding so that these might leave useful effects for the stakeholders.

i. To understand the role that the electronic payment system plays in aiding students at the University of Zambia.
ii. To identify the challenges of student electronic payment system at the University of Zambia.
iii. To establish an initiative that the University could put in place to handle the challenges and improve its service delivery to the students.

5.1 The role that the electronic payment system plays in aiding students at the University of Zambia

The study revealed that sixty seven percent (67.6%) of the students at the University of Zambia were using the electronic payment system with the ZANACO bill muster system being the most widely used system. The study further revealed that eighty one percent (81.7%) of the users acknowledged the system being helpful and secure. From the independent t -test conducted on the effectiveness of the student's electronic payment system the results revealed that the electronic system was moderately effective though not meeting set targets in the way it was designed to operate. The bank stated that the electronic system was operating as agreed (MOU UNZA & ZANACO, 2009). According to findings from ZAMREN, the system was effective in that the key performance indicators are what they use to determine the effectiveness for instance the downtime to which the system is unavailable.

These finding are consistent with Shon and Swatman, (2014) who found that the effectiveness of an online system depended on what consumers were looking for, the types of system and the level of government control. If consumers are looking for relatively small payments (say less than $1 in

value), the speed of the transaction might be more important than the security. On the other hand, if the payment is large (say more than $100 in value) security will probably be more important than the speed of the transaction. Security of the system was found in this study to be the main determinant of effectiveness of the system.

The findings from the study of the student's electronic payment system were that the sytem at the University of Zambia was moderately effective though some concerns were put forward by the participants.The following were the concerns put forward which are the frequency of breakdown in the system, lack of speed (transaction took up to 48 to update) and preference of cash transactions by students as the lacked trust in the use of the system. These findings are in line with the findings of the study by Adewole, (2015) who found that most Nigerians preferred cash system to other forms of payments. This was due to lack of confidence in the payment system due to credibility deficit. The payment system infrastructure was such that it did not seem to guarantee adequate service and prompt customer satisfaction. Infrastructure breakdown was a common occurrence that distorted effective system at will. Hence, customers prefer to transact business using cash instead of being subjected to unnecessary difficulties.

The bank that has been contracted to collect the fees has a role in ensuring that the inefficiencies and ineffectiveness of service delivery are properly handled as these can cause risks and disagreements during the payment transactions.

5.2 Challenges of student electronic payment system at the University of Zambia
Electronic payment systems face different challenges. The electronic payment system at the University of Zambia is affected by numerous challenges. Among the challenges revealed by the study were lack of internet network in rural areas which made electronic payment system impossible from such areas, higher internet charges and poor internet connections, it takes not less than 48 hours for a payment to be processed, the system breakdown most often, the system sometimes fails to update electronic payments due to network problems, lack of network support accessories and many students lack of information on how to use the system. Despite the efficiency of the ZANACO Bill Muster respondents complained that it was difficult and inconveniencing because the student had to physically visit the bank which in most cases had long queues. According to the bank, students experience challenges as this is due to not having access to the payment platform for example those using the banks have to travel long distances to access

banking services. For electronic payment, internet availability is key for the transaction to be performed.

According to ZAMREN, when the system breaks down it is usually resolved with the shortest possible time unless it is a major problem that involves other stakeholders such as ZESCO or CEEC, the current bandwidth is not adequate to accommodate the capacity of users as it becomes too congested during peak hours hence becoming slow and fast in the evenings. From the bank's perspective the bandwidth is adequate for the users using the system.

The findings of this study were the same as those found by Issahaku, (2012) who found that the main challenges of the online payment systems in Ghana were link failure, frequent breakdowns of the system, slowness of transactions and long queues.

According to the study by Rachna and Singh, (2013), the challenges in electronic payment system include

➤ lack of Usability, where the online forms require a lot of information from users and using of complex website interface that make it difficult for the users to adopt;

➤ Lack of Security, when e-commerce becomes a target for acquiring personal sensitive information and/or stealing of money due to users having to provide sensitive information online, such as credit card details, not knowing if its transmission is secured;

➤ Lack of Trust, which is due to fraud, misuse, and low reliability

➤ Lack of Awareness, when users avoid online mode of payments and still prefer the traditional payment transactions;

➤ Issues with e-Cash, which is not widely used due to limitations of the user and the vendor should share the same bank that offers e-Cash; (6) Users Perception Regarding Acceptance of Electronic Payment Systems, which could be because of the neglect in the needs of both the users and vendors;

➤ Online Payments are not Feasible in Rural Areas, because people living in the rural areas are mostly not literate and not educated on how to use computers, which causes them to become unaware of technological innovations; and

➤ Highly Expensive and Time Consuming, this is for the vendor side, where setting up an online payment system would be costly, which include set up cost, machine cost, and management cost among others than physical mode of payment (Rachna and Singh, 2013).

The challenges revealed in the study by Rachna and Singh, (2013) are similar to those being experienced by the University of Zambia user of the electronic payment system.

5.3 Initiative that the University could put in place to handle the challenges and improve electronic payment system.

To improve the electronic payment system, the University of Zambia could invest in effective Information Communication Technology (ICT) on which the electronic payment system depends. There should also be an effective and focused payment processes. The university should further enhance training of the users of the electronic payment system on the various payment systems available on the system such as telephone banking and online banking. According to ZAMREN such as having the process shortened by not having to visit the bank, making the payments online and having to select the payment options available ,wireless access ports to enable the University access internet through the use of WIFI as well as having Eduroam which is an education roaming that allows students access the internet without having to login using the password as long as they are students on the database of the University and are in the area where ZAMREN offers services for instance if an UNZA student happens to visit ZCAS where it provides internet services should be able to access without any problems, backup solution in having to provide the service without having the system been offline. From the banks perspective, the initiatives that could be put in place are those of having to ensure that the students challenges are addressed in due time.

The study revealed that users needed an online payment system that engendered efficiency even at peak hours. According to Rachna and Singh, (2013) designing a more secured online payment system that would help user have more trust in the online payment system. Furthermore, provision of user friendly applications and systems would help encourage more users in adopting electronic payment systems. And the kind of online payment systems affect the kind of online transactions that people use. This means having diverse payment systems would encourage more students to use online transaction than using their preferred method based on their general, privacy, security, and trust perceptions.

5.4 Summary

The study found that holding all other factors constant, security, speed, reliability, cost effectiveness and accessibility determine the effectiveness of the electronic payment system. The Bill Muster was the most used system at UNZA though had challenges in accessibility .Other payment systems were not effective. Issahaku, (2012) held a similar veiw when he asserted that the online payment efficiency parameters included security, speed, reliability, cost effectiveness and accessibility.

In terms of challenges Issahaku, (2012) postulated that the main challenges of the online payment systems in Ghana were link failure, frequent breakdown of the system, slowness of transactions and long queues. These challenges were also identified in this study.

The researcher concluded that the study on the electronic payment system at the University of Zambia was moderately effective though experienced a number of challenges in that the bank has to send the CSV file to the finance staff who then have to reconcile the funds received from the students before they are credited to the individual students accounts as stated (MOU UNZA & ZANACO, 2009).The challenges identified in this report should be addressed for the systems to work effectively.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.0 Introduction

This chapter presents the research conclusion and the recommendations. The conclusion is in line with the objectives the research had earlier set out to meet. The recommendations were arrived at having looked at the preceding data and the responders obtained from the respondents.

6.1 Conclusion

The role that the electronic payment system plays in aiding students at the University of Zambia to make payments

The research concluded that the current electronic payment system for the university is moderately effective. This is because students have to physically go to the university in order for them to complete their payment and registration process. This means that the solution being offered is not as convenient as the students would want it to be. Students, according to the research data, want a solution that will allow them to make payments and complete registration process from the comfort of their homes or offices. The university should therefore look into redesigning the whole process to make it much more suitable for the students.

The other reason that the system was found to be less effective was that students are less aware of what can actually be done using the electronic system. This means that students preferred to use the manual payment systems as that is what they were aware of. Students needed to be informed on the uses of the electronic platforms as this is something the banks can work on with the university. The bank is stating that the student electronic payment system is very effective in that it meets the user's objective and feedback is beyond measurable. In the case of ZAMREN the system is effective in that as it operates as agreed between UNZA & ZAMREN.

Identify the challenges of student electronic payment system at the University of Zambia

The other objective of the research was to identify the challenges that are associated with the student electronic payment system. The challenges as highlighted above were that some students did not always have internet connectivity making it difficult for them to process any electronic transactions. This forced them to visit the bank and found this exercise to be tedious and time

wasting. The challenge of internet connectivity can therefore be addressed in forming partnership with the government to ensure that internet services are easily accessible to all individuals especially students. From the banks perspective challenges such as no access payment platforms where the user has to move long distances in order to access banking services. In the case of management, that users lacked knowledge and skills in basic computing.

Establish an initiative that the University could put in place to handle the challenges and improve its service delivery to the students

The research concluded that the university should consider investing further in ICT and improving its internet technology capabilities. This will help in ensuring that all payment systems are up to date and able to handle the challenges that come with the 21st century ecommerce world.

6.2 Recommendations

Electronic payments are clearly taking a center stage in the 21st century. There is therefore need to ensure that all businesses look at how they can join into the digital space to facilitate growth and make it easier for their customers to conduct business with them. Options like agency banking, mobile banking and internet banking are some of the alternatives that can be looked at to try and improve the customers experience for students in universities.

Having looked at the data and analysed it, the following recommendations were made regarding how the university can have an effective electronic payment platsform.

➢ The University of Zambia should invest in an effective Information Communication Technology (ICT) on which the electronic payment system depends on in such a case where the university should broaden the scope of the payment system to include more banks as well as non-bank related payment options in the student electronic payments system which would in turn decongest the system

➢ The university should design a more secured electronic payment system, which will help users have more trust in the electronic payment system.as well as a more user-friendly application and system, which would help encourage more users to adopt online payment systems.

➢ The MOU between UNZA and ZANACO should be reviewed so that some terms that where agreed upon could be revised such as the bank stopping to send a CSV file and having the staff in finance conduct reconciliations which are time consuming .As technology has changed it would

be idea that credit is immediately given to the University and the student account upon completion of the transaction. The bank should have an interface that may cut down human aspect specifically for the student's electronic payment system so that they are less errors and inefficiencies with the system.as well as extend the extranet to Unza so that they are able to view and interact with the system that will allow the university staff in finance and management have access specifically to the student's electronic payment system to which the staff can see the students that have paid The permission grant should be specific and not to the entire system for ZANCO.

6.3 Future research

Recommended future research has to look at what universities can do to increase awareness of the digital payment platforms among its students. Doing this will ensure that there is no gap between the efforts of the university and the knowledge that the users have of the systems. Other areas of research include the adoption of mobile payment solutions as channel options for universities and also the impact that agency banking can have on the payment processes in universities.

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APPENDICES

Appendix I: Questionnaires for University Management

UNIVERSITY OF ZAMBIA IN PARTNERSHIP WITH

ZIMBABWE OPEN UNIVERSITY

INSTITUTE OF DISTANCE EDUCATION

Dear respondent,

I am a student at the University of Zambia/Zimbabwe Open University under Institute of Distance Education pursuing Master of Business Administration and I would like to inform you that you have been randomly selected to participate in an academic research. The study will be carried out on the topic called **Effectiveness of the student's electronic payment system at the University of Zambia**. You have the rights and liberty to accept or deny participation in this study. However, your participation in this study will be highly appreciated.

Yours sincerely

Instructions

1.   You shall not indicate your name on this questionnaire.

2.   You are advised to provide answers by ticking against the brackets as well as providing phrases in the blank spaces provided.

Questionnaire number ……………………   Date…………

SECTION A : SOCIO-DEMOGRAPHIC CHARACTERISTICS *PARTICIPANT*

1. What is your gender?

Male   [   ]

Female [   ]

2. What is your age group?

25-30 years [   ]

35-40 years [   ]

45-50 years [   ]

55-60 years [   ]

3. What is your marital status?

Single   [   ]

Married [   ]

3. What is your job position/title? …………………………………………………

4. How many years have you worked at your present job?

(a) Below 1 year   [   ]   (b) 1 - 5 years   [   ]

(c) 5 - 10 years   [   ]   (d) above 10 years   [   ]

SECTION B: TYPES OF ELECTRONIC PAYMENT SYSTEMS

5. In the list below, indicate the types of Electronic Payment Systems that you have used for transactions by ticking the appropriate box where it applies.

NO	PAYMENT SYSTEM	USED [ ]	UNUSED [ ]
A	ATM CARD		
B	TELEPHONE BANKING		
C	ONLINE BANKING		
D	MOBILE MONEY TRANSFER		
E			

	E-WALLET		

SECTION C: FACTORS AFFECTING CUSTOMERS' CHOICE OF PAYMENTS SYSTEMS

1. The following factors affect the choice of payment systems that customers adopt for banking transactions. Kindly indicate the extent of your agreement by ticking the appropriate box.

   SA: Strongly Agree; A: Agree; U: Undecided; D: Disagree; SD: Strongly Disagree

NO	STATEMENT	SA	A	U	D	SD
A	Customer's wealth/income					
b	Availability of payment system					
c	Customer's level of education					
d	Risk factors (security, safety, ease)					
E	Specific nature of payment made					
f	Personal preference of customers					

SECTION D: CHALLENGES INVOLVED IN THE CURRENT PAYMENT METHOD

2. Do students encounter any problems when making payments at the bank?

   (a) Yes   [ ]

   (b) No   [ ]

3. If yes, which of these problems do they encounter in making payments at the banks?

   (a) Few Bank Branches   [ ]

   (b) Long Queues/ Time Wasting   [ ]

   (c) Few Payment Methods   [ ]

   (d) Bad Attitude of Tellers/Cashiers   [ ]

   (e) Armed Robbery Attacks   [ ]

   (f) Use of counterfeit Notes   [ ]

   (g) Bulky Bank Notes   [ ]

   (h) Dis-honored Cheese   [ ]

9. Do you think the adoption of electronic payments can reduce the above problems?

(a) Yes   [ ]

(b) No   [ ]

SECTION F: CHALLENGES INVOLVED IN THE ADOPTION OF ONLINE PAYMENTS

10. Kindly indicate the extent to which you agree with the following statements regarding the challenges involved in the adoption of Online Payment System.

SA: Strongly Agree; A: Agree; U: Undecided; D: Disagree; SD: Strongly Disagree

NO	STATEMENT	SA	A	U	D	SD
A	Lack of knowledge and skills in basic computing					
B	Complex procedures for conducting payments					
C	Preference for human tellers to machines					
D	Preference for cash/paper payments					
E	Lack of trust in non-cash payments					
F	Inadequate point of sale terminal					
G	Personal preference of customers					

11. In your opinion, what measures should be put in place to overcome the challenges involved in the adoption of online payment?

End of questionnaire

Thank you for your participation. Your contribution is highly valued

………………………………

Appendix II: Questionnaires for Students

SECTION A: **SOCIO-DEMOGRAPHIC CHARACTERISTICS PARTICIPANTS**

1. What is your gender?

 (I) Male   [   ]   (ii) Female [   ]

Academic / Education Details

2. Are you in the School of Natural Science? If yes you tick and continue with the questionnaire

 (i) Yes   [ ]   (ii) No

3. Which year of study are you in?

(i) First   [ ]

(ii) Second   [   ]

(iii) Third   [   ]

(iv) Fourth   [   ]

(v) Fifth   [   ]

(vi)Sixth   [ ]

(vii) Seven   [ ]

B: EXPERIENCES AND PERCEPTIONS OF CURRENT SYSTEM

1. Do you use the online payment system?

(i) Yes   [ ]   (ii) No [ ]

2. Has the introduction of the online payment system been helpful?

(i) Yes   [ ]   (ii) No   [ ]

3. Is it necessary to use an online payment system after been enrolled?

(i) Strongly Agree   [ ]   (ii) Agree   [.]

(iii) Undecided   [ ]   (iv) Disagree   [.]

(v) Strongly Disagree [.]

4. What types of electronic payment system do you use for transactions?

(i) ATM   [ ]

(ii) Mobile Money Transfer   [ ]

(iii) Money Transfer   [ ]

(iv) Bill Muster   [ ]

(v) Online Banking   [ ]

C: FACTORS AFFECTING CHOICE OF PAYMENT

5. What factors affect the choice of the payment systems that you adopt for banking transactions?

(i) Convenient   [ ]

(ii) Secure   [ ]

(iii) Safe   [ ]

6. Are there security features in online payment system?

(i) Yes   [ ]

(ii) No   [ ]

If yes, what are some of the security features put in place in online payment system?

………………………………………………………………………………….

………………………………………………………………………………

………………………………………………………………………………

………………………………………………………………………………….

D: CHALLENGES EXPERIENCED WITH THE CURRENT SYSTEM

7. What are some of the challenges you encounter in using the online payment system?

………………………………………………………………………………..

………………………………………………………………………………..

……………………………………………………………………………….

…………………………………………………………………………………

8. What are the possible mechanisms that would you suggest should be put in place to overcome the challenges involved in using online payment system?

…………………………………………………………………………………

…………………………………………………………………………………

…………………………………………………………………………………

9. How can the online payment system be improved to ensure its effectiveness amongst the students?

…………………………………………………………………………………

…………………………………………………………………………………

…………………………………………………………………………………

10. Is there anything else you would like to say on the operation of online payment system?

…………………………………………………………………………………

…………………………………………………………………………………

…………………………………………………………………………………

End of questionnaire

Thank you for your participation. Your contribution

Appendix III: Interview schedule for the bank and corporate

UNIVERSITY OF ZAMBIA IN PARTNERSHIP WITH

ZIMBABWE OPEN UNIVERSITY

INSTITUTE OF DISTANCE EDUCATION

APPENDIX 3: INTERVIEW SCHEDULE FOR BANK AND CORPORATE

Effectiveness of the student's   electronic payment system at the University of Zambia.

1. How effective is the student's electronic payment system being used at UNZA?
2. How do you determine that the service you are providing to a client is effective?
3. What challenges do students experience with the current electronic payment system and why?
4. What are the possible mechanisms that you would suggest should be put in place to overcome the challenges involved in using electronic payment system?
5. What are security features in electronic payment system?
6. How can the electronic payment system be improved to ensure its effectiveness amongst the students?
7. Is there anything else you would like to say on the operation of the electronic payment system?
8. When the system breakdown, how long does it take the service provider restore the service?
9. Does the band width accommodate the capacity of the students using the system?
10. What initiative have you put in place to handle the challenges and improve the service delivery to the students?

Appendix IV Ethical Clearance

THE UNIVERSITY OF ZAMBIA

DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

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Approval of Study

10th August, 2018

REF. NO. HSSEREC: 2018-JUNE-030

Ms. Mukonde Mwewa
P.O Box 320092
Woodlands
LUSAKA

Dear Ms. Mwewa,

RE: **"THE EFFECTIVENESS OF STUDENT ONLINE PAYMENT SYSTEM: A CASE STUDY OF THE UNIVERSITY OF ZAMBIA"**

Reference is made to your request for waiver of ethical approval of the study. The University of Zambia Humanities and Social Sciences Research Ethics Committee IRB has approved the study noting that there are no ethical concerns.

On behalf of The University of Zambia Humanities and Social Sciences Research Ethics Committee IRB, we would like to wish you all the success as you carry out your study. In future ensure that you submit an application for ethical approval early enough.

Yours faithfully,

Dr. Jason Mwanza
BA, MSoc, Sc., PhD
CHAIRPERSON
THE UNIVERSITY OF ZAMBIA HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE IRB

cc: Assistant Director (Research), Directorate of Research and Graduate Studies
       Assistant Registrar (Research), Directorate of Research and Graduate Studies

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