FACTORS AFFECTING ADOPTION OF MOBILE MONEY PAYMENT SERVICES BY STUDENTS AT INSTITUTIONS OF HIGHER LEARNING: CASE STUDY OF KENYA INSTITUTE OF SPECIAL EDUCATION

BY

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UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

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A Research Project Submitted to the Chandaria School of Business in Partial Fulfilment of the Requirement for the Degree of Masters in Business Administration (MBA)

UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

SUMMER 2018
STUDENT'S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

Signed: __________________________  Date: __________________________

Ayiesa N. Ohese (ID No. 648769)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: __________________________  Date: __________________________

Dr. Elizabeth Kalunda

Signed: __________________________  Date: __________________________

Dean, Chandaria School of Business
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# LIST OF ACRONYMS

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<th>Acronym</th>
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<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<td>ATMs</td>
<td>Automated Teller Machines</td>
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<td>BGFRS</td>
<td>Board of Governors of the United States</td>
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<td>CBK</td>
<td>Central Bank of Kenya</td>
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<td>CCK</td>
<td>Communications Commission of Kenya</td>
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ABSTRACT

Mobile Money services have revolutionized the way purchases of products and services are done owing to its security, reliability, and ease of use, affordability, convenience, speed, accessibility and availability. In Kenya, mobile money is enhanced by the presence of mobile money transfer services such as M-Pesa, Airtel Money among others. The purpose of this study was to determine factors affecting adoption of mobile money payment services by students at institutions of higher learning: A Case study of Kenya Institute of Special Education (KISE) by answering the following research questions; does the transaction value determine the adoption of mobile money payment services by Kenya Institute of Special Education students?, to what extent do perceived risk affect mobile money payment services adoption among Kenya Institute of Special Education students? And does mobile money transaction cost determine the adoption of mobile money payment services by KISE Students?

The study adopted the descriptive design approach. The population of this study was all Kenya Institute of Special Education active students. This study being a survey, respondents were sampled and collection of data was by closed ended structured questionnaires. Data collection procedures, actual data collection, data analysis, and data presentation methods that were adopted by this study have been presented.

The first research question was to determine whether transaction value has an effect on adoption of mobile money payment services by students in institutions of high learning. It was established that most of the students experienced fear and uneasiness when payment involved large sums of money. Consequently, they would prefer paying through the bank to using mobile payment options.

The second research question was to assess the extent to which perceived risk affect mobile money payment services adoption among students in institutions of high learning. The findings of the study indicated that users have perceived risk on the usage of mobile money payment services. The study showed that a significant proportion of learners in institutions of high learning were particularly concerned on financial and social risks involved in using mobile payment services.
The third research question was to determine whether mobile money transaction cost affected the adoption of mobile money payment services. The study revealed that students in institutions of higher learning perceive mobile money services as having higher transaction costs compared to other fees payment options available. Therefore, most of the students would often prefer other fees payment options to avoid incurring transaction costs associated with mobile money.

In conclusion, this study revealed that adoption of mobile payment services among students in institutions of high learning is battled with perceived financial and social risks by potential users, fear in transacting large amount of money and fear to incur higher transaction charges. The researcher therefore infers that ways need to be found to make it possible to demystify perceived risks and above transaction related issues among current and potential users, even if it takes sharing transaction costs.

For improvement purpose, the researcher recommends that transactions costs be shared by both the Institution and the Students and mobile money payment service provider needs to revise or justify transaction costs of mobile money payment. To avoid any perceived risk by the users it is also recommended that mobile money payment services users be taken through what it entails to pay via mobile money to avoid unnecessary suspicions and the service provider to provide proper wireless connectivity and enhance network infrastructure to avoid transaction delays. The researcher further recommends a need for the service providers of money payments platforms to motivate the users to embrace higher volume transactions by reward systems or even lowering and harmonising the costs.

The researcher recommends that further study be done to examine trends and perception among other sectors on the inefficiencies of mobile money services in their entrepreneurial endeavours. In the modern business landscape, there is a general tendency towards digitizing payments from retail shops, online shops through to groceries. A research need to be done to establish if the factors affecting adoption of mobile money payment services in education also affects other sectors.
ACKNOWLEDGEMENT

I would like to thank the Almighty God for giving me the strength to complete my studies. It is through His abundant grace that this research project has been a success. Secondly, I extend my sincerest gratitude to my family that helped me actualize the research project.

I would also like to thank my Project lecture, Dr. Elizabeth Kalunda, for her relentless support and guidance through this piece of work despite her busy schedules. My gratitude also goes to my classmates, colleagues and any other person whose input and positive criticism helped, enriched and expedited the success of this research project. Thank you all.
DEDICATION

I dedicate this study to my wife, Alindi C. Namwaya

Thank you for your encouragements.
TABLE OF CONTENT

STUDENT’S DECLARATION ........................................................................................................... iii
COPYRIGHT .................................................................................................................................... iv
LIST OF ACRONYMS .................................................................................................................. v
ABSTRACT ....................................................................................................................................... vi
ACKNOWLEDGEMENT ................................................................................................................ vii
DEDICATION .............................................................................................................................. viii
TABLE OF CONTENT .................................................................................................................. ix
LIST OF TABLES ........................................................................................................................ xii
LIST OF FIGURES ........................................................................................................................ xiii

CHAPTER ONE ............................................................................................................................ 1
1.0 INTRODUCTION .................................................................................................................... 1
  1.1 Background Information ....................................................................................................... 1
  1.2 Statement of the Problem ...................................................................................................... 5
  1.3 Purpose of the Study ............................................................................................................. 6
  1.4 Research Questions .............................................................................................................. 6
  1.5 Significance of the Study ..................................................................................................... 7
  1.6 Scope of the Study ............................................................................................................... 8
  1.7 Definitions of Terms .......................................................................................................... 8
  1.8 Chapter Summary .............................................................................................................. 9

CHAPTER TWO ........................................................................................................................... 10
2.0 LITERATURE REVIEW .......................................................................................................... 10
  2.1 Introduction .......................................................................................................................... 10
  2.2 Transactional cost and mobile payment services ................................................................. 10
  2.3 Perceived risk and mobile payment services ...................................................................... 14
  2.4 Volume or value of transaction and mobile payment services ......................................... 19
  2.5 Chapter summary .............................................................................................................. 24
LIST OF TABLES

Table 3.1: Population Distribution ................................................................. 26
Table 3.2: Sample and Population Information .................................................. 27
Table 4.1: Descriptive Statistics of Respondent's Age ....................................... 31
Table 4.2: Principal Component Analysis .......................................................... 34
Table 4.3: Prepared for Mobile Money Payment ............................................... 39
Table 4.4: Correlation Matrix ................................................................................ 41
Table 4.5: Regression Model Summary ............................................................... 41
Table 4.6: Analysis of Variance (ANOVA) ......................................................... 41
Table 4.7: Regression Model Coefficients ............................................................ 42
Table 4.8: Contingent Distribution Table ............................................................. 45
Table 4.9: Chi-Square Summary Statistics .......................................................... 45
LIST OF FIGURES

Figure 4.1: Gender of Respondents in the Study ............................................................... 30
Figure 4.2: Histogram of Age Distribution................................................................. 31
Figure 4.3: Marital Status of Respondents................................................................. 32
Figure 4.4: Distribution of Current Academic Programs of Respondents ...................... 33
Figure 4.5: Back Preference in Larger Transaction ....................................................... 35
Figure 4.6: Uneasiness Transacting Large amount of Money ....................................... 37
Figure 4.7: Keeping Adequate Money Float in the Phone ............................................ 38
Figure 4.8: Considering Amount before Transaction .................................................... 40
Figure 4.9: Perceived Financial and Social Risks in Mobile Money Transaction .......... 43
Figure 4.10: Efficiency of Mobile Money Payment Service ......................................... 44
Figure 4.11: Conscious of Transaction Charges ......................................................... 47
CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

Mobile money is a service based innovation technology that has grown in popularity not only in Africa but also worldwide. Definition of mobile money payment services varies with the industry because it covers an extensive choice of coinciding applications. According to Subia, Maria and Martinez (2014) mobile money payment service is a service that entails allowing purchases or sale of services and or goods at merchant shopping stores and shops remotely with the aid of mobile wallets on a cellular phone instead of using cash.

The technology of mobile money payments services has brought change on how transactions are effected nowadays. The Board of Governors of the United States of America Federal Reserve System Board (BGFRS) did a survey on usage of mobile money by Americans. The survey found out that there was increase in the use of mobile phones by the American adults in making their payments and informed decision on their shopping. The report also showed that 22% of mobile phone users used their mobile phones to make payments in twelve months before the period of the research. BGFRS (2012) also indicated that most common mobile payments types used were bills settlement, making an online purchase and paying for goods and services respectively. Statistics from the survey showed that 47% of Americans used their mobile phones in purchase decision making through price comparison, 33% had scanned barcodes to find out the best price and 42% used their phones to browse on product reviews. The survey indicated that two-thirds of those who made a price comparison with their mobile phones had their minds changed based on that information.

As Americans embrace mobile money payment system, India has not embraced the service fully. Roopadarshini Lakshminarayana (2018) noted that, although the Indian policies and development in technology has made cashless system very possible, most Indian citizen have not adopted it. The researcher stated that because not every conceivable use of money today has equivalent digital or methods of purchase could be the reason behind low uptake of the technology.
Urban retailers and consumers have more advantage when it comes to shifting to digital payments system unlike their rural Indians counterparts who to a large extent lack point-of-sale, Card systems or even digital payments account (Roopadarshini & Lakshminarayana, 2018).

Additionally, the above researchers also found out that there are so many advantages that can be realized by the economies by embracing the digital economy. The advantages pointed out in their study included accountability and Transparency, Easier and convenient transactions, reduction in physical money circulation. This can only be achieved if the users of the digital payments platform are protected against fraud, theft and other criminal activities like money laundering by Terrorists and a radical campaign aimed at bridging the gap existing between those in urban arrears with awareness on use of mobile phones and those in rural arrears who do not even own smart phones. They recommended that the government should make efforts towards increasing access of its citizens to mobile money platforms and account for the reality that most people might not have internet access or even own smartphones.

According to Kumari and Khanna (2017), the easy way of conducting financial transactions is the key motivator towards going digital. Mobile money payment services have so many advantages that were not available in the traditional way of payments and transaction. According to the author, well-known advantages are privacy, integrity due to easy of tracking transactions, good transaction efficiency as a result of elimination of time spent counting and sorting cash, appropriateness, convenience, low financial risk of carrying cash and also money laundering is reduced.

Despite the advantages that came with the usage of money payment services, not all countries have adopted it. According to Heyman (2017),12% of Ghanaians use mobile money for payments compared to 96.1% and 84.3% that uses their mobile phones for fund transfer and airtime top up. Additionally the study revealed that; effort expectancy, performance expectancy and facilitating factors are the key factors that have derailed adoption of mobile money payments systems in Ghana. The research found out that Ghanaians with mobile phones are more willing to use mobile money to pay from physical outlets other than online shops.
Research by Baganzi and Antonio (2017) on examining trust and risk in mobile money acceptance in Uganda indicated that the adoption of mobile money payment systems has gradual acceptance. In this study 62% of respondents had done at least a mobile money payment transaction within a year.

Sixty-three percent of these were aged between of eighteen to thirty years. This indicated that most interested group in mobile money transactions are the youthful population. The research goes on to reveal that 55% of responded had secondary education and 36% had a university education. This, therefore, implies that the mobile payments are attractive to the educated. As much as Uganda still strangles with mobile money payments services adoption, the research showed that mobile money has come out as a substitute for commercial banks in Uganda.

Mobile money services were introduced in Kenya as early as 2005. The main Mobile Network Operators (MNOs) in Kenya are Safaricom, Airtel and Telkom Kenya with M-Pesa, Airtel money and Orange Money respectively as mobile money payments platforms. Key statistics from Central Bank of Kenya indicated that by the end of March 2014; there were slightly an above twelve million mobile money customers, thirty million mobile money transactions per day and one ninety two billion six hundred mobile money transactions per month. The statistics also show that within the same period, twenty-six million two hundred thousand accounts had been registered on mobile money platforms (Central Bank of Kenya [CBK], 2017).

Communications Commission of Kenya [CCK] (2013) report showed that Kenya is leading in the world in mobile money-related services. Out of the thirty-onemillion, thirty-one thousand mobile subscribers in the country, 83% translating to twenty sixmillion and two thousand users use mobile money services. These include utility bills payments, school fees settlement, making supermarkets and in-store purchases, M-ticketing, doing phones top up, ATMs withdraws, sending money from forty-five countries abroad to home. More so, people have their wages and dividends paid through their mobile phone money accounts. Due to this, organizations have realized that they cannot avoid mobile money payments mode. They have gone ahead to open and operate Lipana M-pesa accounts which is mobile money payment services by Safaricom that enables one do payments through cellular phone.
The report further indicates that the number of subscribers transferring money through mobile phones grew by slightly above 9% in the last quarter of the year two thousand and twelve. It also indicated that the total deposits grew by slightly above 10% translating to two hundred and twenty-six billion which is up from two hundred and five billion which was recorded during quarter three.

Over the years, mobile money services has had a growth from just money transfer platform to a payment platform and many more services than those availed by commercial banks. A good number of institutions in Kenya have now been forced to embrace the “LIPA NA MPESA” service being provided by Safaricom. Safaricom stands out as the largest mobile phone service provider as indicated by customer base study done by Communication Commission of Kenya (CCK, 2013). Learning institutions have adopted mobile money services in their fees collections and payment of bills; businesses entities, governmental organizations and Non-Governmental Organizations are using it for cash transfers, procurement and salary payments.

Some of these institutions are Kenya Electricity Generating Company, Machakos Institute of Technology and Nairobi Institute of Technology whose Mobile Money Payment Platforms are hosted by M-pesa on pay bill numbers M-PESA 929510, 906 650 and 900 175 respectively (Safaricom, 2018b). Apart from M-Pesa pay bill number 168633 for Strathmore University, the institution also has M-Karo by Co-operative bank which facilitates Mobile Money fee payments (Strathmore University, 2018).

With the noted high growing inclination of mobile money services adoption by learning institutions, it is important for institutions to encourage and promote full adoption of this mode of payment in order to reduce high queues of students paying their fees over the bank counters. To see to it that mobile money payment services succeed, there is need to have a well laid down infrastructure for both users and service providers. For the users, they need to apply for the service from the service provider after making sure that they have a reliable network. The service provider will then organize training to the personnel who will run the mobile money payment platform and later deliver the portal to the user (Safaricom, 2018).
Kenya Institute of Special Education launched an M-pesa Pay bill number more than 3 years ago to help students pay their fees conveniently via their mobile gadgets. This was also aimed at making fee receipting very easy and prompt since it is a real-time kind of transaction.

1.2 Statement of the Problem

According to Osewa (2018), mobile payment services make life easy due to advantages of it being an easy to user service, good service for the unbanked and that the service can easily be accessed by the poor rural population.

Reaves, Scaife, Bates, Traynor and Butler (2015) noted that although most of modern commerce relies on payments that are cashless in nature, it is apparent that not all economies have access to the benefit of such systems and mostly in developing world where physical currency remains the norm. Mobile money payment system, with great reliance on deployment of mobile networks and mobile gadgets, are expected to make sure that they bridge this gap.

Frydrych, Scharwatt and Vonthron (2015) found out that Cote d'Ivoire is among the first countries that have taken up mobile money payment system as a medium of paying school fees, tax collections, healthy services and official documents to the Public institutions. The researchers noted that the school registration fee payment has worked well due to the efforts by the Ministry of National and Technical Education of Cote d'Ivoire as a result of digitizing students’ records since 1998. The researchers further stated that before, the country’s all fee payment was done by cash which was vulnerable to theft, security issues and even bribery.

Braniff (2017) in his study on why Schools in Africa aren’t taking advantage of mobile money payment services noted that 99 percent of Secondary schools registration fees in Cote d'Ivoire are via mobile money. The same study reported that Uganda is among countries that have highest mobile money activities. However, the use of mobile payment system has not picked up as expected. The schools and learning institutions have not embraced the idea of settling school bills and fees through mobile phones. It went on to emphasize that by using mobile money payment services, Ugandan parents will have a faster and cheaper process of fee payment without even leaving home.
The author further noted that the key obstacle in the adoption of mobile money payment services in Uganda is that Ugandan mobile money infrastructure is still developing and that most rural dwellers are not familiar with mobile money payments services. In fact, very few schools found in rural centres accept mobile money.

Wasunna and Frydrych (2017) in their report on Person-to-government (P2G) payment digitization, with focus on lessons from Kenya noted that Kenyan government after realizing the need for cheap and efficient transaction in services delivery, it opted for a partnership with the MNOs. This gave birth to Persons to Government (P2G) payment system which was aimed at enhancing accountability, improved collection of revenues and traceability.

The finding of this study showed that even with the P2G, marginal communities and underserved still have challenges because the digitalisation has not been done end-to-end. Services that could not be accessed in rural areas can now be accessed through Huduma centres, cyber cafes and payments can be made remotely via mobile phone. The report notes that the Kenyan Government concentrated only on few service delivery units. It is not keen on payment digitisation for Education Sector.

1.3 Purpose of the Study

The purpose of this study was to determine factors affecting adoption of mobile money payment services by students at institutions of higher learning: A Case study of Kenya Institute of Special Education (KISE).

1.4 Research Questions

The research was guided by the following questions;

1.4.1 Does the transaction value determine the adoption of mobile money payment services by students in Kenya Institute of Special Education students?

1.4.2 To what extent does perceived risk affect mobile money payment services adoption among students of Kenya Institute of Special Education?

1.4.3 Do mobile money transaction costs determine the adoption of mobile money payment services by students in Kenya Institute of Special Education?
1.5 Significance of the Study

The following stakeholders found this study very significant;

1.5.1 Management of Institutions of Higher Learning

This study will enable the management of higher learning institution come up with a relevant policy on mobile money payment services that affected their fee collection mandate. It also gave them the financial consequence of mobile money on their institute performance which enabled them come up with strategies on how to realize and maximize mobile money payment services benefits.

1.5.2 Policy Makers

Regulators like the Central bank of Kenya (CBK) found this study very relevant because it informed the policy formulation in respect to regulation of mobile money payment services since it was the sole goal of spurring Economic Growth. The Communication Commission of Kenya will also find this study relevant during their reports compilations.

1.5.3 Researchers

This study will be of great help to academicians and students undertaking business related courses. It will help them in knowledge building by adding to the mobile payments services and what affects it. This study will be available as a source of references in various libraries both physical and electronically.

1.5.4 Mobile Network Operators

MNOs will find this research very key and useful because it will inform them about their market share status. They will also benefit from this research as they will be able to understand the competition in the market with respect to consumer needs and align themselves to the same.

1.5.5 Mobile Money Services Users

These are the actual consumers. This study will be of great use to them because they will be able to understand what mobile money payment services entails and this will guide them in making more informed decisions.
1.6 Scope of the Study

The study sought to find out factors affecting adoption of mobile money payment services by students in institutions of higher learning. The study focused on Kenya Institute of Special Education as a case study. The focus of the study was on Residential Students, Open and distance learning students in KISE main campus and other satellite campuses in Shimo La Tewa, Sigalagala, Thika, Kericho and Migori because students are the consumers of mobile money payment services and other institute policies. The data was collected during the month of April, 2018.

1.7 Definitions of Terms

The following are the definitions of some significant terms that were used in the study:

1.7.1 Residential Students

Students who reside in the KISE main Campus (KISE, 2014).

1.7.2 Open and Distance Learning Students

School-based students who attend KISE face to face training in the five KISE campuses (KISE, 2014).

1.7.3 Perceived Risk

The uncertainty a customer has when using the mobile money services (Chen, Chen and Carpenter 2018).

1.7.4 Mobile Network Operator

This is a provider of wireless communications services that owns or controls all the elements necessary to sell and deliver services to an end user including, wireless network infrastructure, back haul infrastructure, billing, customer care, provisioning computer systems and marketing and repair organizations (Wambua, 2014).
1.7.5 Face to Face

This is a KISE school-based program for students on distance learning. The students do the study on their own but have a face to face encounter with the lecturers in months of April, August and December (KISE, 2014).

1.7.6 Transaction Value

This is the amount a consumer transact using his/her mobile phone at any one given time (Safaricom, 2018).

1.8 Chapter Summary

Chapter one provided background on mobile money system. It also gave the statement of the problem. The chapter defined research objective and research questions that the study sought answers to. The purpose of the study and significance of the study was also handled in this chapter.

Chapter two gave an outline of the theoretical basis of the topic under research. Chapter three went into examining the research design and the methodology to use for the purpose of bringing of the study to completion. It also, in a more detailed manner described, research design, target population, sample and sampling procedure and data collection instruments. Chapter Four contained analysis of the data, its presentation and interpretation. Chapter five focused on a summary of findings, discussion, conclusions and recommendations.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

In this chapter, the work of various academicians and scholars on mobile money payments services adoption are reviewed. The review is guided by the following specific objectives as indicated in chapter one; to find out whether the transaction volume, perceived risk and transaction costs determine the adoption of Mobile Money Services.

2.2 Transactional Cost and Mobile Payment Services

In an analysis of impact of online payment systems and ecommerce in China Osafo-Kwaak, Singer, White and Zouaoui (2018) noted that with the growing of science, mobile technology, computer as well as network technology, mobile money payment has become a routine in human life. The researcher noted that mobile payment has and advantages of reducing paperwork, transaction costs and even labour costs.

2.2.1 Mobile Money Payment Transaction Cost and the Low Class Earners

World Bank (2016) study on Innovation in electronic payment adoption: The case of small retailers in the Netherlands indicated that transaction costs for financial services like mobile money payments are high in rural areas. The study cited higher transaction costs, poor roads, poor access to electricity and bad communication connectivity as the main causes. The study also points out that rural population is characterized by small transactions size, some level financial shrewdness and they are less literate.

The Role of digital payments in sustainable agriculture and food security, as reported by APEC (2017) in Hong Kong alluded that lower costs have facilitated small-scale farmers access financial services which are critical in developing a business case for any service provider in rural arrears. The researcher further indicates that digital money payment system lowers transaction costs of credit which allows operators work with scalable credit models. With access to mobile money payment services, a lender can simply disburse funds to the borrower who can later pay via the same mode. This model may look simple, but it facilitates purely new model for agricultural mobile financing and payments services.
A study by Riley and Kulathunga (2015) on bringing money to the poor indicated that although digital finance is a key player in mobile money payment space, cash still dominates regardless of the strategy of financial inclusion by Thailand government. This is because alternative means of payments other than mobile or digital modes have very low transaction costs. It has also stated that banks have dominated because of efficient management of Automated Teller Machines (ATM).

Masha (2016) during a workshop organized by London School of Economics and Political Science in Freetown, Sierra Leone concluded that transaction costs made mobile-based payment systems accessible to few people. However, later, MNO based services like mobile money payment services grew because of the higher number of people with no bank account, the unbanked. The bank based services for a long time concentrated on very large individual and Institutional customers who had predictable, regular income.

Chen, Chen, and Carpenter, (2018) did study on why individuals in China use mobile money payment. In their study, it came out that there were cost advantages in using mobile money payment technology. The interviewees gave two major advantages of the mobile money payment services. First, they talked of discounts they receive especially from major money payment companies like Alibaba and Ten cent. Secondly, there are no transaction costs for money transfer. Unlike transaction done via the bank that charges between 0.2 %-1%, mobile money payment does not charge a transaction fee on money transfer.

Simiyu and Oloko (2015) in their research on mobile money transfer and the growth of small and medium-sized enterprises done through a case study of Kisumu found out that there was need for transaction cost to be maintained at a low level. This will make total transaction costs competitive and aordable to businesses and low income earners. This will acts as a motivating factor since it will be far below what Banks charges. Report by Global System for Mobile Communications [GSMA] (2017) indicated that mobile money payment system in Kenya has largely been embraced by farmers in the purchase of their farm inputs. This was attributed to low transactions costs. By inuring low transaction costs, having less money on hand and avoidance of risk that breed financial constrain, mobile money payment has made this farmer earn high profits.
According to Wambua (2014) in his study on the effect of mobile money transfer services on financial deepening in Kenya, it was found that although mobile money payment services provided the convenience, flexibility and reliability required by the low-income earners, it significantly failed to come up with relevant structures that would foster discipline and low transaction costs in particular for low-value transactions.

The study indicates that even with higher transactional costs of mobile money payment services, the low-income earners have no access to other formal financial services hence have no option but to incur high transactional costs.

**2.2.2 Transaction Cost as a Tool for Branding**

Kremers and Brassett (2017) urge that business model for mobile money payment system not only relies on the reducing transaction cost but rather in brand growth as well. The researchers note that this may have great effect on the relationship between the customers and the brand. The focus on brand brings in sociality of mobile payment. Many users may not be comfortable with this but rather focus on transaction costs.

According Masha (2016) in her research titled macroeconomic impact of mobile indicated that mobile money based channels have great potential for West African countries just as it has been for East Africa’s countries. The researcher indicates that recent evidence based on rigorous research methodologies confirmed generally that an inclusive and an efficient financial market have greatest potential of improving lives of their citizens, reduce mobile money payment transaction costs, and provide improved innovative private-sector solutions that translate to a good brand. It also indicated that the greatest challenge with financial inclusion channel like the mobile money is the requirement of taking into account vulnerability and unintended negative consequences.

**2.2.4 Perceived Transaction Cost to the Users of Mobile Money Payment Services**

Koloseni and Mandari (2017) in Tanzania on investigating the reasons behind the continual usage of mobile phone payment services found out that although satisfaction towards mobile money services is determined by both perceive trust and cost, only perceived trust influences users’ adoption of mobile money services more than perceived transaction cost.
This simply indicates that amount charged by mobile money service providers is reasonable and affordable. The study further indicates that the direction determining the relationship existing between perceived trust and cost shows that perceived cost has indeed a negative influence when it comes to the satisfaction of mobile payment service user. However, the author notes that the strengthened relationship was not a strong one that could cause a significant effect on satisfaction. The researchers applied the Planned Behavior (TPB) with focus on perceived transaction cost and trust in understanding the behaviours towards mobile money payments.

2.2.5 Mobile Money Transaction Cost and Growth of Mobile Money Payment Services

Gilman (2015) research on mobile money global event indicated that Sub-Saharan Africa world is a world leading in mobile money payment yet there is still a huge unmet opportunity. The research shows that Sub-Sahara leads in Mobile Payment Deployment by 22%, South Asia is at 6% and Latin American and Caribbean are at 2%.

The research further indicated that the only way to realized opportunity is through coming up with a successful mobile financial ecosystem. With it, there will better address to customers financial needs, reduce transaction costs for governments and businesses and increase profitability for providers. This research has also shown that Kenyan mobile phone landscape has changed. Most people prefer mobile phone payment services to other financial services due to low transaction costs. The mobile services lead in the financial transaction by more 61% in 2013 compared to 29% of the commercial bank.

According to Muthiora (2015) the need for regulatory legal framework in mobile money payment system prompted Central Bank of Kenya to come on board. This is indicated by the operationalisation and gazettement of National Payment System in 2014 which provides a strong innovation in mobile money payment services and enabling environment for growth of the services. With this CBK is able to work with market players in enhancing sound competition and reduction of mobile money transaction costs.
Daniel (2015) while doing a study on relationship between mobile banking and financial inclusion in Kenya acknowledged that reduced transaction costs as a result of Information Communication Technology (ICT) innovation has given countries that are developing a chance to get into global market and even an increased landscape in financial inclusion. There is higher efficiency and hastened development in developing markets due to e-commerce that is fostered by ICT developments. The researcher notes that with businesses like handcrafts or ecotourism has reached global audience due to automated transactions that have low costs.

2.2.6 Transaction Cost as Facilitating Tool for Mobile Money Payment Adoption

A study done by Micheni, Lule and Muketha (2013) on transaction costs and facilitating conditions as indicators of the adoption of mobile money services in Kenya indicated that transaction costs do not affect mobile money payment services adoption. The researcher concluded that the reason behind this could be the role played by mobile money service providers in financial inclusion.

It also came out clearly from the research that this may not be a factor affecting adoption of mobile money payment services because the highest number of mobile money users is at the bottom of the pyramid which a group is not taken keen by the established financial institutions. The study also established that transaction cost in comparison to a financial institution is very low which can be linked to mobile money market that is yet to mature and even their avoidance of bulky transactions. The researcher further states that until mobile money service provision reach a higher level of maturity and scale, transaction cost cannot determine the impact of adoption of mobile money payment services.

2.3 Perceived Risk and Mobile Payment Services

According to Baganzi (2017), perceived risk is a significant factor that influences the adoption and intent towards the use of mobile money payment systems. The researcher indicates that most of the potential mobile money users may have the perception that they may incur financial losses or even loss of personal information as a result of using mobile money payment. He further states that, although the use of internet and mobile money are associated with risk, mobile money payment systems have a higher degree of risk.
2.3.1 Perceived Trust on Mobile Money Payments Services

Maarop (2018) did a correlation analysis between factors influencing the usage intention of mobile wallet payment. The researchers acknowledged that there is a great risk associated with mobile banking services because mobile services have a higher level of uncertainty. They alludes that most researches done on mobile money payments services adoption appreciated that this mode of payment has a higher level of risk. The finding of this research work was that perceived risk had a higher correlation on adoption of mobile wallet payment followed by trust and structural assurance.

By citing Cheng et., (2011), Davies (2017) indicated that with a full understanding of perception and even payment method including perceived risk and the rate of acceptance help service providers to work hard with the aim of providing a more efficient payment method. This is because; the services provider improves the payment systems to a void disappointing the user. The researchers note that through this improved service delivery the perception of the service user towards risk and trust is ether minimized or removed.

Perceived risk and lack of trust has been found to affect mobile money payments services adoption. This is supported by Liébana-Cabanillas, Leiva and Fernández (2017) while undertaking their research to examine refusal to a adopt mobile payment System by Merchants in Spain. In their findings, it came out that among the main barriers and the key deterrents to mobile payments services was lack of trust and perceived risk. During the survey report 46.43% of respondent stated perceived risk as a key factor that affects adoption of mobile payment services.

According to Xu (2017) in his research on the willingness of users to a adopt a mobile payment application called WeChat defined perceived risk as the inability for a consumer to predict whether the value contained in the service meets his or her expectation. The researcher found out there are several factors associated with perceived risk. These factors are privacy, time, and functional, financial, psychological, physical, trust and social risk.

Out of these types of risk, the researcher indicated that because WeChat was a new kind of mobile payment system, its publicity and follow-up services were not perfect and therefore most people were not familiar with it hence suffered psychological risk more than other risks as stated earlier.
2.3.2 Perceived Risk among Mobile Money Payment System Users and Online PC Payment Users

According to Cozzarin and Dimitrov (2016) in their study of investigating whether perceived risk affects e-commerce in Canada, found out that perceived risk was very important for e-commerce in both mobile users and personal computer (PC) users. The study found out that even though there were many consumers using PC purchases than mobile phone payments users, there was a higher probability of perceived risk for mobile phone payments users than PC payment users. The researcher realized higher perceived risk with mobile payment system users’ at probability was 0.210 while for PC user’s probability was at 0.326, which is very great according to the reasercher. It was also noted by the researcher that there was a great difference between the PC based and mobile based orders for those consumers with higher verses low risk. The investigation did find out that mobile phone payment service users with low risk buy significantly more than those using PC.

2.3.3 Perceived Risk and the Age of the Mobile Money Payment Services Users

Davies (2017) while researching on university students’ perceptions towards cashless financial transaction in the United Kingdom found out that student had a higher preference in paying their fees by electronic form simply because they had the perception that there is no additional risk over cash. The researcher also attributes the embracing of the mobile money payment services to age and generation.

Unlike the older generation who have for a long time resisted cashless society, the younger generation have nothing to expect other than cashless society because there exist a lot of know how concerning the internet, debit cards and other cashless systems via mobile phones. The positive reception of cashless payment system by students has acted as a motivating factors to merchants since there likelihood of higher sales.

2.3.4 Categories of Perceived Risks in Use of Mobile Money Payment Services

Chen et al. (2018) did a qualitative study on why individuals in China have embraced the use mobile payments services. In the study, some interviewees perceived several risks associated with mobile money payment usage. These risks made most of them discontinue the use of the service.
In trying to elaborate the types of perceived risk that affects the mobile money adoption, the researcher has defined the perceived risk as unfavourable consequences that may arise from using a service or a good. The study went further to give various dimensions of risk experienced by the Chinese who were interviewed.

One of the risks was performance risk. The researcher defines performance risk as a possibility that money payment system may fail to perform. The study noted that the interviewees focused much on security and therefore the study renamed the performance risk to the security risk. The study did find out concerns that the authorization and authentication procedure may be compromised or were not sophisticated enough and hence no adequate protection against attack. Financial risk was also identified by the researcher. This was referred to by the researcher as the perception of monetary fraud or loss. The study noted that interviewees were afraid that hackers might access mobile money payments accounts and make unlawful transactions. The privacy risk featured also in the study. This was perceived risk by the interviewees that there exists some potential loss of control over some personal and confidential information. The interviewees felt there could be severe consequences if their personal information leaks because they provide all their bio data.

Ecurity, Haracteristics and Ender (2017) in their research on adoption of mobile-based money transfer technology in Ghana noted that perceived risk was a significantly determinant of behavioural intention of using mobile money payment services by the Ghanaians. Other determinants were perceived usefulness, Perceived ease of use and perceived trust. The researcher concluded that as part of financial services, mobile money payment / transfer adoption has become dependent on how a user perceives its trust and risk. This, therefore, means that tradition perception of trust and risk on the usage of financial services still stands. The researcher proposed that a consumer should be able to try the service before adopting it rather than just having a perception of it.

Gumbo (2016) conducted a study to determine the extend at which Technology Acceptance Model affects mobile banking in rural Zimbabwe. The study sort to find out the applicability of TAM determing factors influencing the Zimbabweans unbanked rurals in adoption of mobile money banking services. It was noted that TAM can predict consumer’s intention in usage of mobile money services.
It specifically came out that perceived risk and transaction costs deterred the Zimbabwean in rural areas from adopting the mobile money services. Security is another perceived risk that deter adoption of mobile money payment services according to Mbele-Sibotshiwe (2014). The researcher did a research on study of the perceptions and adoption of mobile payment Platforms by entrepreneurs in Zimbabwe's informal economy. He noted that even though the use of the Personal Identification Number is meant for transaction confidentiality, authentication, integrity of the data, it has issues to do with security risk and privacy risks. He noted that Security and perceived privacy came out clearly as a construed user’s perception in his study. He noted that users were so keen on security and safety.

According to Makanyeza (2017), investigating what determines consumers adoption of mobile money services in Zimbabwe noted that perceived usefulness, perceived selfefficacy, influence from social groups, relative advantages and perceived compatibility had more effects on the adoption of mobile money payment services compared to other types of perceived risk. Perceived ease of use was also found to have an effect. The researcher’s findings indicated that behavioural intentions had also an effect on the perception of the adoption of the payment services.

According to Koloseni and Mandari (2017) in their study on the user acceptance of mobile money payment services in Tanzania, it came out that most mobile phone payments services users were so concerned on whether the mode of payment was secure. Security risk perceived in this study was the uncertainty of trust. Customers trust had a significant positive relationship when compared with the perceived ease of use.

The implications of the finding were that most consumers will put much of their concern on matters reliability, accuracy, privacy, safety and to a certain extent some element of physical contact. It was the recommendation of the researchers that mobile money payment service providers should improve consumer’s level of trust to enhance their M-payment service behaviours.

Baariu, (2015) did a study on factors influencing subscriber adoption of mobile payments services in Embu town and he noted that with M-Pesa payment services, business owners were able to accept payment for both goods and services from their customers.
On the other hand, customers handled less cash and therefore less perceived risk associated with handling cash such as fake currency and chances of theft. The researcher further recommended that organizations using mobile money payments services to develop a more robust system that will minimize the perceived risk of losing money. For example provision of a method of confirming the identity of the business one has registered on the system, being able to bridge the gap that may exist between various organizations and mobile money service providers especially those providing pay bill services where there is involvement of other stakeholders and prompt cancellation of wrong transactions.

2.4 Volume or Value of Transaction and Mobile Payment Services

Mobile money payments usage has really grown and it is expected to grow further. According to Capgemini (2011) in the study on ways mobile phone payments can take advantage of banking inclusion, an approach for financial services institutions, defined volume of transaction or value of transaction as the amount of money a noble money payment system user intents to transact at one given time. Users in developed economies because of a very large number of unbanked population, there has been higher volume of mobile money transaction and the volume keeps increasing.

2.4.1 Volume of Transaction and Financial Inclusion

According to Endeva and Shley (2017) in their study named mobile money transforming financial inclusion in Bangladesh indicated that Bkash which was launched in the year 2011 as a subsidiary of BRAC which is a private commercial bank operating in Bangladesh operates on a low-cost, high-volume model.

In this model, the higher transaction volume you make, the fewer transaction costs you incur. The research shows that fees in this model are low while the monthly transaction number has been increasing. Registering for this mobile money payment system is free and so is making deposits.

According to a study by Bank of Ghana (2017) while undertaking a study on the possible impact of mobile money on the country’s payment system, it was noted that there existed stable and long run relationship among the volume of payment, payment value, volume of mobile money transactions and even value of mobile money transaction.
The report indicates that because of co-integrating relationship that exists between the volume of mobile money transactions and the value of cellular money transactions; therefore there exists long run relationship between the deepening of the Ghana’s financial inclusion and progress towards cash-less kind of economy. The study concludes further that those factors which promote usage of mobile money are found to foster financial inclusion and even facilitate any progress towards cash-less economy.

Riley and Kulathunga (2015) in his research on bringing the E-money to the poor in Sri Lanka’s noted that financial inclusion pointers are remarkably in the entire population of Silence. The author appreciates that even among the poorest 40 %, at least 80% are included and that they are far ahead compared to South Asia which is a lower middle-income economy. From the research article, Sri Lanka had just launched a very innovative and interoperable mobile money solution, and it was noted that neither the inclusion numbers nor the volumes transacted by the users are driven by the mobile money payment system adoption. It is also showed that mobile money payment services are just an option since other financial platforms have given a better option than the mobile money payment services. Another reason for low transaction volume is that the mobile money payment system was introduced to Srilanka recently, less than five years ago.

The volume of transaction is very important since they are key determinants of financial inclusion and adoption of mobile money payment service. This evidenced by a research done by Boro (2017), on the effect of mobile money on banking inclusion in Kenya. The researcher also notes that the same research done by Ishegoma (2011) on banking via mobile phone for financial inclusion in Tanzania cost region of Kibaha gave the same findings.

2.4.2 Volume of Transaction and Nature of Purchases

VISA (2015) did study in Singapore and it came out that Singaporeans had embraced mobile phone payment services.

The study showed that more than 80 % of the Singapore population understands the advantages of using mobile devices for payments. The study also indicates that the country has 89 % smart phones penetration.
This research has also been able to indicate that around eight in ten people can pay for goods and services via their cellular phones. It has also been found that those using mobile payment system in Singapore mostly do it for purchasing goods and services that need less volume of money especially in Supermarket, fast food restaurants and transportation points with respondents’ statistics of 45%, 35% and 31% respectively.

According to Binyanya (2014), there has been higher transaction volume of registered mobile service users since the inception of mobile money payment system in Kenya. Research done indicated that a total number of deposits had grown from 64 million to 227.94 billion in May 2016. The research further established that there had been the embracing growth of transaction in both volume and value. This is because more people are using mobile money payments services as a store of value and a payment option.

Omwasa (2012) in his study on modelling adoption of mobile money by the poor in Nairobi, done through various interview, found out that mobile money payment adoption for most respondents was an option for lack of a financial alternative. Small traders, for instance, were not able to find cheap bank accounts to transact their low volume of cash. The banks looked more expensive given their small amount and frequencies of their transactions. From the interview, it came out that mobile money services could help them manage their low volume finances, store them, conveniently transact and access them easily and more so given that they are at the bottom of the pyramid.

According to United States Agency for International Development [USAID] (2012) in their article on ten ways to accelerate mobile money, it came out that with a mobile wallet, it is easier for individuals to pay bills and even purchase goods using their mobile money. This relieves them from cashing out, which is not only inefficient but also costly. The article pointed out that use of mobile wallets for those unbanked is very important since it helps pay for fees, services and goods effectively and efficiently using mobile phones. This also saves them the time of travelling long miles to do transactions of a small volume of cash. The report suggests that the government should also adopt this mode of payment to help in the collection of small fees and duties often paid by the financially excluded citizens.
2.4.3 Action of Mobile Money Service Provider on the Volume of Transaction

The volume of transaction for mobile payment users has been motivated by the various operating systems found in mobile phones nowadays. This is according to Price water house Coopers [PWC] (2017), in their study of Mobile proximity payment in Italy, they noted that especially mobile money payments has been growing globally.

NFC has seen this growth get to another level even though it still accounts for a very tiny both in store and mobile payments. The report indicates that in the year 2014, the transaction volume in the global mobile money payments market stood $4.6 billion. This figure may exceed $300 billion by 2020. The findings attribute this to applications user friendly mobile application like Quick Response code (QR) and Personal Identification Number (PIN).

According to Marlene Greenfield (2017) on the US website called the statistics, the researcher noted that in 2021, the mobile money payments platforms and other contactless payments systems are likely to generate close 190 billion U.S. dollars in transaction volume or value. The researcher indicated that as of the year 2015, about 12.7% of users with Smartphone in the United States were actively using mobile payment services. In her agreement with Price water house Coopers [PWC] (2017) she notes that most common mobile stored mode of payment QR code scanning and other further 12% use Pins. The researcher notes that mobile wallet apps and operating systems have played a very vital role in facilitating mobile money payments services. This has made it possible to register higher transaction volume among the mobile money users. For example, US based coffee point called Starbucks allows its client to pay via mobile phone, this research indicates that the coffee house processes 8 million and above mobile app payments per weekly. This accounts for 16% of all the transactions.

Research by Aron (2015) while doing a study on nature and economic implications of mobile money payment services asserts that mobile money payment is predominantly in poorer, cash-based countries which are characterized by transactions of very small amounts or volumes. One thing that the researcher noted was that these transactions of small amounts have higher transaction costs.
However, in such environment, mobile money payment services still outclass any competitor that might exist like banks and money transfer companies. The researcher indicated that the mobile money payment adoption has been variable, but sometimes it is very rapid as in East Africa. The users of these services prefer to transact in small amounts otherwise banks are involved.

Maurer (2010) as cited by Kremers and Brassett (2017) noted that the mobile money providers depend on fee-based revenue. M-pesa, for instance, is said to have shown potential to create revenue through the charging of a high volume of a low-value transaction with very a small fee. Therefore the volume of the transaction could also affect adoption of mobile money payment system since what is a small fee for the service provider may be viewed differently by the user.

Report by Hoernig and Bourreau (2017) on risk sharing transaction cost indicates that in the year 2014, MNO operating in Srilanka, Pakistan and Tanzania did an interconnection of their mobile phone services with the aim of making sure that volume of transaction does not deter people from access and adopting mobile money payment services. Initially, data from Tanzania had a suggestion that interoperability had an ability to move volumes of transaction and in Pakistan, six out the known seven mobile phones payment service operators have a national switch connection which enables them route payments to each other and other financial Institution.

2.4.4 Mobile Money Services and Institution of Higher Learning

Lonie (2007), Biljon and Kotzé (2008) as cited by Kithinji (2016) while researching on factors influencing adoption of mobile money payment services among institutions of higher learning in Kenya pointed out that formal financial industry in Kenya has structural weaknesses because most of them are concentrated in urban centers, and with them there are conditions that make them unfavorable to those in rural areas.
Although most of the respondents were neutral on whether mobile money payment transactions cost changed as percentage of amount sent is considered expensive for small volume of cash, the researcher citing Au and Kauffman (2008) alludes that the cost of using banking services for small volume or amounts for local and international transactions is seen to be expensive hence probes use of alternative financial modes like mobile money payment services.

2.5 Chapter Summary

In this chapter, mobile money payment services adoption is reviewed. Factors affecting the adoption have been reviewed as indicated in the specific objectives of the study. From the reviewed literature, it is clear that mobile money payments services have revolutionised the way payments are done. Even though several findings indicated there are perceived risks, the adoption of the service is encouraging. The study methodology used in this study was discussed in chapter three.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology that was used in coming up with answers to the specific objectives outlined in chapter one. The chapter is organized in the following sections and subsections; the research design, targeted population, and sample design to be used which included sampling frame, technique and the sample size. This chapter also included data collection methods, research procedures used in the study and finally the chapter summary.

3.2 Research Design

The research design is a specific plan or blueprint created with the aim of answering the research question and provision of variance control. Hypothesis testing is the central reason for any research. Descriptive research design was adopted in this study. According to Atmowardoyo (2018), descriptive research design is a research method that is used to describe the existing phenomena as accurate as possible. The only work that the researcher has is collecting the necessary available data through instruments such us questionnaires, observation, and interview. It enabled the researcher to define subjects through the creation of a group of problems, events or people (Cooper & Schindler, 2014).

3.3 Population and Sampling Design

3.3.1 Population

The population is defined by Cooperand Schindler (2014) as the total collection of elements that the researcher wish to make an inference from. The population of this study was all active student sat Kenya Institute of Special Education (KISE) six campuses. These campuses were Nairobi, Kericho, Migori, Sigalagala, ShimoLa Tewa and Thika. The active students are those that are currently in the academic programs of KISE. The total population of these students as per the Student Management System of KISE stood at 1,350 as shown.
Table 3.1: Population Distribution

<table>
<thead>
<tr>
<th>Campus/Stratum</th>
<th>Number of Students</th>
<th>Population Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>KISE Main</td>
<td>438</td>
<td>32%</td>
</tr>
<tr>
<td>Kericho</td>
<td>137</td>
<td>10%</td>
</tr>
<tr>
<td>Migori</td>
<td>54</td>
<td>4%</td>
</tr>
<tr>
<td>Sigalagala</td>
<td>246</td>
<td>18%</td>
</tr>
<tr>
<td>Shimo La Tewa</td>
<td>96</td>
<td>7%</td>
</tr>
<tr>
<td>Thika</td>
<td>379</td>
<td>28%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1350</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source; KISE (2018)

3.3.2 Sampling Design

3.3.2.1 Sampling Frame

According to Cooper and Schindler (2014), a list of features through which sample is obtained is called sample frame. This study obtained a sampling frame from the all students in session.

The students’ data was obtained from the KISE student management information system. This made sure that the sample was from students who are in session and are paying their fees. This is because the main objective was only be obtained if the study focuses on active and continuing students.

3.3.2.2 Sampling Technique

Cooper and Schindler (2014), define sampling techniques as a process of selecting some elements from a given population to represent the entire population. This study used Stratified systematic sampling technique. This technique involves grouping the sample into stratas then taking a random starting point and selecting subsequent elements at a given constant interval called sampling interval. The sampling interval is the quotient of population size and the desired sample size. The justification for using stratified systematic sampling method in this study was its assurance that the population is uniformly sampled.
3.3.2.3 Sample Size

The students will be drawn from 6 KISE campuses. This study used Yamane 1967 formula to arrive at acceptable sample size as below;

Yamane formula is given by: \( n = \frac{N}{1 + Ne^2} \)

Where \( n \) = sample size required, \( N \) = population size, and \( e \) = alpha level, i.e. \( e = 0.05 \) if the confidence interval is 95%.

Therefore; \( n = \frac{1350}{1 + 1350 \times 0.05 \times 0.05} = 1350 / 4.375 = \) which is approximately 306 Students. This is summarized as per the table below;

**Table 3.2: Sample and Population Information**

<table>
<thead>
<tr>
<th>Campus</th>
<th>Number of Students(N)</th>
<th>Sample Size (N)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>KISE Main</td>
<td>438</td>
<td>99</td>
<td>23%</td>
</tr>
<tr>
<td>Kericho</td>
<td>137</td>
<td>31</td>
<td>23%</td>
</tr>
<tr>
<td>Migori</td>
<td>54</td>
<td>12</td>
<td>22%</td>
</tr>
<tr>
<td>Sigalagala</td>
<td>246</td>
<td>56</td>
<td>23%</td>
</tr>
<tr>
<td>Shimo La Tewa</td>
<td>96</td>
<td>22</td>
<td>23%</td>
</tr>
<tr>
<td>Thika</td>
<td>379</td>
<td>86</td>
<td>23%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1350</strong></td>
<td><strong>306</strong></td>
<td><strong>23%</strong></td>
</tr>
</tbody>
</table>

Source; KISE (2018)

3.4 Data Collection Method

The data used in this study was primary in nature. The researcher used questionnaire as a data collection tool in gathering information from respondents on existing phenomena.

According to Helen (2015) a questionnaire is a formal and standardized set of questions aimed at obtaining information from selected respondents.
The questionnaire was organized into four sections. Section one addressed the demographic or biodata of the respondent and section two of the questionnaire addressed the transaction volume effect on mobile money payment services, Section three and four tackled perceived risk as a factor affecting mobile money payment services adoption and section effect of transaction costs on adoption of Mobile Money payment Services respectively. The researcher sought formal permission from the Kenya Institute of Special education to carry out the study. The questions were structured both using closed ended approach on a 5-point Likert scale and open ended approach.

This method has an advantage of being able to allow the researcher gather information from a large audience as it is cheaper compared to other methods. It was appropriate for this study because the respondent were school based students with few days in their respective campuses and therefore this method allowed faster and quicker data collection.

3.5 Research Procedures

The questionnaires were designed based on the research questions. The questionnaires which included both closed-ended and open-ended questions were distributed to various KISE campuses to be given to students and collected after one day. This was achieved through campus team leaders and class representatives.

Before then, a Pilot study to test how valid and consistent the questionnaire was in the achievement of the objective of the study was carried out. The pilot study was conducted randomly on 10 KISE students from the main campus. Pilot study confirmed the instrument to be valid and fit for the study. The questionnaires were then delivered to the participants by the campus team leaders.

In selecting research participants in each stratum, the researcher used a stratified systematic sampling. This technique involves randomly selecting the first participant in class, and systematically selecting the rest of the participants based on the sampling interval. The sampling interval of 5 was determined by divining the population size of 1350 by the sample size of 306. Therefore, after randomly selecting the first student, the questionnaire was issued by the class representative to every 5th student according to their sitting arrangement and collected after class. They were later handed over to the team leader. To assure them of confidentiality, a letter was attached to the questionnaire with clear information on the purpose of the study.
3.6 Data Analysis Methods

Cooper and Schindler (2014) defines data analysis as an activity that involves reduction and accumulation of data to a manageable size, summary development, and identification of patterns and application of appropriate techniques in analysis. During the analysis of descriptive data, the researcher used frequencies, standard deviations and means. The study also used Pearson’s correlation to determine any relationship between variables. This study used Statistical Package for Social Science (SPSS) to do data analysis after sorting and coding of the raw data and findings presented in form of Tables and Figures.

3.7 Chapter Summary

In this chapter, research methodology employed was covered. The study used a descriptive research design; and questionnaires were used in data collection since the data being sort was primary. The study targeted a population of 1,350 KISE students, both undertaking residential and distance learning programs. Data analysis was done with the help of SPSS. Chapter four presents the results and the findings of the study.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the results of the analysis of the empirical data collected from the field. The chapter begins with a general description of the data based on the respondents’ demographic information: gender, age, education and marital status. The chapter proceeds by logically presenting the findings in response to the research questions and ends by giving a summary.

4.2 Response Rate

Exploring demographics as variables provides in-depth information about the nature and the adequacy of the actual participants in the study as a rationale that the sample was representative of the population and the result of the study can be generalized. In this study, the researcher focused on six demographic information of the respondent. A total of 306 questionnaires were taken to the field, out of which 254 were collected by the researcher translating to 83% response rate.

4.3 Demographic Information

4.3.1 Gender of Respondents

Majority of the respondents, 143 (56.3%) were female, 89 (35.0%) were male while the rest 22 (8.7%) did not indicate their sex. Figure 4.1 below shows distribution of respondents based on their sex.

![Figure 4.1: Gender of Respondents in the Study](image-url)
4.3.2 Ages of Respondents

It was found that 88% of respondents in the study were between 21 and 40 years, 12% did not indicate their age limit. Figure 4.2 below shows a bar graph showing the distribution of the age of respondents.

![Histogram of Age Distribution](image)

Figure 4.2: Histogram of Age Distribution

Table 4.1 below shows the descriptive statistics of age. The average age was about 31 years with standard deviation of 5 years.

**Table 4.1: Descriptive Statistics of Respondent's Age**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample (n)</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>224</td>
<td>30.9</td>
<td>5.3</td>
<td>21</td>
<td>40</td>
</tr>
</tbody>
</table>

4.3.3 Marital Status

The study showed that more than half of the respondents were married (58%), 33% were single while 9% of the respondents did not indicate their marital status as indicated on Figure 4.3 below.
4.3.4 Current Academic Program

Kenya Institute of special education runs many academic programs which are mainly diploma and certificate courses. It was found from the study that 62.6% of respondents were pursuing diploma in Special Needs Education (SNE), 8.7% were taking certificate in functional assessment, 0.8% were taking certificate in Braille, and 6.7% were taking certificate in Kenyan Sign Language (KSL), 8.3% were taking certificate in Special Needs Education (SNE) while 13% of respondents did not indicate their current academic program at KISE. Figure 4.4 below presents a visual display of current academic programs pursued by respondents. It was further established that there is no significant difference between diploma and certificate students when it comes to adoption of mobile money services.
4.4 Transaction Value and Adoption of Mobile Money Services

The researcher sought to establish whether the amount of money involved in a single transaction affects the extent to which users are likely to adopt or fail to adopt mobile money services. In assessing this phenomenon, the researcher developed and used 12 questions which were further classified into three main sub-themes relating to the transaction value through exploratory Principal Component Analysis (PCA). PCA is a dimension reduction technique that is used to classify a set of closely related items into factors. Using this technique, three factors emerged; i) discomfort in transactions involving a lot of money (PC1), ii) Adequacy of float for mobile money transaction (PC2) and iii) Transaction amount (PC2). Table 4.2 below shows individual questionnaire items classified into their principal components using the extraction method.
Table 4.2: Principal Component Analysis.

<table>
<thead>
<tr>
<th>S/n</th>
<th>Questionnaire Item</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>I will still pay via mobile money payment services regardless of the amount involved in the transaction</td>
<td>-0.46</td>
</tr>
<tr>
<td>2</td>
<td>I have always paid my full fee via mobile money payment services</td>
<td>-0.38</td>
</tr>
<tr>
<td>3</td>
<td>I prefer paying my fees through the bank when the amount I am paying is higher</td>
<td><strong>0.63</strong></td>
</tr>
<tr>
<td>4</td>
<td>Transaction value affects my usage of mobile money payment services</td>
<td>0.45</td>
</tr>
<tr>
<td>5</td>
<td>I consider amount to be transacted before I use mobile money payment service</td>
<td>0.53</td>
</tr>
<tr>
<td>6</td>
<td>I have set a minimum amount I can pay through mobile money payment service</td>
<td>0.49</td>
</tr>
<tr>
<td>7</td>
<td>I find it hard to keep high float in my phone, hence can’t do higher value transaction via mobile money payment</td>
<td><strong>0.57</strong></td>
</tr>
<tr>
<td>8</td>
<td>I find it hard to load money in my phone to pay for services when the amount involved in high</td>
<td>0.70</td>
</tr>
<tr>
<td>9</td>
<td>There should be a limit on how much school fees to be paid via mobile payment services</td>
<td><strong>0.46</strong></td>
</tr>
<tr>
<td>10</td>
<td>I am always uneasy when I pay a lot of money via mobile money payment services</td>
<td><strong>0.59</strong></td>
</tr>
<tr>
<td>11</td>
<td>I always prepare in advance to pay my fees via mobile money payment services regardless of the amount</td>
<td>-0.43</td>
</tr>
<tr>
<td>12</td>
<td>I can only pay higher amount of money through mobile money services in times of urgency and emergency</td>
<td><strong>0.36</strong></td>
</tr>
</tbody>
</table>
4. 4. 1 Discomfort in Transactions involving a lot of Money

Mobile money applications are designed to handle quite substantial amount of money even in single transaction. From the study, it was found that over 97% of respondents have at least settled a bill through mobile money service.

When asked about the frequency with which they use mobile money services, the study showed that about 10% rarely use this service, 28% use it sometimes, 29% often use mobile money and the majority at 33% said they always use mobile money services. The researcher asked respondents about the amount of money they can comfortably pay using mobile money services.

When asked about one’s preference mode of paying school fees in incidences when the amount of money is high, 238 (93.7%) of 254 respondents responded to this question while only 6.3% did not respond. From this, at least 75% of participants prefer paying their fees through the bank when the amount they intend to pay are higher. It was observed that very few, about 6% were doubtful in their response to this question. Figure 4.5 below gives a visual display of specific responses to a question on bank preference over mobile money services in transacting larger amount of money.

Figure 4.5: Back Preference in Larger Transaction
From Figure 4.5 above, a significant number of students at Kenya Institute of Special Education are likely to prefer bank payment as opposed to mobile money service option if they have to pay a relatively large amount of money. Additionally, it was found that 57.9% of respondents submitted that they find it difficult to load a lot of money in their phone to pay for services when the amount involved in high.

The nature of difficulty described by respondents seemed to be a psychological difficulty rather than logistical or financial difficulty of raising the required amount of money they require. More than half of those who said they find it difficulty in loading their phones with much money for fees payment purposes expressed a sense of discomfort in dealing with large amount of money on their phones. In fact, one of the second year students in a diploma course said the following;

“I cannot take chances with my money, what happens to me if network refuses to work...I would rather stay longer on queue than lack peace “Participant

When asked if it will be a good idea to have a limit on how much school fees to be paid via mobile payment services, 28.3% of respondents disagreed with such an ideology as opposed to 24.1% who supported the idea of having a minimum set amount to be paid via mobile money. Clearly, a significant proportion (47.6%) of respondents remained impartial as far as minimum amount of money to be transacted via mobile service was concerned.

The study also revealed that that most students are always uneasy when they pay large amount of money via mobile. In fact, more than half (52.4%) agreed that they are always uneasy compared to only 29.1% who said they do not feel this kind of uneasiness regardless of the amount of money they pay via mobile money. Consider Figure 4.6 below. Further, 62.9% of those who reported to be uneasy when paying a lot of money via mobile money also admitted to that they could only pay higher amount of money through mobile money services in times of urgency and emergency.
4.4.2 Adequate Float for Mobile Money Transaction

For one to perform mobile money transaction, one requires to have adequate float in the mobile money accounts. The researcher examined this aspect among the students at Kenya Institute of Special Education because availability of float in one’s account affects the magnitude and velocity of mobile money transaction.

When asked about their ability to keep sufficient floats in their mobile money accounts, 237 (93.3%) out of the possible 254 respondents answered this question. The study revealed that more than half (52.8%) admitted that they find it hard to keep high floats in their phones as opposed to only 26% who seemed to suggest that keeping high float in their phones was not really a challenge. Additionally, about 15% remained impartial and 6.7% did not respond to this particular item. Consider Figure 4.7 below.

Figure 4.6: Uneasiness Transacting Large amount of Money

- Strongly Disagree: 18.9%
- Disagree: 10.2%
- Somewhat: 11.8%
- Agree: 18.5%
- Strongly Agree: 33.9%
- Non-response: 6.7%

I am always uneasy when I pay a lot of money via mobile money payment services
The study also revealed that at least 40% of students have already set in their mind the maximum amount of money which they can comfortably pay as school fees through mobile money. Though not disclosed during the interview, it can be deduced that their maximum amount of money is significantly low. For instance, many said they avoid having a lot of money in their phones for the purpose of fees payment. However, 21.6% reported that they can still pay their fees through mobile money services regardless of the amount of money they are paying.

When asked about their level of preparedness in paying school fees by keeping adequate float in their phones, the study revealed that majority of students at 43.7% are not usually prepared in advance as compared to 34.7% who reported that they are always prepared to pay as numerically displayed in Table 4.3 below.
Table 4.3: Prepared for Mobile Money Payment

<table>
<thead>
<tr>
<th>Scale</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>67</td>
<td>26.4</td>
<td>27.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>44</td>
<td>17.3</td>
<td>18.2</td>
</tr>
<tr>
<td>Somewhat</td>
<td>43</td>
<td>16.9</td>
<td>17.8</td>
</tr>
<tr>
<td>Agree</td>
<td>53</td>
<td>20.9</td>
<td>21.9</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>35</td>
<td>13.8</td>
<td>14.5</td>
</tr>
<tr>
<td>Response Rate</td>
<td>242</td>
<td>95.3</td>
<td>100</td>
</tr>
<tr>
<td>Non-response</td>
<td>12</td>
<td>4.7</td>
<td></td>
</tr>
<tr>
<td>Grand Total</td>
<td>254</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

4.4.3 Transaction Amount is the Issue

Ordinarily, the amount of money one sends through mobile money services is directly proportional to the transaction charges. One would expect that higher transaction charges for large amount of money could be a hindrance to the adoption of mobile money services among students and other mobile money users. Even though this could be the case, this study revealed that mobile money users considers the amount of money they are transacting as more critical compared to the associated charges. Consider Figure 4.8 below.
From the presentation of the above findings, it is clear that transaction value affects adoption of mobile money services among students and possibly other users of these services. Some of the critical factors under the adoption include the psychological discomfort one may experience when dealing with a substantially large amount of money, the issues of having adequate float on their mobile devices and the fear of handling large amount of money on phone. Before performing linear regression analysis, a correlation between dependent and independent variable was conducted to determine the nature of relationship between these variables and the results presented in Table 4.4 below. There is a negative correlation of -0.15 between mobile money adoption (Y) and discomfort in transacting a lot of money (X1). On the contrary, there is positive correlation of 0.04 and 0.11 between mobile money adoption (Y) and having adequate float in the phone (X2) and transaction amount (X3) respectively.

Figure 4.8: Considering Amount before Transaction

<table>
<thead>
<tr>
<th>I consider amount to be transacted before I use mobile money payment service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree: 44%</td>
</tr>
<tr>
<td>Agree: 23%</td>
</tr>
<tr>
<td>Somewhat: 12%</td>
</tr>
<tr>
<td>Disagree: 5%</td>
</tr>
<tr>
<td>Strongly Disagree: 10%</td>
</tr>
<tr>
<td>Non-response: 6%</td>
</tr>
<tr>
<td>Non-response: 6%</td>
</tr>
</tbody>
</table>

| Strongly Agree: 44% |
| Agree: 23% |
| Somewhat: 12% |
| Disagree: 5% |
| Strongly Disagree: 10% |
| Non-response: 6% |
Table 4.4: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>(Y)</th>
<th>Discomfort(X1)</th>
<th>Mobile float(X2)</th>
<th>Amount Issue(X3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Money Adoption (Y)</td>
<td>1</td>
<td>-0.15</td>
<td>0.04</td>
<td>0.11</td>
</tr>
<tr>
<td>Discomfort (X1)</td>
<td>-0.15</td>
<td>1</td>
<td>0.17</td>
<td>0.23</td>
</tr>
<tr>
<td>Mobile float (X2)</td>
<td>0.04</td>
<td>0.17</td>
<td>1</td>
<td>0.17</td>
</tr>
<tr>
<td>Amount Issue (X3)</td>
<td>0.11</td>
<td>0.23</td>
<td>0.17</td>
<td>1</td>
</tr>
</tbody>
</table>

Accordingly, the researcher conducted a multiple linear regression to determine the significance of each of these factors on the adoption of mobile money transfer and the summary statistics. Table 4.5 shows regression model summary, Table 4.6 shows the analysis of variance and Table 4.7 shows coefficients of the regression model.

Table 4.5: Regression Model Summary

<table>
<thead>
<tr>
<th>R</th>
<th>R Square</th>
<th>Adj. R Square</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.22</td>
<td>0.47</td>
<td>0.34</td>
<td>33.20755</td>
</tr>
</tbody>
</table>

The R-squared from the above tables shows the proportion of variation explained by the regression model independent of the sample size. The adjusted R-squared of 0.34 indicates the proportion of variation explained by the regression model taking into account the sample size. Thus, Table 4.6 above shows that 34% of variations are explained by the regression model.

Table 4.6: Analysis of Variance (ANOVA)

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>239,294.9</td>
<td>3</td>
<td>79,764.98</td>
<td>1458.839</td>
<td>0.015</td>
</tr>
<tr>
<td>Residual</td>
<td>11,864.92</td>
<td>217</td>
<td>54.67705</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>251,159.9</td>
<td>220</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The ANOVA table shown in Table 4.6 above helps to analysis the variance in the model due to regression and residuals. Out of the total variance of 251,159.9, a large portion of variation at 239,294.9 is due to regressor variables in the model and only 11,864.92 of the total variance are due to error/residual. The study concluded from the table above that the regression model explain most of the variation as opposed to occurrences due to chance.
From the regression model above, discomfort in transactions involving large amount of money (Discomfort (X1); 0.01<0.05) and considering the amount of money before transaction (Amount Issu (X3); 0.03<0.05) are more significant determinants than the availability of adequate float on a mobile gadget (Mobileflot (X2); 0.47>0.05) at 95% confidence level.

4.5 Perceived Risk and Adoption of Mobile Money Payment Services

The researcher also sought to examine the extent to which perceived risk affect the adoption of mobile money among students at Kenya Institute of Special Education. The study revealed a range of factors that students perceive to be risks related to payment of fees through mobile money. From the study, it was found that if amount involved a given transaction was held constant, a significant proportion of both the current and potential mobile money users have trust issues with the services. For instance, the study revealed that 38.2% of students at Kenya Institute of Special Education have little trust in using mobile money payment services and 16.1% were not sure about their confidence level in the mobile money payment system.

Out of 244 participants who expressed their confidence issues in the mobile money payment services, 152 (59.8%) admitted that there are many risks involved in paying fees via mobile money such as M-pesa and other mobile money service providers as opposed to less than 20% who seemed not to suggest any awareness of perceived risk involved in mobile money services. From the study, it was evident that more than 75% of respondents suggested some kind of fear using mobile money services. A significant proportion of respondents were particularly concerned on financial and social risks involved in using this service.
Financial risks frequently mentioned included sending money to the wrong account (67%), inability to retrieve lost transaction messages and some hinted to possibility of fraud. Some of the social risks that appear to be of concern to majority of respondents were lack of privacy as one can easily find out the account balance in your mobile account. Figure 4.9 below details a comparative display of perceived financial and social risks involved in mobile money transactions.

![Figure 4.9: Perceived Financial and Social Risks in Mobile Money Transaction](image)

From Figure 4.9 above, it is clear that respondents have a consensus as far as their perception of risk is concerned. It is shown from the table that 63% of respondents admitted that there is financial risk associated with mobile money transaction while 51.6% of respondents admitted that there is social risk involved in mobile money financial transaction. Further, a significant proportion of participants at 63% in this study indicated that they know people who have lost money in the course of transaction using mobile money platforms. This is possibly an example of personal experiences that increase the perceived risk among mobile money users and increases the perceived possibility of vulnerability.

As discussed under section 4.2 of this chapter, more 75% of respondents have ever settled a bill including school fees at some point. Out of these, the study did not find a significant number of complaints with regard to the efficiency of the system.
As it is expected with technology, there are inherent failures in some instances especially due to system errors and thus, it is impractical to find a system without any fault.

With mobile payment platforms, the case may not be very different and a small level of customer dissatisfaction may not be catastrophic. For instance, when asked about how efficiently the institute mobile money system has worked for them in terms of real-time reflection of the payments made, it was found that more than half (51.5%) of respondents were satisfied with the efficiency of system. They reported that all their mobile payments reflected on the fly as opposed to 22.4% who reported profound delays, 11% reported delays though at a tolerable level, 11.8% remained impartial while 3.1% of respondents failed to respond to this particular item. Consider Figure 4.10 below for a visual display of these responses.

![Figure 4.10: Efficiency of Mobile Money Payment Service](image)

Despite the above Figure 4.10 suggesting that a reasonable proportion of mobile money users seem to be satisfied with its efficiency in terms of feedback and response, this study revealed that at least 56% of students at Kenya Institute of Special Education believe that retrieval of evidence when paying via mobile money payment services is not possible. Additionally, 66.9% of those students who pay fees via mobile money service will still keep the message for as long as possible even when the payment has been updated in their account statements.
Test whether the two phenomena are independent of each other, the researcher conducted chi-square test of independence. Table 4.8 and 4.9 below presents a contingent distribution table and the chi-square summary statistics respectively.

Table 4.8: Contingent Distribution Table

<table>
<thead>
<tr>
<th>Scale</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>10%</td>
<td>7%</td>
<td>8%</td>
<td>15%</td>
<td>60%</td>
<td>100%</td>
</tr>
<tr>
<td>Disagree</td>
<td>2%</td>
<td>4%</td>
<td>16%</td>
<td>35%</td>
<td>43%</td>
<td>100%</td>
</tr>
<tr>
<td>Somewhat</td>
<td>13%</td>
<td>7%</td>
<td>30%</td>
<td>13%</td>
<td>37%</td>
<td>100%</td>
</tr>
<tr>
<td>Agree</td>
<td>15%</td>
<td>15%</td>
<td>5%</td>
<td>30%</td>
<td>35%</td>
<td>100%</td>
</tr>
<tr>
<td>Strongly Agree</td>
<td>17%</td>
<td>15%</td>
<td>7%</td>
<td>9%</td>
<td>52%</td>
<td>100%</td>
</tr>
</tbody>
</table>

From the distribution Table 4.8 above, 52% of those who said it are not possible to retrieve confirmation messages also agreed that they keep confirmation messages for the longest time possible. Interestingly, 60% of those who said it is not impossible to retrieve confirmation messages also agreed that they keep the same messages for as long as it is possible.

Table 4.9: Chi-Square Summary Statistics

<table>
<thead>
<tr>
<th></th>
<th>Computed Value</th>
<th>Degrees of Freedom</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>40.167</td>
<td>16</td>
<td>0.001</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>38.623</td>
<td>16</td>
<td>0.001</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>6.082</td>
<td>1</td>
<td>0.014</td>
</tr>
</tbody>
</table>
The hypothesis made on the relation between keeping the confirmation message and a belief that retrieval of such messages is of independence. From the Chi-square Table 4.8 above, it is clear that the p-value for the Pearson Chi-Square test statistic and the Likelihood Ratio (p=0.001<0.05).

We therefore reject this hypothesis at 95% confidence level and conclude that the two phenomena are dependent on each other. This confirms the existence of perceived risk in mobile money transaction regardless of the level of confidence in the efficiency of the platform at the present moment.

### 4.6 Transaction Cost and Adoption of Mobile Money Services

This study also assessed the impact of transaction cost on the adoption of mobile money payment services at Kenya Institute of Special Education. In assessing this aspect, the researcher sought the awareness of participants about the existence of transaction charges, how these charges compare with competitor service providers and the implication of these transaction charges on financial ability of the payer.

It is standard practice that in any financial transaction, there is always friction which is caused by transaction charges. In this regard, it is expected that an average person acknowledges the existence of these charges. From the study, it was found that about 10% of respondents did not understand that there is transaction cost when paying through mobile money services. It is however important to note that at least over 80% reported that they are aware transaction costs exist in the entire framework. Out of this, it was observed that 76.8% were aware that transaction cost varies with the value of transaction, further 12% said they were unwire that transaction costs may vary with the change in the amount of money being transacted.

The study revealed that generally, mobile money services have higher transaction costs compared to other fees payment options available to students at Kenya Institute of Special Education. It was found that 54.7% of respondents in this study avoid paying their fees through mobile money platforms because transaction costs are just too high as opposed to only 26.8% who did not seem to care much about transaction costs.
The study also revealed that 53.5% of respondents know how much they are charged any time they use mobile money payment service. The rest seemed oblivious of the charges when they pay using mobile money services, but still expressed a concern that these charges are too high for them.

It was observed that over 60% of mobile money service users take very keen interest on how much they are charged before proceeding with the transaction. Consider Figure 4.11 below.

![Figure 4.11: Conscious of Transaction Charges](image)

The study also revealed that 53.5% of respondents know how much they are charged any time they use mobile money payment service. The rest seemed oblivious of the charges when they pay using mobile money services, but still expressed a concern that these charges are too high for them.

It was observed that over 60% of mobile money service users take very keen interest on how much they are charged before proceeding with the transaction. Consider Figure 4.11 below.

![Figure 4.11: Conscious of Transaction Charges](image)

**Figure 4.11: Conscious of Transaction Charges**

It is clear from Figure 4.11 above that most students are always keen to know the transaction costs before proceeding with their payment. It was reported that at least 38% have complained about the high transaction cost they have to incur while using mobile money services. Further, 40.2% of respondents admitted that they have cancelled transactions before when they notice that the transaction costs are too high. As a result of high transaction charges, more than half of respondent prefer other payments moods.

**4.7 Chapter Summary**

This chapter presented the findings of the study as per the research questions. From the findings, it was observed that perceived risk, transaction volume and transaction cost affects the adoption of mobile money payment services. Chapter five presents the discussion, conclusions and recommendations based on the findings of the study.
CHAPTER FIVE

5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the interpretation and significance of the main results and findings of this study in addressing the research questions in the context of the reviewed literature. The chapter begins by giving the summary of key aspects of the research, discussions on specific findings, conclusions based on empirical evidence and recommendations to inform practice and further research.

5.2 Chapter Summary

The purpose of this study was to determine factors affecting adoption of mobile money payment services by students at institutions of higher learning in Kenya using Kenya Institute of Special Education (KISE) as a representative case study in which 306 out of 1,350 students were sampled. In particular, the study sought to address the following: 1) whether the transaction value determine the adoption of mobile money payment services, 2) the extent to which perceived risk affect mobile money payment services adoption among and 3) whether mobile money transaction costs influence the adoption of mobile money payment services by Kenya Institute of Special Education students.

To achieve the overall objective of the study, the researcher upheld high scientific standards throughout the enquiry process. A descriptive research design was adopted due to its underlying philosophy of exhaustively describing the existing phenomenon accurately. As such, systematic sampling was used in selecting participants across all the KISE campuses involved in the study. To avoid sampling bias and possible instances of underestimated sample sizes, Yamane’s formula was used in determining the appropriate sample size. Each respondent was given a self-administered questionnaire on which they were to read, consent before proceeding to respond to the questions.

The researcher collected questionnaires from participants; put in enclosed envelopes and labelled them appropriately. Upon collecting all the questionnaires from different centres, the quantitative data was coded using numeric codes in SPSS while qualitative data was categorised into sub-themes in response to the research questions. The data was cleaned
by performing pre-estimation diagnostics, noting and eliminating inconsistencies and outlier responses from the data.

Qualitative and quantitative data was analysed simultaneously using concurrent triangulation approach where each set of data was used to complement the other and findings presented in form of Tables, Figures, proportions and continuous narration.

The first research question was to determine whether transaction value has an effect on adoption of mobile money payment services by students in institutions of high learning. It was established that most of the students experienced fear and uneasiness when payment involved large sums of money. The study established that the amount of money a student need to pay as school fees determines their likelihood of using mobile money as a payment option. It was found that students were more likely to pay their fees using mobile money payment options if they wish to pay small amount. On the other hand, students were less likely to pay their fees using mobile money services if they have to pay a lot of money at once.

The second research question was to assess the extent to which perceived risk affect mobile money payment services adoption among students in institutions of high learning. The findings of the study indicated that users have perceived risk on the usage of mobile money payment services. Majority of respondents reported that they experience fear and uneasiness in paying a lot of money through mobile money service. Similarly, a significant proportion of students also reported that since they are not usually willing to pay a lot of their fees using mobile phones, they avoid having higher floats. Perceived risk based on hearsay also come out strongly as one of the factors negatively affecting adoption of mobile money services among students at Kenya Institute of Special Education.

The third research question was to determine whether mobile money transaction cost affected the adoption of mobile money payment services. The study revealed that students in institutions of higher learning perceive mobile money services as having higher transaction costs compared to other fees payment options available. Therefore, most of the students would often prefer other fees payment options to avoid incurring transaction costs associated with mobile money.


5.3 Discussion

5.3.1 Transaction Costs and Mobile Money Payment Services

Chen, Chen, and Carpenter, (2018) and Koloseni and Mandari (2017), in all their studies agree that transactions costs for mobile money payment services are low. Contra to this study which revealed that mobile money services have higher transaction costs compared to other fees payment options available to students at Kenya Institute of Special Education.

It was found that 54.7% of respondents in this study avoid paying their fees through mobile money platforms because transaction costs are just too high as opposed to only 26.8% who did not seem to care much about transaction costs. Masha (2016)’s conclusion during a workshop organized by London School of Economics and Political Science in Freetown, Sierra Leone agrees that transaction costs made mobile-based payment systems accessible to few people.

As earlier stated, transaction costs depends on the volume of transaction. During this study, the researcher noted that more than 60% of the responded cited other factors that deter them from paying via mobile money. This finding therefore agrees with the study done by Micheni, Lule, and Muketha (2013) on transaction costs and facilitating conditions as indicators of the adoption of mobile money services in Kenya. The findings indicated that transaction costs do not affect mobile money payment services adoption but the role played by mobile money service providers in financial inclusion do.

The study showed 53.5% of respondents know how much they are charged any time they use mobile money payment service. It also indicated that mobile money payment service users take very keen interest on how much they are charged before proceeding with the transaction. This contradicts findings by Koloseni and Mandari (2017) who was investigating the reasons behind the continual usage of mobile phone payment services by Tanzanians. In his study he found out that although satisfaction towards mobile money services is determined by both perceive trust and cost, only perceived trust influences users’ adoption of mobile money services more than perceived transaction cost.

From the findings, it came clearly that there is relationship between cost of transaction and the volume of the transaction. It was observed that 76.8% of respondents were aware that transaction cost varies with the value of transaction.
This findings contradicts findings by Aron (2015). While doing a study on nature and economic implications of mobile money payment services he noted that mobile money payment is predominantly in poorer, cash-based countries which are characterized by transactions of very small amounts or volumes. The finds of the researcher further observed that transactions of small amounts have higher transaction costs.

Although the findings indicated that most respondents had stated that transaction cost for mobile payment services was high, while doing an analysis of impact of online payment systems and ecommerce in China Osafo-Kwaako, Singer, White and Zouaoui (2018) differs with this findings. The researchers noted that with the growing of science, mobile technology, computer as well as network technology, mobile money payment has become a routine in human life and therefore mobile payment has and advantages of reducing paper work, transaction costs and even labour costs.

5.3.2 Perceived Risk and Mobile Money Payments Services

The issue of perceived risk among the KISE students came out clearly from the research findings. The research showed that 38.2% of students at Kenya Institute of Special Education had very little trust in the use of mobile money payments services. This is in line with the finding by Baganzi (2017). Who noted that perceived risk is a significant factor that influences the adoption and intent towards the use of mobile money payment systems. The researcher found out that most mobile money payment users have a perception of losing their money and even information. This was seen from the respondents when asked whether they are able to retrieve information after using the mobile payment services. Those who responded to this question, 52% said it is not possible to retrieve confirmation. But then, 60% of those who said it is not impossible to retrieve confirmation messages also agreed that they keep the same messages for as long as it is possible.

There was some question on which risk the respondent felt mobile money payment services pause. Sixty three percent of respondents admitted that there is financial risk associated with mobile money transaction while 51.6% of respondents admitted that there is social risk involved in mobile money financial transaction. Further, a significant proportion of participants at 63% in this study indicated that they know people who have lost money in the course of transaction using mobile money platforms.
This findings are in agreement with those of Chen et al., (2018) in his qualitative study on why individuals in China have embraced the use mobile payments services. In the study, some interviewees perceived several risks associated with mobile money payment usage. These risks made most of them discontinue the use of the service. The risks found by the researcher were; Performance risk, financial risk and privacy risk or social risk.

On the risk of losing money as indicated by 63% of respondent who had said they know people who had lost money through mobile money payment system, Baariu, (2015) in his study on factors influencing subscriber adoption of mobile payments services in Embu, did recommend that organizations using mobile money payments services to develop a more robust system that will minimize the perceived risk of losing money, such as provision of a method of confirming the identity of the business one has registered on the system, being able to bridge the gap that may exist between various organizations and mobile money service providers especially those providing pay bill services where there is involvement of other stakeholders and prompt cancellation of wrong transactions.

From the study, it came out that some respondents had known people who had lost money through payment via mobile payment services. The issue of security in this method of payment was noted by Mbele-Sibotshiwe (2014), while doing a research on perceptions and adoption of mobile payment Platforms by entrepreneurs in Zimbabwe's informal economy. He noted that even with PIN which is meant to give transaction confidentiality, authentication, integrity of the data, still Zimbabweans doubted how secure the system was.

There were 11% of respondents who reported delays though at a tolerable level when asked about the how effective the system was. This response is in line with performance defined by Chen et al. (2018) in his qualitative study on why individuals in China have embraced the use mobile payments services. He defined performance risk as a possibility that money payment system may fail to perform. The study noted that the interviewees focused much on security and therefore the study renamed the performance risk to the security risk. The study did find out concerns that the authorization and authentication procedure may be compromised or were not sophisticated enough and hence no adequate protection against attack.
However, Despite the above some responds give suggestions of performance risk, a reasonable proportion of mobile money users seem to be satisfied with its efficiency in terms of feedback and response, this study revealed that at least 56% of students at Kenya Institute of Special Education believe that retrieval of evidence when paying via mobile money payment services is not possible.

5.3.3 Volume of Transaction and Mobile Money Payment Services

The research found out that significant number of students at Kenya Institute of Special Education will prefer paying their fees to the bank other than use mobile money payment services. It was found that 57.9% of respondents submitted that they find it difficult to load a lot of money in their phone to pay for services when the amount involved in high.

This finding was found to be in line with research by Aron (2015) in his study on nature and economic implications of mobile money payment services. He noted that transactions of small amounts have higher transaction costs but still in such environment, mobile money payment services still outclass any competitor that might exist like banks and money transfer companies. He noted that the users of these services prefer to transact in small amounts otherwise banks are involved.

Maurer (2010) as cited by Kremersand Brassett (2017) findings were that volume of the transaction could affects adoption of mobile money payment system. They argued that since what is a small fee for the service provider may be viewed differently by the user. Contra to their findings, this study found out that that mobile money user considers the amount of money they are transacting as more critical compared to the associated charges.

The findings had 75% of the respondents confess that they prefer paying their money in the bank accounts when the amount of transaction are higher or more. This findings contradicts findings by Omwasa (2012). In his study of modelling adoption of mobile money by the poor in Nairobi, the researcher found out that his respondents could not access banks for banking even for their small amounts of money. Those interviewed blamed lack of cheaper banks for their small amounts of money. Small traders in the research were not able to find cheap banks to bank accounts to transact their low volume of cash. Looking at their frequency of deposits, the banks looked more expensive.
Most responded when asked if they are comfortable loading a lot of money in their phone for the purpose of paying fees, they said they are not comfortable. They face some psychological disturbance. However, this goes contra to United States Agency for International Development (USAID) (2012) findings. In their findings, the article noted that most people are very comfortable having their money in their phones for meeting their payment needs.

It came out clearly from the article that having money in the mobile helps in paying for fees, services and goods effectively and efficiently. This also saves them the time of travelling long miles to do transactions of a small volume of cash. Despite higher penetration of mobile money payment services in Singapore as per VISA (2015), it is clear that Singaporeans use mobile money services to pay for goods and services of small volume of money, especially Supermarket, fast food restaurants and transportation points with respondents’ statistics of 45%, 35% and 31% respectively.

This agrees with the findings of this research. From the findings of this research, less than 35% of students were comfortable paying their fees involving large amounts. Some of the respondents were uncomfortable in using the mobile payment services in paying large amount of money because of the cost implication. This finding was in line with the findings of Lonie (2007), Biljon and Kotzé (2008) as cited by Kithinji (2016). The researchers while doing a study to find out factors that influence adoption of mobile money payment services among institutions of higher learning in Kenya, alluded that the cost of using banking services for small volume or amounts for local and international transactions is seen to be expensive hence probes use of alternative financial modes like mobile money payment services.

In response to the question of how the transaction volume can affect the use of mobile payment system, one respondent said, “I cannot take chances with my money, what happens to me if network refuses to work...I would rather stay longer on queue than lack peace”. This fear could only be handled by interconnection of mobile phones so that not one MNO operator dominates. This was done by MNO operating in Srilanka, Pakistan and Tanzania according to Report by Hoernig and Bourreau (2017). This was meant to make sure that volume of transaction does not deter people from access and adopting mobile money payment services.
5.4 Conclusions

5.4.1 Transaction Costs and Mobile Money Payment Service

Transaction cost has been seen from the study as one of the key things that is likely to deter the students from using the mobile money payment services. It was evidenced from the research that most of the respondent felt that transacting no need to pay via mobile money payment services when the amount is huge because the transaction cost would be high.

From the research it was clear that most respondents understood the transaction cost before undertaking any transaction via mobile money payment platform. Most of them stated that the costs are just too high.

5.4.2 Perceived Risk and Mobile Money Payments Services

Perceived risk was found to somehow deter users from using mobile money payment services. The researcher noted that most of the respondent had perceived risk of losing the information which acts as evidence of payment. The issue of perceived financial and social risk came out as well. This is because; the respondents had doubt on the privacy and security of using mobile money payment services.

5.4.3 Volume of Transaction and Mobile Money Payment Services

From the study, it was evident that over 97% of students have at one point met their financial obligation using mobile payment option, however, over three quarters of them only pay less than an eighth of their total obligation using mobile option. Put differently, mobile users would prefer using traditional banking options when transacting large amount money. Secondly, it was observed that majority of mobile users think transacting large amount of money is very costly.

In conclusion it is clear that fear of transacting large amount of money through mobile payment services and fear of higher transaction charges underlay slow adoption of mobile money payment services among students in Institutions of higher learning including Kenya Institute of Special Education. The researcher therefore concludes that ways need to be found to make it possible to demystifying perceived risks and above transaction related issues among current and potential users, even if it takes sharing transaction costs.
5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Transaction Costs and Mobile Money Payment Service

The researcher recommends that the users paying via mobile money payment services be informed in advance the charges implication the transaction is likely to have. If it is possible, to motivate more the current users of this service and even motivates the prospective users, it is recommended that transactions costs be shared by both the Institution and the Students. On other hand, the mobile money payment service provider needs to revise or justify transaction costs of mobile money payment.

5.5.1.2 Perceived Risk and Mobile Money Payments Services

To handle the perceived risk among the users of this mobile money payment service, it is recommended that the Institute should acknowledge receipt of payment formal to students promptly. The reflection of the amount paid to the student statement should also be seen in real time. The researcher recommends further that at one point, the user needs to be taken through what it entails to pay via mobile money to avoid unnecessary suspicions.

To the service provider, the researcher recommends that there should be proper wireless connectivity and enhance network infrastructure to avoid transaction delays. This is because with delayed transactions, the user may have perceptions that can affect the whole process.

5.5.1.3 Volume of Transaction and Mobile Money Payment Services

It is recommended that, because not transacting with higher value of money has a perceived risk in it among the users, confidence need to be built through creation of awareness and even justification that the transaction cost incurred on transacting higher value of money cannot be compared to time wasted on the queue and even the risk of carrying the cash. However, the service providers of these money payments platforms need also to motivate the users to embrace higher volume transactions by reward systems or even lowering and harmonising the costs.
5.5.2 Recommendations for Further Research

The researcher recommends that further study be done to examine trends and perception in other sectors on the inefficiencies of mobile money services in their entrepreneurial endeavours. In the modern business landscape, there is a general tendency towards digitizing payments from retail shops, online shops through to groceries. A research need to be done to establish if the factors affecting adoption of mobile money payment services in education also affects other sectors.
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KITHINJI, J. M. (2016). Factors influencing adoption of mobile money services among
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Mbele-Sibotshiwe. (2014). *A study of the perceptions and adoption of Mobile Payment Platforms by entrepreneurs in Zimbabwe’s informal economy*.


Payment Digitisation: (2017).

PwC. (2017). Mobile proximity payment 5 things retailers should know.


APPENDIX I: Introductory Letter

Ayiesa N.
Ohese United States International University - Africa
+254-725494504
nohese@usiu.ac.ke
16th -April -2018

Dear Respondent,

I am undertaking a Masters of Business Administration (MBA) degree at United States International University’s Africa (USIU) -Majoring in finance. As a requirement for partial fulfillment of the requirement for the degree, I am undertaking a research project on “determination of factors affecting adoption of mobile money payment services by students at Institution of higher learning: Case study of Kenya Institute of Special Education”

I would be grateful if you could take your 5-10 minutes to complete the questionnaire attached which is a data collection tool for my study. Please be objective when filling in the questionnaire.

Your confidentiality is guaranteed, therefore please do not indicate your name on the questionnaire. For any queries, concerns and point of clarifications about the enclosed questions, do not hesitate to contact the undersigned person through the address provided above

I highly appreciate your time and thank so much.

Yours Sincerely,

Ayiesa N. Ohese
MBA Student-Researcher
United States International University-Africa
APPENDIX 2: Questionnaire

Kindly assist me in this research work by filling in this questionnaire. As you give your honesty input, the researcher would like to assure you that the information gathered will be confidential. Do not indicate your name anywhere on this questionnaire.

SECTION A: GENERAL INFORMATION

This section asks some ordinary questions about you. Kindly tick (□) the most appropriate answer below:

Gender:
   a. Male [ ]       b. Female [ ]

Age bracket:
   a. 21 - 25 [ ]       b. 26 - 30 [ ]       c. 31 - 35 [ ]       d. 36 – 40 [ ]

What is your highest level of Education?
   b. College Certificate [ ]       b. Diploma [ ]
   c. Degree [ ]       d. Any other

   specify)…………………………

What is your marital status?

   Single [ ]       b. Married [ ]

What course are you pursuing?

   Diploma in Special Needs Education [ ]
   Certificate in Special Needs Education [ ]
   Certificate in Kenya Sign Language [ ]
   Certificate in Braille [ ]
   Certificate in Functional assessment [ ]
Have you ever settled your bills via mobile money payment systems?

No. [ ]  b. Yes [ ]

If yes, which mode did you use?

Yu- Cash. [ ]  b. M-Pesa. [ ]  c. Airtel Money. [ ]  b. T-Cash. [ ]

How often do you use these mode(s)?

<table>
<thead>
<tr>
<th>Frequency fuse</th>
<th>Always (4)</th>
<th>Often (3)</th>
<th>Sometimes (2)</th>
<th>Rarely (1)</th>
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<tr>
<td>Tick as appropriate</td>
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</table>
SECTION B: EFFECT OF VALUE OF TRANSACTION ON MOBILE MONEY PAYMENT SERVICES ADOPTION.

Kindly tick (□) following the scale provided below by indicating the extent to which you agree with the following statements.

Strongly Agree=5, Agree=4, Somewhat=3, Disagree=2, Strongly Disagree=1

<table>
<thead>
<tr>
<th>STATEMENT</th>
<th>1</th>
<th>2</th>
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<tr>
<td>I will still pay via mobile money payment services regardless of the amount involved in the transaction.</td>
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<td>I have always paid my full fee via mobile money payment services.</td>
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<td>I prefer paying my fees through the bank when the amount I am paying is higher.</td>
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<td>Transaction value affects my usage of mobile money payment services.</td>
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<td>I consider amount to be transacted before I use mobile money payment services.</td>
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<td>I have set a minimum amount I can pay through mobile money payment services.</td>
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<td>I find it hard to keep high float in my phone, hence can’t do higher value transaction via mobile money payment.</td>
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<td>I find it hard to load money in my phone to pay for services when the amount involved is high.</td>
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<td>There should be a limit on how much school fees to be paid via mobile money payment services.</td>
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<td>I am always uneasy when I pay a lot of money via mobile money payment services.</td>
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<td>I always prepare in advance to pay my fees via mobile money payment services regardless of a mount.</td>
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<td>I can only pay higher amount of money through mobile money services in times of urgency and emergency</td>
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</table>
SECTIONC: EFFECT OF PERCEIVED RISK ON MOBILE MONEY PAYMENT SERVICES ADOPTION

Kindly tick (□) following the scale provided below by indicating the extent to which you agree with the following statements.

Strongly Agree=5, Agree =4, Somewhat =3, Disagree=2, Strongly Disagree=1

<table>
<thead>
<tr>
<th>STATEMENT</th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td>There are risks involved in paying fees via mobile money payment services.</td>
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<td>There is possibility of incurring financial risk when using mobile money</td>
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<td>payment services.</td>
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<td>I have little trust in using mobile money payment services.</td>
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<td>There is a social risk in use of mobile money payment services</td>
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<td>Retrieval of evidence when paying via mobile money payment services is</td>
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<td>not possible.</td>
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<td>There is a risk of sending money to a wrong account when using mobile</td>
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<td>money payment services.</td>
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<tr>
<td>I know people who have lost money through mobile money payment services</td>
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<td>There is a risk of lack of privacy when using mobile money payment</td>
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<td>services.</td>
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<td>My fee statement sometimes does not reflect amount paid via mobile</td>
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<td>money payment services.</td>
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<td>There is a risk of depositing money in a wrong student account using</td>
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<tr>
<td>mobile money payment services.</td>
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<tr>
<td>After using mobile money payment services, I always keep confirmation</td>
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<td>messages for future references.</td>
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What other major risk do you think mobile money payment services poses?

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SECTION D: EFFECT OF TRANSACTION COSTS ON ADOPTION OF MOBILE MONEY PAYMENT SERVICES.

Kindly tick (□) following the scale provided below by indicating the extent to which you agree with the following statements.

Strongly Agree=5, Agree=4, Somewhat=3, Disagree=2, Strongly Disagree=1

<table>
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<tr>
<th>STATEMENT</th>
<th>1</th>
<th>2</th>
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<tr>
<td>I understand that there is transaction cost when paying through mobile money services.</td>
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<tr>
<td>I prefer payment via mobile money because they have cheaper transaction costs</td>
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<td>I know how much I am charged any time I use mobile money payment services.</td>
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<td>I am always keen on the amount of transaction cost change when I use mobile money payment services.</td>
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<tr>
<td>The transactions costs incurred when paying fee through mobile money payment services are communicated to me in advance by the Institute</td>
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<td>After realizing the transaction cost are higher, I have always cancelled my transaction and reverted to other payments modes</td>
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<td>I am aware that transaction cost varies with the value of transaction.</td>
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<td>I have at one point complained about the cost of transaction charged on me when paying my school fees</td>
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<tr>
<td>With higher value, the transaction costs are higher hence prefer other modes of payment other than mobile money payment services.</td>
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</table>

THANK YOU