

UNIVERSITY OF CAPE COAST

THE IMPACT OF ELECTRONIC MONEY TRANSACTIONS ON A
CASHLESS GHANA: THE CASE OF MTN MOMO



BY
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Administration degree in Finance.

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DECLARATION

Candidate's Declaration

I hereby declares that, this dissertation is the result of my own original research, and that, no part of it has been presented for another degree in this University or elsewhere.

Candidate's Signature:

Dated:

Name: David Kojo Flika

Supervisor's Declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guideline on the supervision of the dissertation laid down by the University of Cape Coast.

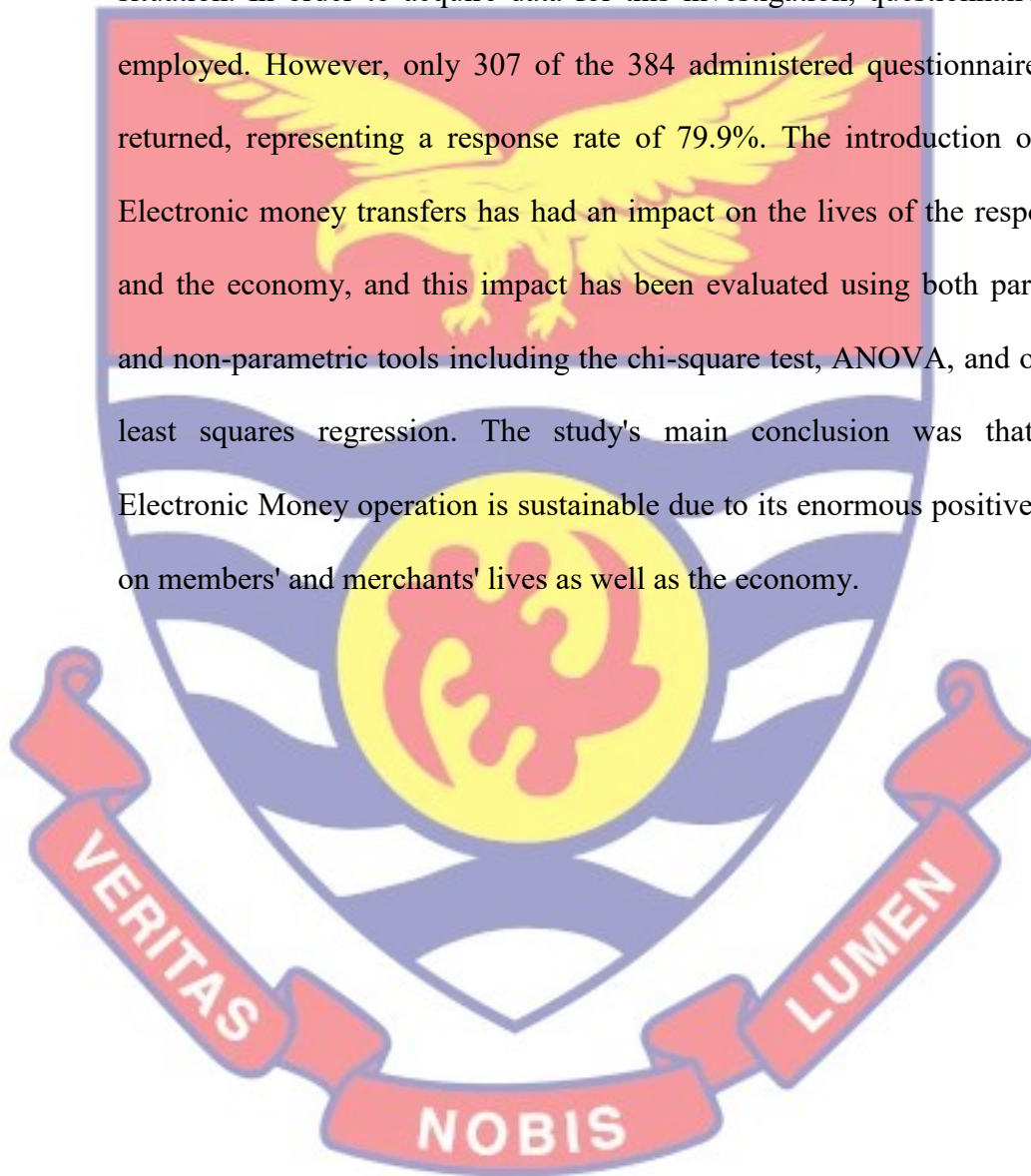
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ABSTRACT

The purpose of this study is to evaluate How Electronic Money Transactions Affect a Cashless Ghana: The Case of MTN-Ghana. The study used a descriptive design as its tool since it allows for a methodical description of the situation. In order to acquire data for this investigation, questionnaires were employed. However, only 307 of the 384 administered questionnaires were returned, representing a response rate of 79.9%. The introduction of MTN Electronic money transfers has had an impact on the lives of the respondents and the economy, and this impact has been evaluated using both parametric and non-parametric tools including the chi-square test, ANOVA, and ordinary least squares regression. The study's main conclusion was that MTN Electronic Money operation is sustainable due to its enormous positive effects on members' and merchants' lives as well as the economy.



KEY WORDS

Mobile Money (MOMO)



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DEDICATION

To my family for their support and encouragement for the successful completion of my course.



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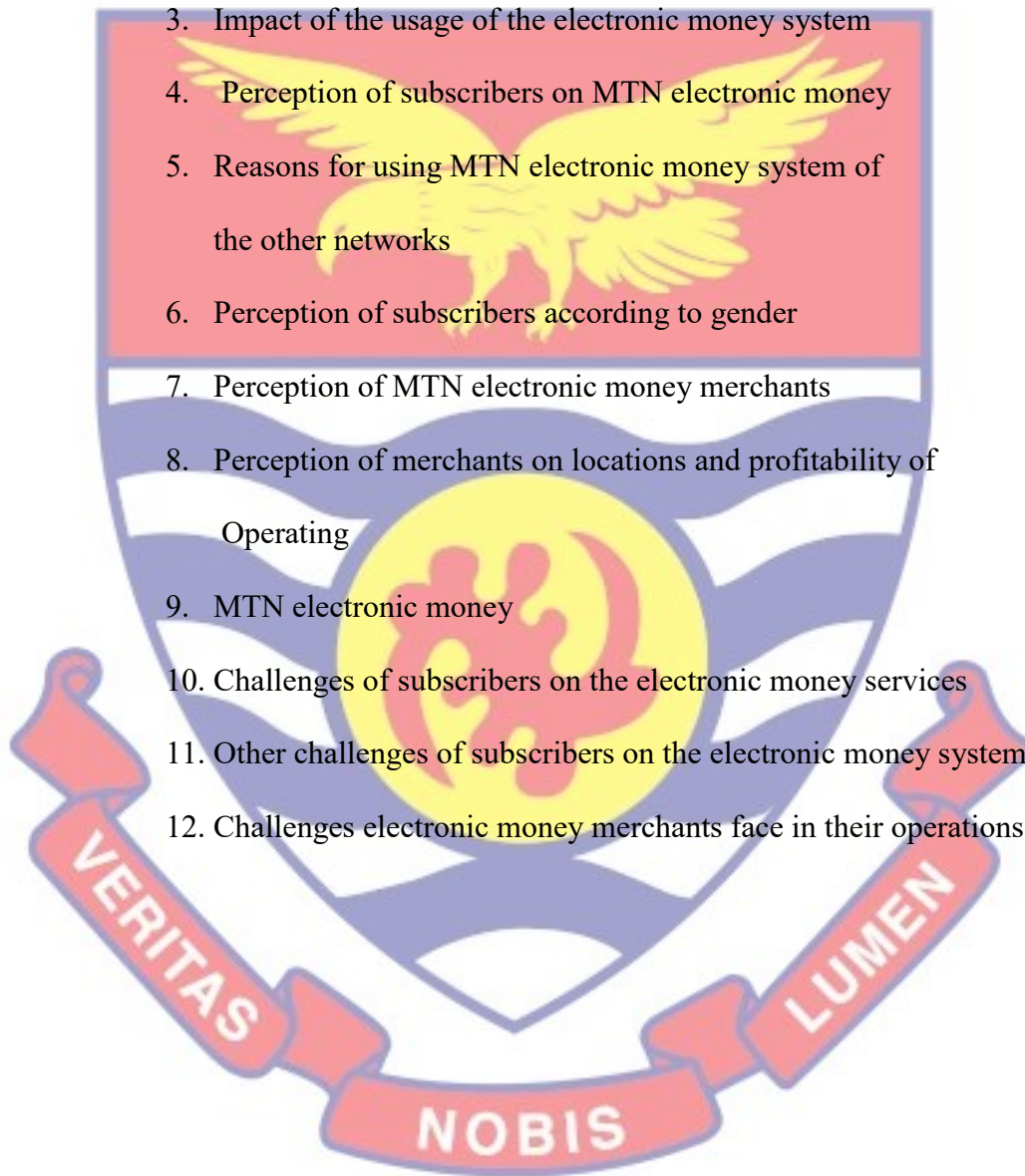
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CHAPTER ONE

INTRODUCTION

The conventional method of bringing together people in different places may be through the usage of telephone fixed lines. Cell phones were uncommon in Ghana until the early 1990s. In the year 2000, mobile phone use among the populace barely started to spread widely. Thankfully, technology has advanced; credit for this goes to ongoing learning and study. Nowadays, there are better, faster, and more practical ways to communicate and interact with individuals all around the world. According to Akutey (2013), a cell phone is progressively a part of every household. Despite the benefits they have over fixed line telephones, the main use of mobile phones was for communication. Alternative uses for cell phones have however evolved as a result of study, invention, and technology.

Cash continued to be the principal method of completing these transactions before the advent of technological innovations according to Tee and Ong, (2016). The efficiency, danger, and convenience of this conventional method have been criticized from the perspectives of the sender and the receiver. Researchers and practitioners alike have predicted that the advent of cashless systems will provide a remedy for the issues brought on by the use of conventional payment or business transaction methods, Paul and Friday, (2012). In the twenty-first century, electronic money transfers are one such application. The impact of electronic money transactions on a cashless Ghana was examined by this researcher in The Case of MTN MoMo.

Background to the study

Historically, connecting people in different places has typically been done using telephone fixed lines. Better and faster ways of connecting with individuals around the world have evolved as technology develops and research advances. In Ghana, cell phones weren't common until the early 1990s. Only after 2000 did the general populace start using mobile phones often. Today, Akutey, more and more families have a cell phone (2013). Despite the advantages they have over fixed-line telephones, mobile phones were mostly used for communication. The range and alternate uses of cell phones, however, have increased thanks to study, invention, and technology. In the 21st Century, electronic money transactions are one example of such a use.

By 2015, according to Minischetti and Scharwatt (2016), Rwanda, Chad, Liberia, Burundi, Cameroon, Democratic Republic of the Congo, Gabon, Uganda, Lesotho, Guinea, Paraguay, Madagascar, Ghana, Swaziland, Ghana, Tanzania, Zimbabwe, Zambia, and other nations had joined the world's pioneers, like Kenya, in electronic money transactions. Global Mobile Systems Association [GMSA], (2014) estimated that 61 million active Electronic Money Transaction were attached to Electronic Money Transaction worldwide, up from a 37 million in 2012. At the end of 2012, according to the GMSA (2014), there were more bank accounts than EMT accounts, 2.5 billion in total.

The M-Pesa experience was brought to life in Africa by a student's software development project from Kenya's Safaricom. By enabling simple financial banking-led savings using phones, the Electronic Money Transaction

revolution has improved livelihood in Kenya, Demombynes & Thegeya, (2012). Due to Safaricom's widespread use in 2010, M-Pesa had achieved success. By year's end 2012, it had its registered account stock reach a record 17 million. Other African nations imitated M-Pesa after it was introduced in Kenya. The Electronic Money Transaction services provided by MTN in Uganda were responsible for 15% of the company's overall income in 2008; a fifth of Uganda's economic transactions were carried out using these services (MTN Uganda, 2009). The Nigerian experiences with mobile services after MTN Cameroun in 2010 might be discussed. While Nigeria's service was more banking-led than telecom-led in Kenya PriceWaterHouse Coopers [PWC], (2016).

Ghana's day of the Electronic Money Transaction regime, which included MTN Electronic Money Transaction, Tigo Cash, Airtel Money, and Vodafone Cash, was created in 2009 and promoted financial inclusion. It may have been inspired by Safaricom M-Pesa in Kenya's market (National Communication Authority Ghana [NCA], 2012). AirtelTigo and Vodafone also debuted the AirtelTigo Cash and Voda Cash after the successful launch of MTN Electronic Money Transaction. According to the PWC (2016), Ghanaian Electronic Money Transaction has partnered with the Bank of Ghana and other industry participants to successfully harness global experiences. According to NCA (2014), remittance/fund transfer was the primary focus of electronic money transactions. Statistics on Ghana's electronic money support a better level of trust in the service. As a result, the usage of electronic money in Ghana is a new tool for a

highly regarded financial inclusion. (PWC,2016). To ensure its survival, nevertheless, the problem of fraud must be addressed.

The voice call market data for Ghana by year's end in February 2015, according to NCA (2015), showed an increase of 398,649 (1.3%) value subscribers between January and February 2015. There were 31,028,253 subscriptions recorded. By 173,496 subscribers (43.52% of the overall market gain) during the same period (January - February 2015), MTN maintains its dominant dominance. NCA (2015) also contributed to a 173,496 growth in MTN's mobile voice. In Ghana, Sogbodjor (2015) hypothesized a substantial increase in cell phone usage. His data provides an estimated ratio of one person to one mobile phone. MTN Electronic Money Transaction would be a force to be reckoned with given the market's high phone penetration (45.49%) in Ghana.

The EMT sector is still expanding in countries and regions, according to Pénicaud and Katakam's (2013) analysis. By the end of 2013, for instance, 219 transactions were reported in just 84 countries. Electronic Money Transaction services are no longer a concern; rather, the question is how to support the nascent technology-oriented sector Pénicaud & Katakam, (2013). In order to better understand its sustainability, this project investigates how the MTN Electronic Money Transaction in Ghana came to be.

Statement of the Problem

Despite the ostensible ease and convenience that mobile money presents, it can be seen that there is a gap between the ownership of mobile phones, adoption or registration of mobile money and the intensity of use of mobile money services in Ghana (Bank of Ghana, 2016). The GSMA (2015) estimates for Ghana show that between 2007 and 2012, only a few thousand mobile money accounts were opened, and millions of potential customers remained beyond the reach of mobile financial providers. The important factors affecting the adoption of mobile money are safety issues such as risk tolerance, account misuse, compatibility, relative advantage, complexity, or simplicity of the impact of adoption (Akomea-Frimpong, Andoh, Akomea-Frimpong, & Dwomoh-Okudzeto, 2019; Gilman & Joyce, 2012). To add to that, the research is to prove these claims in Ghana.

Although Ghana seems to be getting ready to transition to a cashless society, there are still substantial barriers that could stop it from doing so. Researchers have previously studied Ghana's growth in mobile money and an overview of the country's readiness for a cashless system, but little work has been done on a deep analysis of the benefits to growth and potential issues the nation would face before and after adoption. Therefore, the study aims to determine the degree to which MTN Mobile Money has influenced both merchants and subscribers.

Purpose of the Study

This study's major goal is to ascertain how Ghana's transition to a cashless society has been impacted by electronic money transactions. The Emergence and Sustainability of MTN Electronic Money Transactions in Ghana's Greater Accra Region looked at the evolution of electronic money operations through time.

Research Objectives

The study explores the sustainability of Electronic money transactions in Ghana, particularly MTN Mobile Money. The study was carried out in Ghana's Greater Accra Region.

The study specifically sought:

1. To assess the benefits of MTN Mobile Money Transactions usage in the economy of Ghana.
2. To assess the perception of clients on the use of MTN Mobile Money Transactions system
3. To examine the challenges with the use of the MTN Mobile Money Transactions system.

Research questions

1. How has Electronic money transactions usage benefited the economy of Ghana?
2. What are the perceptions of clients on the use of the electronic money transactions system?
3. What the challenges with the use of the electronic money transactions system?

Significance of the Study

The Ghanaian government, working through its central bank, has long proposed using electronic payment methods. Debit cards, checks, gasoline cards, shopping coupons, and similar electronic transaction systems were also available.

A world without cash is free, faster, easier, and more practical. This research aims to conduct a postmortem of the electronic money transaction and determine from its findings if it is sustainable and, if so, whether group designated as the official or informal sector would make it endure.

This study will support the government's efforts to make Ghana cashless. It looks for market prospects to investigate while locating other electronic payment platforms. Additionally, it would expand academic knowledge repositories. In the future, this work might be used as a reference. It could be used by universities to create products for students. If the telecommunications sector wants to maintain the Electronic Money Transaction service, it may also use the research's results and suggestions to enhance service delivery.

Scope of the Study

Every nation, establishment, location, and residence uses money as the primary form of exchange. In practically every community, electronic money transactions are a type of financial transaction. Electronic money is used or accessible by almost all households in Ghana. The long-term viability of electronic money is the primary subject of this study. Workers who employ electronic money transactions in their daily activities from the formal and

unofficial sectors are compared by the researcher. Ghana's Greater Accra Region is the focus of the study, which employs primary data.

Limitations

The world over, researchers encountered a number of challenges in the course of research and this researcher is no exception. There were challenges in administering questionnaires as some respondents were reluctant in giving the questionnaires their time. The recent fraud that has characterized the Electronic Money Transaction industry made the situation even worse as some Electronic Money Transaction account holders carefully shared information. Given the scope of the Greater Accra Region and for the fact that it is the biggest region in the Country and the busy nature of the resident's one can envisage more complex difficulties associated with this exercise.

Organisation of the Study

There are five major categories in this research: background, statement of the problem, research questionnaire, significance of the study, organization and scope of the study. Literature is reviewed in chapter two on the sustainability of Electronic Money Transaction revolution in Ghana. Chapter three discusses the research used in the collection of data. Haven't discussed and analysed the output of the study, the outcome is discussed in chapter four. The last chapter summarizes the outcome and some recommended proposals were also made.

CHAPTER TWO

LITERATURE REVIEW

Overview

The impact of electronic money transactions on a cashless Ghana: The Case of MTN MoMo was the subject of Chapter Two's review of related literature. There were two main sections of this. An overview of mobile money (MoMo) transactions in general comes first. The acceptance of electronic money transactions in Ghana, their importance, and the study's underlying ideas were all topics that were covered in the literature review. The chapter also discussed theoretical issues such how electronic money transactions affect the economy, how individuals view the system for electronic money transactions, and how to use the system effectively.

Theoretical Review

Several theories underpin the ideas in this study. However, much focus is placed on the Theory of Financial Inclusion and Financial theory of monetary inclusion

The Theory of Financial Inclusion

The timely delivery of financial services to underprivileged and low-income people at a fair price is known as financial inclusion (Serrao et al. 2013). It talks about how numerous formal financial services are available and accessible at reasonable costs. The criterion of financial inclusion is used to assess how widely available formal financial services are to the entire population (Uma et al., 2013). Financial theory as a general good and impoverished groupings of financial

theory are just a few of the many aspects of financial inclusion. In this study, the "financial theory" of monetary inclusion was used.

Financial theory of monetary inclusion

It has been stated that the financial theory represents a distressing task of seeking to provide financial assistance to everyone. According to the principle of financial inclusion, it might be challenging to offer formal financial services to everyone. It is admirable to use alternative methods to restrict access to financing. The public must have free and limited access to finance. It should be acknowledged as beneficial to humanity per Aggarwal & Klapper, (2013). The foundational idea of the theory is that people must be engaged in order for financial transactions to be beneficial to them. Furthermore, they need to have unrestricted access to all types of financial services. Minor financial services must be provided without charge to every person. Making it accessible anytime, everywhere there is a human setup must not come at the expense of guaranteeing a cost-free financial transaction. When this occurs, using a single platform, the people are not worse off (i.e. the Electronic Money system).

In this comparison, everyone wins in the end. According to this theory, anyone who registers an account may be offered free services such as bill payment, savings, and money transfers. The point is that service providers would demand a little fee or a cut of the money spent. Others even suggest that service providers should cover the cost of handling financial transactions as a sunk cost of conducting financial company. Hove & Dubus (2019) stated that some proponents of the idea contend that governments can bolster the system by providing

subsidies to banks in order to reduce the likelihood of negative outcomes when providing customers with any type of financial service. Governments could negotiate a "zero balance account opening" with financial institutions on behalf of their people, Cobb, Wry, & Zhao (2016). The only way to get everyone financially on board is to make a financial choice that includes the really poor and/or socially disadvantaged people living in rural communities. A moral community cannot hold to different views.

The concept here has two parts. First off, "all hands on deck" refers to the belief that everyone would benefit monetarily if they joined forces, regardless of their financial standing and social standing. No discrimination between the wealthy and the poor is permitted (Gabor & Brooks, 2017). To make matters worse, public funding is required to accomplish this goal. In order to get the desired result, one should not rely on private sector funding. Because practically all investors are motivated by interest, the cost will ultimately increase. Third, the government would be accountable for carrying out its promotion of the principle of monetary inclusion. Last but not least, the business world is seen more as a promoter and an agent. (Combs et al., 2016).

The theory highlights how crucial it is to offer platforms that educate, retrain, and train customers and consumers on financial modalities so they do not become victims of exploitation. Vinod and Ghosh (2017). The benefits of such a principle include bringing all financial products and insurance policies to the doorsteps of common people who have little access to information. One cannot even bring up the subject of internet in your average towns, villages, and neighborhoods where

energy is in short supply. Electricity and energy power are well known to be two of the key axes that propel technology. Once you have limited or no access to the internet, where the entire globe is connected with news, information, and other things, you realize you are in total darkness. There is no alternative means of watching or listening to radio or television in communities where there is no access to power, wind, or solar energy. In such a situation, community setups encourage the usage of "gong-gong" telecast and microphones powered by cell batteries or vehicle batteries to disseminate information. When information is available, even small-scale investors can make informed decisions about how and where to invest their funds.

Though in some ways a reasonable theory, financial inclusion does not offer a long-term fix for the problem. It is a waste of public resources and finances for the government and government organizations to spend tax dollars on educating the public about financial inclusion. These sums may have been used to save lives and build infrastructure, especially for the most vulnerable members of society.

In summary, there are a lot of unresolved issues with the financial theory. No such creative decision has been made as the best course of action in any papers, news, talks, or presentations. Uncertainty surrounds the direction that should be taken for all of the contributions taken together. This article is impartial. Instead, it is a request that all parties pick up the conversation once more.

The emergence of the Electronic money transactions in Africa and Ghana

The development of mobile-enabled value-added services by banks led to the expansion of mobile phones throughout Africa. Through the short message service (sms), banking clients can get information about their accounts (Oluwatayo, 2012). Porteous (2006) argued that the objective of the banking sector to spread this application throughout the African market timed with the arrival of smartphones on the continent in 2007 was successful. Lonie (2010) came to the conclusion that the fact that the brief multimedia messaging application was only available to the wealthy with bank accounts hindered the development of the technology. According to Garrett (2011), it was impossible to determine at first why vulnerable groups continued to be excluded from financial access. The emergence of mobile banking, which was developed by telecom corporations and has the potential to give billions of people access to financial services through mobile phones, has recommended a response sooner rather than later.

This was proved by Safaricom, Kenya's largest mobile phone carrier, which launched M-PESA in March 2007 with assistance from Barclays Bank Kenya (Susie, 2010; Garrett, 2011). Users of the service might transmit money using their mobile devices. According to Okiro and Ndungu (2013), M-growth PESA's was unpredictable because it reached a record 9 million users in less than three years, which at the time represented 23% of Kenya's population. Currently, M-PESA has succeeded in integrating millions of unbanked people into the financial system, raking in significant millions of US dollars each year Chimonyo

(2015). With over 3 million members by the end of the 2011 fiscal year since its launch in 2009, Uganda's electronic money transactions service, which was developed by MTN, Airtel, among others, is deemed successful (Chimonyo, Mapuranga & Chikumbu, 2015).

According to Aron (2015), a study conducted in Kenya and a few other African nations indicated that the platforms for electronic money transactions were growing. As a result, a third of Tanzania's consumers and a fifth of Uganda's economy, respectively, have embraced the benefits of electronic money transfers. It is a medium used to carry out a variety of financial transactions by more than half of Tanzania's economy (Aron, 2015; Chimonyo et al., 2015).

Tobbin and Dasie (2011) came to the conclusion that in Ghana, a customer's inclination to utilize or accept electronic money transaction systems depended on how they perceived the risk and level of trust. Less than 40% of the population, according to the survey, were signed up for electronic money transfers, despite the fact that 85% of a 500-person sample knew about them. Tobbin and Dasie (2011) stated that despite the fact that clients were aware of the service, they no longer viewed it favorably. NCA (2015), however, made a different argument. The leader in the telecom sector noted that the system's flexibility has led to a sharp increase in the adoption and use of electronic money transactions, and that trend may continue.

In Ghana, the use of electronic payments first became widespread in the late 2000s thanks to the MTN network, claims NCA (2015). By the end of 2013, all other telephone network operators had adopted electronic money transactions

as a component of their offerings thanks to the energy and zeal of the Ghanaian people, who had nearly caught up to virtually all of them. The flexibility associated with electronic money transfers and the use of mobile devices are partially or entirely responsible for Ghana's success in this sector (Sogbodjor, 2015). MTN (2017) reported having a sizable 12 million customers for electronic money transactions, with the Greater Accra Region alone recording 2.8 million members, or 23.3% of MTN's electronic money transactions users.

Conceptual Review

It has been stated that there is no common regulatory definition for electronic money transactions. According to Sinasa (2016), electronic money is a transactional procedure that enables the exchange of money using a mobile phone. According to Natsu (2015), electronic money enables users to deposit money and/or withdraw it using a network-supported or work-supported device.

Electronic money transactions, as defined by US Federal Reserve (2014), "may be viewed as using a mobile phone (and hence mobile networks) to access bank accounts, either by accessing the bank's web page through a mobile phone's web browser, via text messaging, or by using an 'app' downloaded to the mobile phone." Electronic money transfers and mobile banking were never excluded from the criteria. The two ideas are distinct in practice, though. Di Castri (2013) further defined electronic money as an activity that permits financial transactions (deposits, withdrawals, and payments) to be carried out electronically via a cell phone. Cell phones are used to access financial activities in electronic money transactions, according to PWC (2016).

It is important to note from the explanation above that any transaction using electronic money must have the characteristic of offering a medium of exchange through the use of technology. that the means of exchange for the transaction must be agreed upon by both parties. It has also been proven that electronic money must be governed by a nation's central bank, financial practices, federal laws and rules, etc. Electronic money should be able to be changed into physical money and vice versa. Additionally, it must permit both money deposits and withdrawals without a loss of value (except for charges by service providers and taxes).

According to Aker and Fafchamps (2016), electronic money possesses the characteristics of a digital transaction. The global emergence of electronic money has been attributed to technology as the primary driver. Technology made mobile phones possible. Today, modern technology has made it possible to transfer and receive money from the comfort of one's home, business, vehicle, and other locations. It is reassuring to learn that in order to conduct an electronic money transaction, a network of banks or a telecommunications system for mobile phones must be combined. The system of today is progressively moving away from using actual money and coins as the only means of transactional exchange. In general, research and data indicate that more people are using electronic money to pay their bills and other obligations. Additionally, it is a very practical way to carry money and conduct transactions, with extra benefits of security and safety. No matter the amount, a simple electronic gadget may hold millions of Ghana

Cedis, US Dollars, Pounds Sterling, or any other currency, as long as the operator's transaction limit permitted it.

Concepts of Financial Inclusion

In three categories—access, depth, and efficiency—Financial deepening is covered by Natsu (2015). The availability of physical infrastructure, such as banks, microfinance organizations, ATMs, savings and loans offices, and technology, as well as a high number of newly opened and maintained bank accounts, is what often determines access. The types of services offered by these financial organizations could also be a factor. The depth also considers how many people have used or received these services overall. Banks and other financial organizations are one thing, but not having consumers or clients is quite another. On the other side, efficiency measures how well financial organizations can fulfill their promises through the use of their products and services. Once more, it considers the comments or responses clients make following utilizing those services from the organizations.

To evaluate banking services, thousands of people in Asia, Africa, and the Middle East have up until now had to travel great distances. the condition described in places with a sparse public transportation network. All products must be positioned at the point of demand along with good, dependable, and high-quality services that are easily accessible. Access is difficult to describe because research has not yet determined what qualifies as access and what does not. Despite the lack of a measurement system, Natsu (2015) asserts that access can be divided into various categories.

The adoption of this theory was influenced by the fact that electronic money transactions systems reduce income inequality and increase access to financial services, two principles of development. Due to its many advantages and ability to strengthen the economy, it is gradually replacing traditional banking methods.

The scope of electronic money transactions has expanded to now encompass transfers of monies to and from banks as a result of the interoperability facility that was implemented in Ghana. Additionally, the depths and efficiency are guaranteed by the electronic money transaction. The mobile network providers currently offer a variety of services, such as deposits, withdrawals, payment of wages and bills, making investments, issuing loans, etc. Inclusion of the financial sector set the tone for the use of electronic money. The creation of the Electronic Money Transactions Platforms was probably motivated by the need to increase access to financial services. It was more appropriate to apply this idea, despite the fact that it has had its reputation damaged by problems. The theory also provides a comprehensive explanation of how electronic money transactions work and the justification for the system's creation.

Empirical Review

More than half of the unbanked people have not been able to join the financial inclusion network thanks to the user-friendly Electronic Money Transaction, according to Kaur and Madan (2013). Globally, the banking industry, financial institutions, and monetary policies have been impacted by

technological innovation and cell phones. A challenge has been made to the banking industry's shift and basic foundation.

In order to thrive, the financial sector has been under pressure to either abandon outdated traditional banking in favor of a modern, technologically driven approach or to merge both. One does not necessarily need to be physically present to carry out a simple financial operation, like paying for utilities or purchasing airtime or internet data, from the elderly woman in a far-off village to the business tycoon in the city. There are no paper cheque books or withdrawal booklets in an electronic money system, saving the account holder further costs. The globe is in good shape since technology has made it possible for digital shops, stores, and markets to take electronic payments for goods, works, consulting, and services.

According to Domeher, Frimpong, and Appiah (2014), several electronic money transactions will soon contain licenses, debts, stocks, and bonds. The days when Ghanaians had to travel great distances only to wait in line for their money at the banking rooms are long gone. Customers have often been disappointed by Automated Teller Machines that have run out of money, malfunctioned, or broken down despite the fact that they are meant to be alternatives to traditional banking facilities and assist reduce lines and tension in banking halls. The worst case scenario is when the following day or a few days are vacations. Despite still being visible from viewing points, the use of ATM machines has decreased recently.

Using quarterly data from 2010q1 to 2021q2 and applying the Autoregressive Distributed Lagged (ARDL) bounds test and granger causality test, Marafa (2022) investigated the effect of the digital payment system on

economic growth in Nigeria. A long-term association is present, according to the results of the ARDL bound test. All the factors relating to digital payments have a favorable and considerable influence on economic growth, according to both the short-run and long-run coefficients. The Granger causality test results also show a unidirectional connection connecting all digital payment platforms to economic growth. According to the study's findings, digital payment methods significantly and favorably influence Nigeria's economic expansion.

Igamo & Falianty (2018) used monthly data from Indonesia to investigate the impact of electronic money from 2007 to 2017 on the effectiveness of the payment system and narrow money demand function. This study discovered that electronic money increased private consumption expenditures as a gauge of the effectiveness.

As per Akhalumeh & Ohiokha (2012), cashless systems provide multiple payment options, speed up transaction times and procedures, and charge the least amount of money for transfer and processing. All transactions done on a customer's account are also promptly notified by them. Echekoba & Ezu (2012) carried out a survey and found that 68.2% of the participants were unhappy with the length of the lines at banks, complained about the behavior of the tellers, and while 2. Since 89% of respondents were dissatisfied with how close their homes were to banks, this study goes into further detail about the benefits of the cashless system to individuals and the country as a whole.

It has been suggested that the economies of Asia, Latin America, and Africa, where electronic money transfers are most common, are changing. After

Safaricom's M-PESA was introduced in Kenya in 2007, the African nation is a case study, with 7 million registered users, or 18% of the market, and continuously growing. According to Natsu (2015), in order to encourage its residents to stop using cash, the Philippines and the United States of America had to supply more technology and electronic money assessable gadgets. The adoption of mobile money interoperability, the QR payment code, the Ghana Integrated Payment System, and other innovations have all been recognized in Ghana as wise economic decisions.

In addition to providing a quicker, more intelligent, and more trustworthy way to do business, the introduction of electronic money also has the potential to enhance the lives of millions of people. Otherwise, it would have been harsher for those whose means of subsistence have changed today. Numerous academic institutes and universities continue to produce graduates who lament their difficulties and unemployment. The numbers of unemployment would have been worse without the electronic money transaction industry, which employs thousands in the several African countries. More than 60% more electronic money retailers were reported nationwide in a 2021 Bank of Ghana report. This would indicate that the employment and income generated by electronic money services is still increasing.

The management of electronic money transactions has its own set of issues, much like other policies or programs. The adoption of electronic money transactions in Ghana has been hampered, according to Tobbin and Kuwornu (2011), who also found that consumer distrust is a problem. The consumers they

surveyed also agreed that transaction costs can affect consumers' intentions to use electronic money transfer services. The customer must be charged when any transaction is completed in an electronic money transaction. These fees are proportionate to the value; the larger the value, the higher the service cost, and vice versa.

Numerous markets are still laying the groundwork for their scalable foundations, according to the GSMA's 2012 report on Electronic Money Transactions for the Unbanked. These markets face challenges in terms of how to develop, provide incentives to, and manage their agent network, as well as how to attract customers and increase the use of electronic money transactions. The GSMA acknowledges that some industry best practices already exist and that more deployments must effectively replicate or adapt these practices..

It was once again established by Afanu and Mamattah (2013) in their study that owning an account for electronic money transactions is relatively simple but opening a bank account is difficult owing to the materials needed. One of the security risks to using electronic money for transactions was discovered as PIN sharing. They proposed that the MNOs send SMS messages to users with security advice for electronic money transactions at least twice a year to address this issue and inform them of ways to make their mobile devices more secure.

Market participants have also expressed serious worries about technical innovation and the high cost of adoption to both customers and service providers. Another difficulty facing MPS is acceptance. The MPS is not well-liked in Ghana despite its distinctive qualities. There is no assurance that MPS technology will be

adopted in Ghana the way that it has been in countries like Japan, Korea, Malaysia, Kenya, South Africa, and others. In order to more fully assess this difficulty, a survey that will be done as part of this project to learn about the obstacles to the adoption of MPS in Ghana will be conducted. The interoperability of the system, operators' compliance with regulatory bodies, and bank-bank compliance procedures are further concerns.

The issue of mobile internet connection and "data traffic congestion" is a serious concern. In the days to come, more people are expected to utilize mobile devices to check the internet, make payments, and perform other tasks. Hackers, cybercriminals, and eavesdroppers will now concentrate their efforts on mobile devices. Smart phone security risks are predicted to increase as a result of worms, spam, viruses, and hackers that target people for their personal and financial information, according to Blumen stock, Eagle, and Fafchamps (2014). This could have a negative impact on people's trust in mobile payment systems.

Micro-view Impact

Reducing transportation cost

Prior to the development of technology-driven mobile money transfers, the primary methods of sending and receiving money were Western Union, Vigo, MoneyGram, interbank transfer, and Swift Payment Transfer. To obtain any of these services, the client would need to go to the bank or other financial institution. Some of these services require a minimum of three days before the recipient can evaluate them.

Some services go much beyond than three days. Prior to receiving the money, the receiver would also need to travel to the bank, wait in long lines, complete a questionnaire, and successfully answer a series of security questions. All of these developing stages are time-consuming and annoying tasks. However, with electronic money, the subscriber and recipient might finish the transaction without going to the bank. Should the recipient choose to pay off debt, he might also complete the identical transaction by stress-free transferring the necessary sum to the recipients. Either all forms of transportation are completely eliminated, or their costs are significantly reduced.

A significant amount of time has been lost in all of those activities. Additionally, money has been lost going to and from the bank. There have been instances where people have reportedly been hurt while traveling to or from the bank. Wasted time is labor time, which is easily convertible to time. Today, all of those fundamental conveniences that once required people to travel great distances to access them are now only a click away on a cell phone. Thanks to research, technology, and innovation, one may access anything from paying for utilities to paying for school fees conveniently and without fuss.

Clients no longer frequently need to carry cash, especially when traveling long distances, thanks to the adoption of electronic money as a payment platform for goods, services, and labor. In some concerning cases, lives have been lost. In other cases, though, some subscribers have lost enormous sums of money to robbers who attack them at gunpoint and fraudsters who outsmart them. One would not absolutely need to carry huge sums of money because the electronic

money and electronic payment platform provide a variety of functions. The use of electronic money transactions is thought of as a conduit or medium for achieving various financial goals.

Increasing and changing the nature of saving

The rationale for saving varies among individuals. Some save for rent and accommodation. Others also save for education, short courses, craftsmanship and other related career programs and activities. More so, there are recorded savings for shelter, food, luxury and consumer goods by various individuals. In-between individuals the idea and reasoning of saving changes. Whereas one is keenly saving to marry, the other is saving to buy his dream car say Jeep. In an environment where individuals fancy presents, donations and gifts, a cross section of persons could saving towards occasions such as Christmas, Easter, Marriage Ceremonies, conventions and graduations seasons. The future believed to be unknown, money is also heavily invested towards unplanned occurrences such as ill health, disaster, loss of employment, accidents et al.

To the non-banking community, the use of cash and having physical cash as the only medium of exchange have been a worrying trend. It was a necessity they have to live with for decades. Having access to bank and banking facilities was scarce and was viewed therefore as a luxury. Bank account accounts were viewed as a preserve of the wealthy and elite in society. Community inhabitants at the time use pillow, money-box, mattress as the only way of saving and storing money. Some invest in expensive jewelry at the expense of savings. Bank charges against their savings were scaring enough to drive them away from banking.

Given the opportunities presented by electronic money including giving access to even people in rural and remote communities, payment of interest on electronic money balances every quarter is convincing enough. The mere carrying of a big bag, a visit by your debtor is speculative enough that one has been paid or has withdrawn money from the bank. Payment of cash in public has on a number of occasions exposed persons to harm and attack. Electronic money transactions are highly confidential and secretive. Payment could be made in silent without the next closest person knowing, unlike the cash.

Moreover, other proponents of the Electronic money transactions have repeatedly argued that the Electronic money transactions enhanced savings and deposit culture. This is not to, however suggest that there were no saving habits or no savings existed in the past, but that the means of savings adopted by the poor and vulnerable and those in the remote communities were primitive and very odd. As suggested earlier people used to deposit money under pillows, under the bed, folded in-between cloths et cetera. There were reported complains of rats chewing money, they money fading thereby losing its value, just to mention a few. Kunyla (2013) suggested that these were unscientific savings habit which out to be scrapped.

According to the study by Ky and Rugemintwari (2015), users of electronic money have occasionally had to rely on their deposits to get them out of one kind of crisis or another. For example, electronic money is used in Ghana to register for or renew national health insurance, pay for medical expenses, and use transportation services.

The use of electronic money has changed how people save and invest. The nature and business operations of partnerships, community-based organizations, companies, small and medium-sized enterprises, and a variety of other institutions have all significantly improved.

Risk and insurance

According to James (2013), "the poor are at danger of many community shocks such as flooding, droughts, plagues, other natural catastrophes, and occasionally violence, and medical epidemics; and idiosyncratic shocks such as theft, damage to the homestead, disease, and death in the family. Opportunities to purchase insurance against these risks are quite rare. Formal insurance is often nonexistent, but family, clan, and network linkages can develop informal insurance networks that manage risk through periodic transfers among network members.

Ruth (2016) suggested "methods by which electronic money transactions can promote risk-spreading. Although there will be less scope for remote members to be held accountable, networks' geographic reach can still expand. They point out that prompt transfers of often very small sums of money can stop major decreases that may be impossible or difficult to reverse. In general, the technology of electronic money transactions permits smaller and more frequent transfers of funds, allowing for a more flexible management of adverse shocks. Therefore, informal insurance networks might work better. Better risk and return trade-offs can then be achieved through the use of more effective investment decisions. There may be an additional buffer against negative shocks in situations

where electronic money develops sufficiently to permit access to micro-insurance for health.

Improving efficiency

Electronic money transactions facilitates trade, making it easier for people to pay for, and to receive payment for, goods and services. The above has shown that changes brought by the use of Electronic money transactions can lead to better allocation of savings and of labour both within the household and in businesses, and more efficient investment decisions affecting agriculture, business and investment in human capital. The result can be an improvement in returns to investment, and a feed-back to greater savings. In the study of Aker et al. (2014) it was gathered that a number of facets: the improved bargaining power of the business-people through increasing the privacy of a cash transfer, their preference to spend on the nutrition of children, and improved time saving from lower transactions costs, enabling the additional productivity to pay for expenditures.

Macro-view Impact

A means of money supply

Saving and depositing money on the wallet of the customer creates avenue or means of suppling money to the economy for other usage. Generally, there are several channels through which Electronic money transactions could potentially affect the money supply. One such example is the low-cost linkage of Electronic money transactions accounts with bank accounts, and payment of interest on and the extension of credit through these bank accounts. There is low-cost international transfers to Electronic money transactions accounts linked with bank accounts, likely to surge. In addition, deposits can be on-lent and hence there is

credit creation. In effect, the Electronic money transactions saving in electronic accounts has moved informal cash into the banking system. The transfer of informal cash will not increase the recorded money supply per se unless the source is unrecorded cash, say in another currency.

It affects inflation

A potentially important channel of transmission of innovations in Electronic money transactions to inflation is via the private sector saving rate. Reduced private sector saving implies a rise in expenditure relative to income, i.e. in the demand for goods and services relative to supply. The first-round impact would be inflationary. Such a fall in the private saving rate could be due to reduced precautionary saving caused by lower perceived credit constraints. Thus, if lowering the costs of transmission of cash from relatives or other support networks facilitates coping with negative shocks (such as from ill-health or harvest failures), poor households should then be better able to maintain expenditure. Additionally, if Electronic money transactions transfers involve transfers from entities with lower marginal propensities to spend to entities with higher marginal propensities to spend, a reduction in the overall saving rate would be likely. Whether this is in fact the direction of transfer is not obvious.

As against reduced precautionary saving, there is the possibility that saving for return motives might be enhanced by the development of Electronic money transactions accounts, both because of the greater security of electronic saving and from the spread of interest-bearing accounts linked to Electronic money transactions accounts.

Perceptions of clients on the use of the Electronic money transactions

Using both users and non-users of electronic money transactions, Ky and Rugemintwari (2015) looked at the mechanics underpinning saving behavior. They discovered that individuals prefer electronic money transaction platforms to banks because of the belief that they are safe and secure for deposits and simple fund transfers. Consumer perception of Bangladeshi electronic money transaction transfer services was also evaluated in Wahiduzzaman, Sharmin, and Jaman's (2014) study. 50 respondents were the maximum number for the study, and the outcomes only reflect the beliefs and values of those 50 respondents. The study's target audience was limited to customers of services for electronic money transfers. According to the study, users of electronic money transactions thought that the transfer of electronic funds was simple to use, that registering a personal account was simple, that electronic funds transfers were trustworthy, and that the transfer agents were always polite.

And again, it was discovered in the research that consumers of electronic money transfer services firmly agreed that these services process quickly and make it possible to send and receive money from different locations. At the closest service centers, customer issues are quickly resolved. A research of non-user and user observations as well as the different types of demand claimed for electronic money transactions were also covered by International Finance Corporation (2011). It was discovered that the demographic features of non-users of electronic money transactions and users in four different nations were compared in order to understand user behavior and their observations. Based on

the study, which used the United States as a point of comparison, 94 percent of Nigerians and 62 percent of Thai users feel that electronic money transfers are less expensive than traditional banking services.

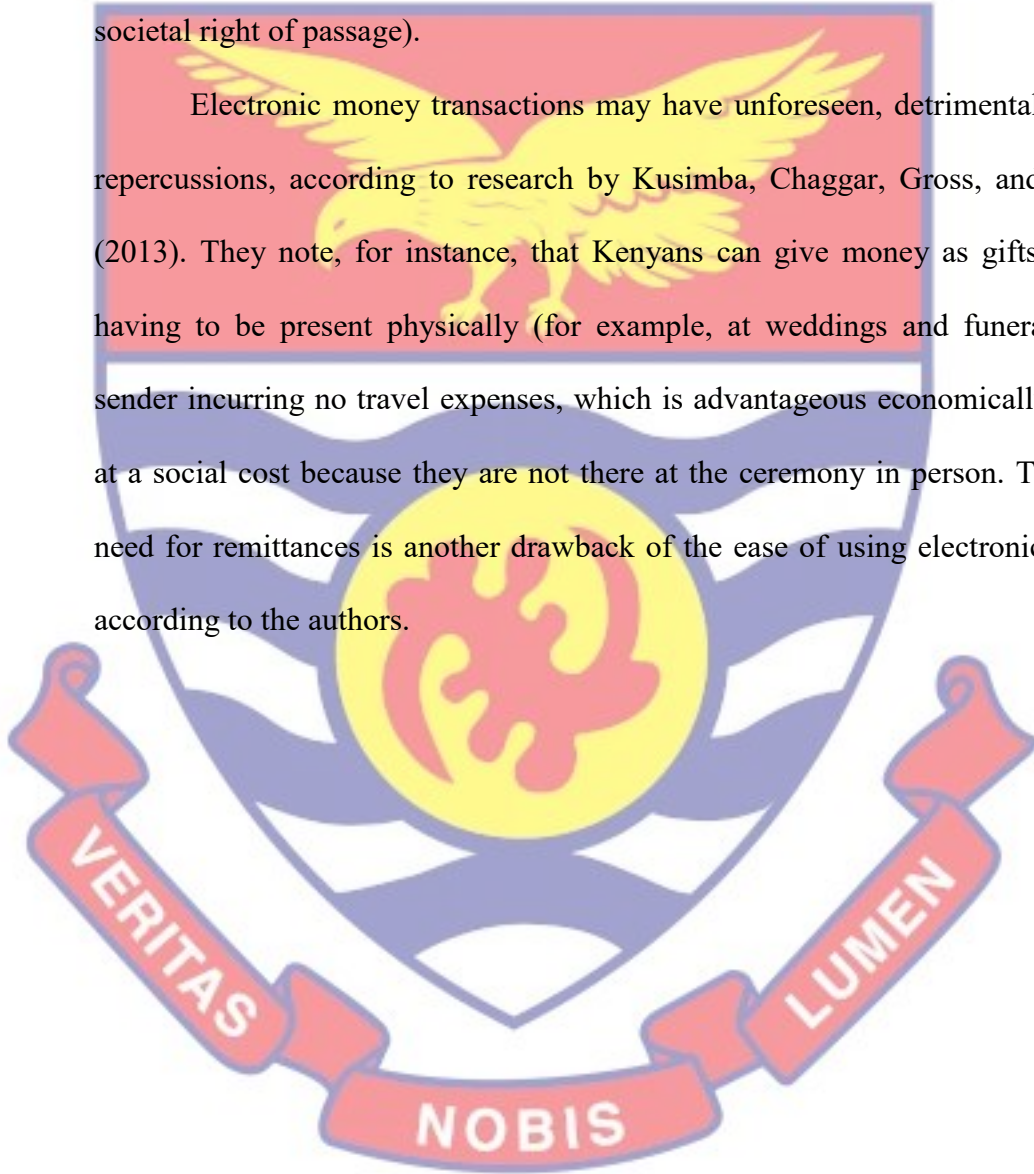
According to a 2015 study by Nandi, low income households in India's rural areas benefited from mobile banking due to individual perspectives. Additionally, non-subscribers revealed a poor correlation between their income and saving capacity, as well as a lack of knowledge about the benefits of electronic money transactions. In order to increase financial inclusion for the poor due to the lack of awareness raised, creative strategic thinking is required.

Consumer resistance to product uptake, according to Kleijnen, Lee, and Wetzels (2009), has been observed when acceptance and use of the product necessitate substantial changes in the customers' value systems as well as their "existing behavioral patterns, conventions, habits, and traditions." This opposition may result in unfavorable opinions of the product, its outright rejection (and consequent non-adoption), a delay in use, or outright opposition, which would cause the product's market to collapse.

Positive views and quicker consumer adoption will emerge from money that is easy to use in the socio-cultural setting, whilst those that are not may take longer to gain acceptance or may even be excluded. The introduction and usage of novel payment methods and stores of value (such as money) may be justified by economic development and technical improvement, but the degree to which consumers would accept these novel systems or objects depends on their design. The question of whether electronic money transactions will play significant roles

in people's lives outside of money transfers, which help people meet their financial obligations by providing financial support through remittances, is also worth considering given the variety of social functions of money in the Ghanaian social sphere (context of gifting in the observation of religious obligations and societal right of passage).

Electronic money transactions may have unforeseen, detrimental societal repercussions, according to research by Kusimba, Chaggar, Gross, and Kunyla (2013). They note, for instance, that Kenyans can give money as gifts without having to be present physically (for example, at weddings and funerals). The sender incurring no travel expenses, which is advantageous economically, comes at a social cost because they are not there at the ceremony in person. The rising need for remittances is another drawback of the ease of using electronic money, according to the authors.



CHAPTER THREE

RESEARCH METHODS

Introduction

The MTN Mobile Money case study is used by the researcher to do research into the effects of electronic money transactions on a cashless economy in Ghana. The research also looks at the informal and formal economies in this country. The chapter is broken down into sections on the population, data collection process, research design, study area, sampling process, data collection instruments, analysis and summary, and data processing. The strategies employed in the study to produce the desired outcome are also described.

Research Design

Isaka Saliu (2015) proposed that a specific research would be appropriate based on the nature of the investigation. The researcher used a descriptive research design to sample thoughts and opinions held by people on the topic in order to evaluate the development of electronic money transactions in Ghana and their sustainability. A descriptive study may include focus group interviews, case study techniques, interviews and action research, qualitative data analysis, and archival methodologies according to Jackson, (2001).

Study Area

The MTN Group

The MTN Group, with its corporate headquarters in Johannesburg, South Africa, was established in 1994 with the goals of "leading the delivery of a bold new digital world to our consumers" and "making our customers' lives a whole lot

brighter." It currently connects 22 nations on the continents of Asia, Africa, and the Middle East with 230 million customers managed by approximately 28000 workers. Ghana, Uganda, Guinea Republic, Iran, Cameroon, Afghanistan, Cyprus, Benin, Yemen, Guinea Bissau, Côte d'Ivoire, Botswana, Liberia, Republic of Congo, Rwanda, Nigeria, South Africa, Sudan, South Sudan, Syria, and Zambia are among the nations where it conducts operations. Although not included in the top 100 brands in the world, it is regarded as the most valuable firm in Africa (JSE, 2013). The FIFA 2010 World Cup of Nations was held in South Africa and featured MTN as the main sponsor.

It is encouraging to learn that while the MTN Group is still a major player in the telecom sectors of Africa, Asia, and the Middle East, MTN Ghana, a member of the MTN Group, is the country's top provider of telecom services and, more significantly, the country's top provider of electronic money transaction services, with more than twelve million subscribers and growing. Sakaman, Tetteh Quarshie, and Kaase (all in Accra), according to MTN Group (2015), are three of the most modern Electronic Money Transaction switching centers (in Kumasi). Tamale and Cape Coast each have two more switching centers. These facilities work together to enhance the supply of electronic money transaction services in Ghana.

Population

The bigger, more homogeneous unit from which a sample is drawn is called the population (Nueman,2006). All MTN Electronic Money Transaction merchants and subscribers, however, were the target demographic. All different

types of electronic money transaction merchants were included in this, along with subscribers. Subscribers move within regions, which makes it difficult to track their presence within a certain zone at any given time, unlike merchants who are often within designated locations for a certain amount of time. According to MTN (2017), there are an astounding 38,000 MoMo merchants and 2.8 million MoMo subscribers. Thus, 2,838,000 people were the intended audience. In Ghana's Greater Accra Region, this study primarily examined employees in the formal and unofficial economy who have EMT accounts.

Sample and Sampling Technique

A sample is a group of people chosen from a population with characteristics that are often comparable to those of the full population and are used to represent the population in a research study, Slavin (2007). Generally speaking, the size of the sample affects how well the results reflect the population. Consequently, the likelihood that generalizations accurately reflect the population increases with the size of the sample, Bernard (2016). To that purpose, the current sample size calculation method adopts the Krejcie and Morgan (1970) formula.. The formula is given as:

$$s = \frac{x^2 NP(1 - P)}{d^2(N - 1) + x^2 P(1 - P)}$$

where; s = the required sample size; χ^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level, usually set at 1.96 which corresponds to 95 percent confidence level; N = the population size; P = the proportion in the target population estimated to have particular characteristics; (assumed to be 0.50

since this would provide the maximum sample size); and d = degree of accuracy desired, expressed as a proportion (0.05).

$$s = \frac{(1.96)^2(2802645)(0.50)(1 - 0.50)}{(0.05)^2(5416 - 1) + (1.96)^2(0.50)(1 - 0.50)}$$

$$s = 384.1$$

Thus, the estimated sample size was approximately 384.

The study would use stratified sampling, purposive sampling, and then convenient sampling techniques for the sample phase. The population of the study would be categorized first, then the sample would be categorized after that. Electronic Money Transaction merchants and Electronic Money Transaction subscribers are the two groups. According to Creswell (2010), the stratification method entails dividing the target population into multiple subgroups and doing selection within each segment. It is typically done to ensure that the sample selection is straightforward, equitable, and provides a better representation of various subject groups.

Greater Accra has approximately 2.8 million customers and about 2,645 Electronic Money businesses, according to a report from MTN Ghana titled "Electronic Money Data 2019." The Electronic Money Data 2019 was used as a reference by this researcher to provide a balanced depiction. It would therefore be wise to have more subscribers than merchants. According to the researchers, an arbitrary ratio of 30% of retailers to 70% of members would be the most likely to be representative.

Additionally, the study would use easy sample for subscribers and purposive sampling for the retailer. When using the purposive sampling technique, specific

cases or units are chosen rather than others at random (Bernard, 2016). The decision to use this method was influenced by the fact that businesses that handle electronic money transactions have access to particular data that is essential to the study. Another frenzied effort would be made by the study to balance the sample's gender composition.

Choosing the units that are most convenient for the researcher is what the convenient technique is all about. To determine if the selection is sufficiently representative of the population, however, would be challenging and complex, the researcher anticipates (Yin, 2009). The researcher should bear in mind the sample size and balance the selection in a way that is related to gender, race, or any other categorization that may exist, according to Yin's 2009 warning. This will likely help to mitigate the weakness of the model. As a result of their lower cost and lighter weight, the purposeful and practical techniques would be preferred.

Data Collection Instrument and Procedures

The major tool employed to acquire data for the study was a questionnaire. Because the study needed to collect a sufficient number of responses in a constrained amount of time, questionnaires were chosen as the method. In order to group respondents into similar categories for more accurate results, Robson (2012) suggested using questionnaires. The researcher went on to say that respondents preferred using questionnaires to other data collection procedures (when delivered in a polite and more professional manner). It consequently boosts responders' participation. The use of questionnaires has been complicated by some respondents' resistance to filling them out. Other people also employ delay

strategies. Some respondents reportedly worry about the security of the personal information they supply and the possibility that it can be used against them. Few, if any, responders who are unsure would object to having it applied to them (Robson 2014). The behavior, demeanor, conduct, professionalism, and expertise of individuals who administered the question would have a significant impact on the response rate. Additionally, questions should neither imply the solution or provide a hint as to what the solution might be.

The respondents' demographic characteristics would make up the first section of the questionnaire. Age, educational level, sex, employment status, and, if any, the nature of employment would all be included. The second segment would also cover how using electronic money transactions affects people's lives and the economy. The questions in this part examined the frequency of use, the intended use, and whether it would be able to achieve that aim. The final component evaluated customer perceptions on the use of MTN electronic money transactions. There will be some predefined questions and scale questions employed in this situation. The other portion also looked at the difficulties in using the local electronic money transaction system. It was intended to learn and offer some methods for improving things.

In order to improve security and pique participants' interest, the research will collect data from the respondents during the day. Before giving the participants the questionnaire to complete, a brief introduction and the study's objectives will be given. The study would also suggest using the student's ID card as a starting point when distributing the questionnaire. The questionnaire would be distributed

at the respondents' discretion and comfort in public areas, private residences, retail establishments, business locations, and any other appropriate setting consistent with accepted standards and practice. Participants who are unable to complete the surveys on the same day will have till the following day to do so.

The researcher estimates that the data collection period will last one month

Data Processing and Analysis

The data acquired through the administered questionnaires would be edited and coded into Statistical Package for Service Solution (SPSS) version 24.0, a computer application software program is utilized in evaluating the data gathered, frequencies, and percentage. Frequency tables and charts would be used to display the information. The descriptive regression would be applied to the first aim. To ensure the model's robustness, a deed post estimation test would be conducted. The cross tabulation and perception approaches would be employed for objective two. Analysis of variance (ANOVA) may be used in the Kruskal-Willis non-parametric test analysis to assist distinguish between responses. The final challenge on the frequency count table would also be utilized in conjunction with a flowchart.

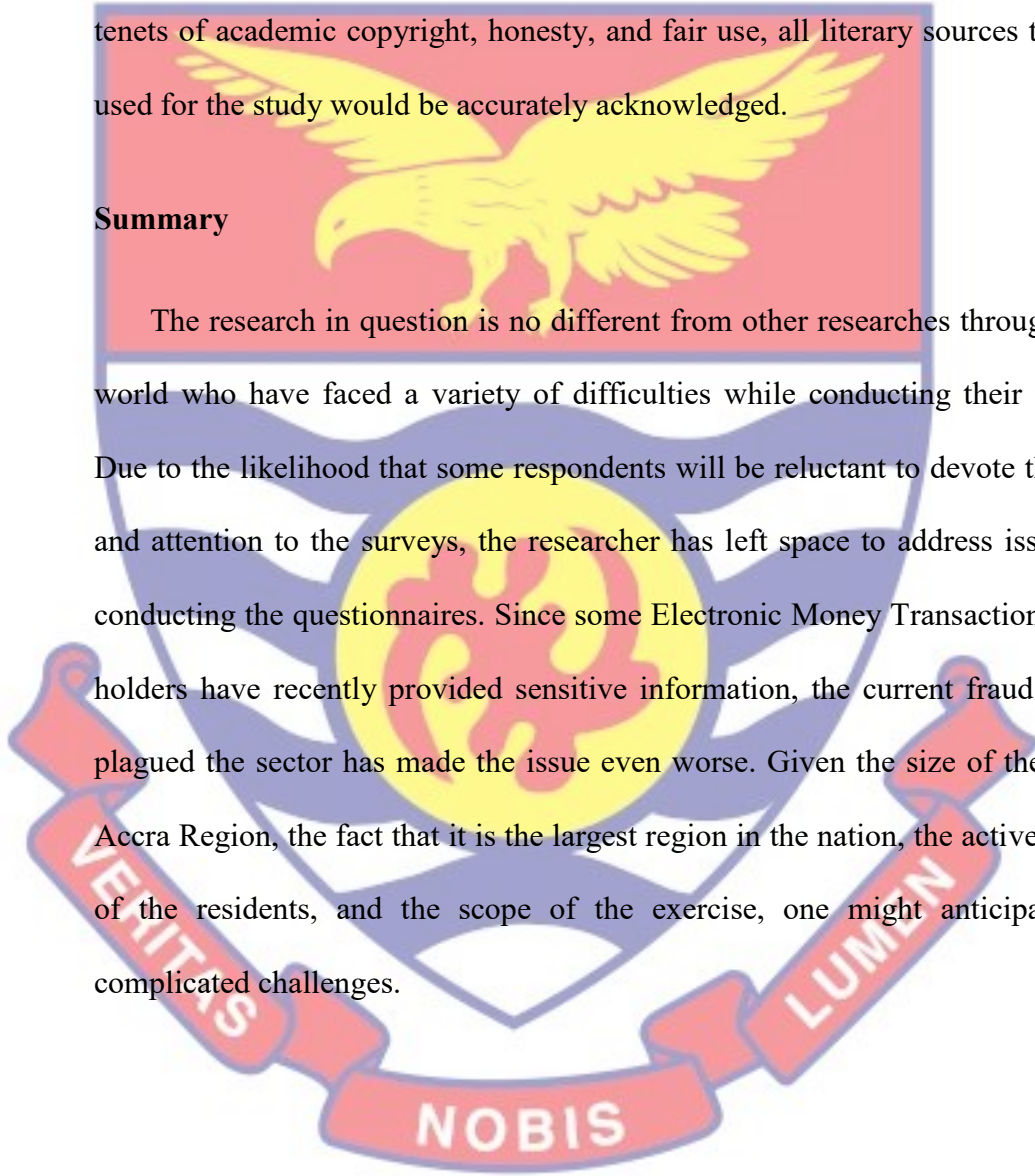
Ethical consideration

Information obtained from respondents must always be treated in confidentially. Before participating in the study, respondents would be properly informed so that consent could be obtained. The respondents would be informed of the goals, nature, and potential outcomes of the research. The researcher wants to persuade the respondents that the study is solely for academic objectives in

order to entice them to participate. The assurance of anonymity and secrecy would also be communicated to the participants by the researcher. Names, addresses, phone numbers, and any other data that could link a response to a specific person would not be collected. Additionally, in accordance with the tenets of academic copyright, honesty, and fair use, all literary sources that were used for the study would be accurately acknowledged.

Summary

The research in question is no different from other researches throughout the world who have faced a variety of difficulties while conducting their research. Due to the likelihood that some respondents will be reluctant to devote their time and attention to the surveys, the researcher has left space to address issues with conducting the questionnaires. Since some Electronic Money Transaction account holders have recently provided sensitive information, the current fraud that has plagued the sector has made the issue even worse. Given the size of the Greater Accra Region, the fact that it is the largest region in the nation, the active lifestyle of the residents, and the scope of the exercise, one might anticipate more complicated challenges.



CHAPTER FOUR

RESULTS AND DISCUSSIONS

Introduction

This chapter discusses the personal data of MTN Electronic Money service users and merchants. There were several different characteristics offered, including age, gender, educational level, marital status, employment position, and income level. To judge the quality of the respondents or study participants, the demographic traits or personal data are supplied.

Table 1: Demographic characters of subscribers

Characteristics	Frequency	Percent (%)
Gender		
Male	133	62.7
Female	79	37.3
Age (in years)		
18 – 30yrs	121	57.1
31- 40yrs	39	18.4
41 – 50yrs	43	20.3
51+ yrs	9	4.2
Educational Level		
No formal education	0	0.0
Basic	21	9.9
Secondary	120	56.6
Tertiary	71	33.0
Marital Status		
Single	164	77.4
Married	48	22.6

Employment Status		
Unemployed	63	29.7
Employed	60	28.3
Self-employed	70	33.0
Business owner	19	9.0
Income Level (in GHC)		
<100	10	4.7
101 – 1000	63	29.7
1001 – 2000	74	34.9
>2000	65	30.7

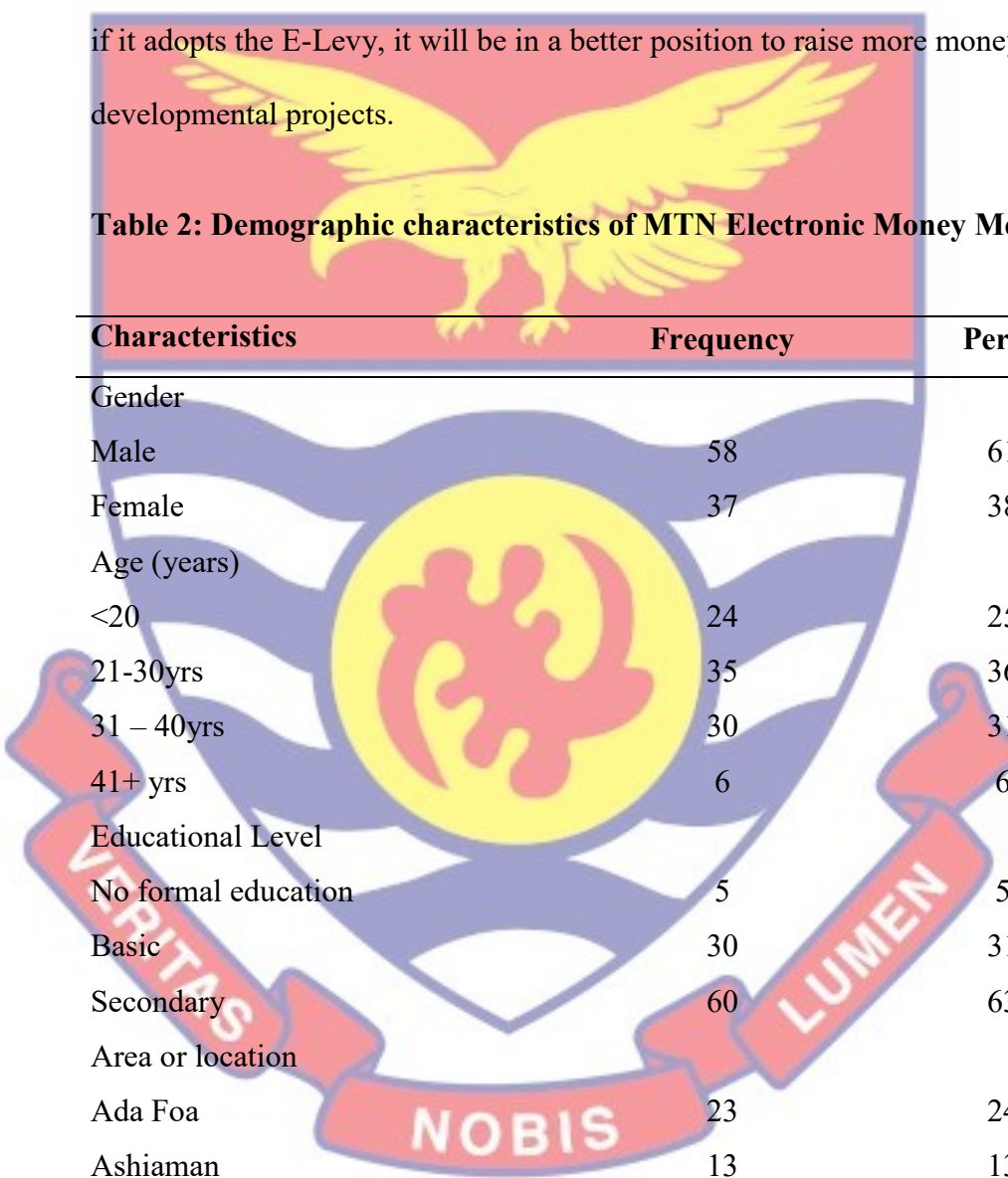
Source: Field data, 2021.

The Greater Accra Region's MTN Electronic Money users' demographic details were shown in Table 1. According to the data, there were 62.7% more male respondents than female respondents (37.3%). A breakdown of the population by age showed that people between the ages of 18 and 30 made up the majority (57.1%), followed by people between the ages of 41 and 50, who made up 20.3% of the population. Ages 51 and over make up the final 4.2 percent of subscribers, followed by those between the ages of 31 and 40 (18.4%). Additionally, when it came to marital status, more than two thirds of customers (77.4%) were either never married or single, while only 22.6% were married. Again, only 9.9% of subscribers had completed elementary school, and 33.5% had completed college.

Additionally, the Table 1 showed the subscribers' employment status and income levels. Few (9%) and the self-employed made up the majority of MTN Electronic Money subscribers (33.0%), respectively. However, just 28.3 percent of all respondents were subscribers, and 29.7 percent of all subscribers were either

unemployed or employed. In terms of the subscribers' income distribution, the majority (34.9%) fell into the range of (GHC 1001 – 2000). Only a few people (4.7%) were found to earn less than GHC100.00. This grouping supports the government's assertion that few Ghanaians make less than GHC 100.00 and that, if it adopts the E-Levy, it will be in a better position to raise more money for other developmental projects.

Table 2: Demographic characteristics of MTN Electronic Money Merchants



Characteristics	Frequency	Percent
Gender		
Male	58	61.1
Female	37	38.9
Age (years)		
<20	24	25.3
21-30yrs	35	36.8
31 – 40yrs	30	31.6
41+ yrs	6	6.3
Educational Level		
No formal education	5	5.6
Basic	30	31.6
Secondary	60	63.1
Area or location		
Ada Foa	23	24.2
Ashiaman	13	13.7
Big Ada	35	36.8
Sege	24	25.3

Source: Field data, 2021.

Table 2 also present the demographic characteristics about the Electronic Money merchants in the Greater Accra Region. Results on Table 2, revealed that like in Table 1, the males formed the majority with 61.1 percentage. Also with the ages of the merchants, 36.8 percent representing the most were between the age of 21 years and 30 years, while 31.6 percent were those between the ages of 31 years and 40 years and just 6.3 percent were those with ages 41 years and above. For the educational attainments, majority of the merchants (63.1%) stated they have had secondary school education and 31.6 percent also claimed to have had Basic school education and only 5.3 percent of the Electronic Money merchants had no formal education. Even though this appears to contradict the results of Sogbodjor (2015), the researcher believes that perhaps the setting of the study gave rise to these results. Moreover, to put this study into perspective, the motive behind the presentation of the results on the demographics of respondents was to provide background information about respondents and to provide the context within which the study was situated. Demographic description of respondents was also found necessary to provide a basis for differentiating between responses, since aggregated responses may exclude some pertinent isolated concerns.

Impact of electronic money usage on the economy of Ghana

This section of the study assesses the impact the operation of MTN Electronic Money have on the lives both subscribers, merchants and the economy wide.

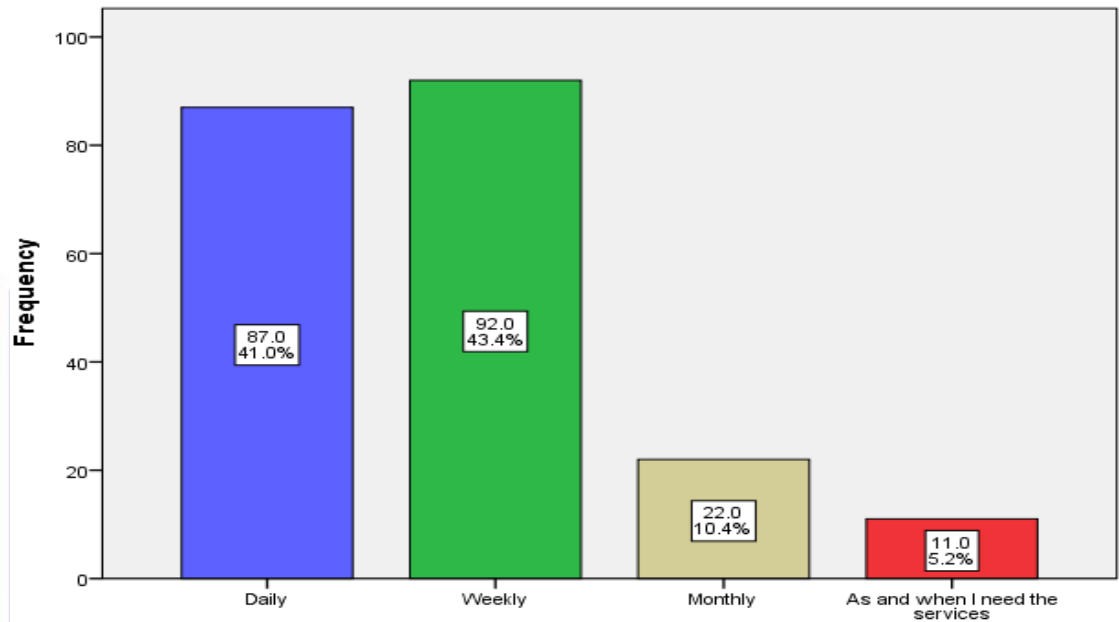


Fig 1: Number times the MTN Electronic Money Services are used

Source: Field data, 2021

The study aimed to determine whether users actually use the services before performing a regression to measure the impact on people's lives. Results are shown in Figure 1; 43.4 percent of users indicated they use MTN Electronic Money on a weekly basis, and roughly 41 percent claimed they use it daily. However, 10.4% of customers used the services on a monthly basis, and roughly 5% stated they only used MTN Electronic Money when they actually required it. In general, a service that is used frequently and frequently by many customers is one that they value and consider to be like their own. Additionally, it implies that the services have a big impact on their life. According to a study by Wemakor (2014), the electronic money system has enormous potential for improving both people's lives and the economy as a whole. According to the report, if the government is able to tax the systems, it would mean that it would make a sizable

sum of money considering the number of users every day, every week, and every month.

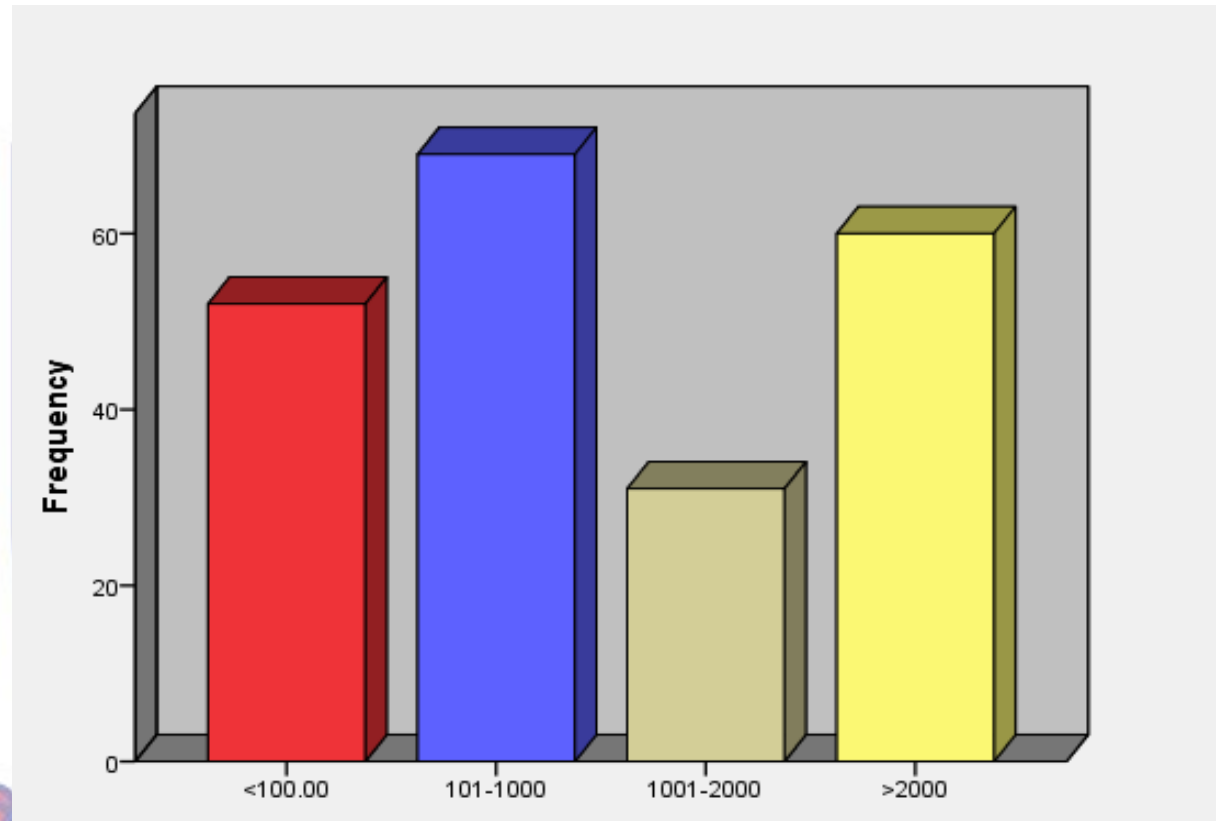


Fig 2: Average amount transacted over the period.

Source: Field data, 2021.

Results on Figure 2, follows from Figure 1, the study then having knowledge about the number of times the service is being used, the study assessed the average amount that are transferred or transacted over the same period. From Figure 2, 55 respondents indicating 25.9 percent said on the average, less than GHC 100.00 are transferred daily. Moreover, 31.6 percent of the subscribers stated that they transfer between GHC101.00 and 1000.00 weekly and about 14 percent said they are able to transfer between GHC 1001.00 and 2000.00 monthly. Additionally, 28.3 percent said they transfer more than GHC 2000.00 as and when

they need the MTN Electronic Money services. This is an indication of the fact that the MTN Electronic Money services are largely patronised. The studies of GMSA (2014); Minischetti and Scharwatt (2016) indicated that the Electronic Money business has come to stay and lots of people are patronising it. This also explains why more countries are giving authorisation to the mobile operators to venture into the arena of Electronic Money system.

Table 3: Impact of the usage of the Electronic Money system

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	5.707	.128		44.604	.000
MTN Electronic Money has reduced the time and the system is easy to use.	.018	.008	.028	2.371	.019
Electronic Money has helped to save, take loans, and pay fees easily	.044	.020	1.006	1.106	.051
Electronic Money has eased my access to money with no queue and delays	.104	.020	.169	5.176	.000
Source of employment and income	.690	.037	.828	18.523	.000
Electronic Money has helped to pay bills and buy items easily	-1.652	.045	-1.602	-36.473	.000
Electronic Money has improved ways of doing business	.047	.020	.074	2.417	.017

Electronic Money has made it easy to send/receive remittances and buy airtime	1.288	.022	.828	59.642	.000
Electronic Money has also eliminated cost of transportation to access funds	.320	.014	.562	22.232	.000
Reduced the theft and attacks on people who travel to do business	-.850	.051	-.913	-	.000
				16.733	
$R^2 = .939$; Tolerance = 0.00					

Table 3 present a multiple regression model on the impact of Electronic Money system to the lives of both subscribers and merchants. The study employed the use of the Ordinary Least Squares (OLS) to do this. The results revealed that all the independent variables except one were statistically significant in explaining the impact the Electronic Money service have on the lives of its clients. First, the results showed that at 5% significant level, the use of the MTN Electronic Money system positively influence business or economic activity because the MTN Electronic Money has reduced the time and the system is also easy to use. Thus, the more clients use the MTN Electronic Money system, the more they are able to reduce their turn-around time in business. The results again showed at that 5% significance level, Electronic Money has helped to save, take loans, and pay fees easily was statistically significant. This means that there is no relation between the use of Electronic Money services and ability to save, take loans and pay fees. This results actually contradict the realities on the ground. Thus, the MTN Electronic Money operations have really made the payment of fees and even application of loans from other financial institutions to be easy.

These results probably contradicted this view perhaps because of the type of clients and the setting of the study. Generally, if the clients are not inclined to conduct this type of activity, they may not be able to do it.

In addition to the above, the results proved that at 5% significance level, the use of the MTN Electronic Money services have eased access to money with no queue and delays. From the results there was a positive relationship, implying that the increase in the Electronic Money usage increase easy access to money. Stated differently, according to the results, a unit increases in MTN Electronic Money service usage increase access to easy money by 0.104 units. The results also revealed that employment was statistically significant in impacting the lives of MTN Electronic Money clients especially the merchants. Especially the results indicated that at 5% significant level, any increase in the usage of Electronic Money services increases employments levels in the economy by 0.690. The results also indicated that the usage of MTN Electronic Money services has helped to pay bills and buy items easily wherever you are. According to the results on Table 3, though there is the use of the Electronic Money services help to pay bills, the relationship is rather negative. Implying that increased level of the usage reduces ways of paying bills buying items and that an increase in the Electronic Money usage, reduces ways of paying bills purchasing of items by 1.652 units.

Moreover, the results proved that the usage of MTN Electronic Money services have improved the ways of doing business. From the results, it was statistically significant at 5% level and that any increase in Electronic Money

usage improves ways of doing business by 0.047. Again, the results showed that Electronic Money usage has made it easy to send or receive remittances and buy airtime. And that a unit increase in the service improves easy access to remittances by 1.288 units. Additionally, the results showed that Electronic Money has also eliminated cost of transportation to access funds. The results showed that at 5% significance level, an increase in Electronic Money usage eliminate the cost of transportation to access funds by 0.032 units. Finally, the results indicated a rise (0.850) in robbery on business persons who were in transit to transact business.

Generally, before any regression is being conducted and adopted, certain estimation test ought to be proved and tested before the estimates are used. First, from the ANOVA Table (see Appendix C), the F statistic was statistically significant [$F(11,307)=2739.8; p=0.000$]. This means that the results are statistically different from zero and that the model fit to be used. The R^2 (explanatory power) beneath Table 3 indicated that about 93 percent of the variations in the dependent variable has been explained by the independent variables. Moreover, the tolerance measured by the variance inflation factor (VIF) was 0.00. Generally, the tolerance measures the multiple collinear in the model. According to Torres-Reyna (2014) the tolerance should not be more than 0.1, hence the 0.00 was within reach and that also signify that the model had no problem of multicollinearity and thus indicate a good model.

The results on Table 3 to a very large extent support literature even though there are few results that contradicted the results. For instance, the results support

the studies of Sogbodjor (2015); NCA (2015); and Beattie (2016). Especially, the results support the study of Sogbodjor (2015) on the view of employments and easy access to money. That view is that some people have made the use of the MTN Electronic Money as business where they help other client to get physical cash for e-cash on their phone at a commission from the operators of the various Electronic Money services herein called the merchants. Again, according to the NCA (2015) because there is an increasing number of merchant in the Electronic Money operation, this has made the access to money from the merchant even easier than going to the traditional banks. Crosman (2012) also indicated that the introduction of Electronic Money system is transforming the lives of the informal sector from all corners of the world as they are now able to access financial service through a mobile phone.

The results also contradicted the study of Domeher et al (2014) which mentioned that the emergence of electronic money transactions in Ghana has broadened person-to-person transfers, payment of rents, school fees, transport costs, payment of taxes, licenses, stocks or bonds. In addition, Mensah and Dzokoto, (2011) stated that the use of Electronic Money in Ghana has eliminated queuing and struggle for cash in the Ghanaian banking halls. The rush for money ahead of holidays has also reduced drastically. Even if one needed cash, he does not need to go into the banking hall. Thanks to Ghana's interoperability bank customers merged their electronic money accounts with their bank accounts. They have unlimited access to their funds anytime. To sum it the study showed that the use of the MTN Electronic Money service have impacted the economy and the

lives of people through access to money, employments, reducing the stress in doing business, lower the risk in carrying money and easy access to remittances.

Perception of clients on the use of electronic money system

Table 4: Perception of subscribers on MTN Electronic Money

Perceptions	SD	D	N	A	SD	Mean
Transactions are easy to access and reliable	9.4%	0.0%	9.0%	42.5%	39.1%	4.1
Electronic Money agents are almost everywhere	9.4%	0.0%	19.4%	56.6%	14.6%	3.0
Accounts opening on the Electronic Money system is easy	0%	10.4%	0.0%	37.3%	52.3%	3.6
Transactions take short time	10.4%	10.4%	0.0%	45.8%	33.4%	3.6
Charges are affordable	0.0%	0.0%	25.5%	42.0%	32.5%	2.2
There is high security with the Electronic Money System	10.4%	13.6%	0.0%	67.5%	8.5%	2.0
Easy to transfer money to someone else instead of the one intended	10.4%	14.6%	9.9%	38.2%	26.9%	3.0
Restriction on the amount of money to transfer	0.0%	24.5%	0.0%	33.5%	42.0%	3.1
Helps to move large sums of money unnoticed	9.4%	0.0%	25.0%	38.7%	26.9%	4.0
The system is perfect except poor connectivity and scammers	29.2%	14.6%	9.9%	37.3%	9.0%	2.1

SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree and SD=Strongly Disagree

The researcher assessed the perceptions of both subscribers and merchants on the operations of the MTN Electronic Money system. On Table 4, over two thirds of the respondents (about 81.6%) agreed that the transactions on the MTN Electronic Money are easy to access and reliable. Also one perception that is held by more than half the entire respondents (56.6%) is that they use the service because the MTN coverage and agents or merchants are almost everywhere in the country. Another important reason why majority (52.3%) of the clients stay with the system is that accounts opening on the Electronic Money system very easy unlike the traditional banks and even other network operators. Moreover, about 78 percent of the clients are with the perception that transactions on the MTN Electronic Money system takes short time and that anytime they want cash they can fall on them. There is also the belief shared by some clients (42%) that the charges on the system are affordable, thus that is why they still utilize the system.

Though MTN Electronic Money services enjoy lot of patronage from subscribers due to the reason mentioned above, there are portions of the subscribers about one quarter of the respondents (24.4%) disagreed with the notion that there is high security with the Electronic Money system. Additionally, majority of the respondents about 65 percent agreed that the system is fraught with system which makes it easier to transfer money to someone else instead of the subscribers intended to. Another issue is about 42 percent of the subscribers believe that there are restrictions on the amount of money to transfer to subscribers. Also about 30 percent disagreed with the perception that but for poor connectivity, the MTN Electronic Money operation is perfect. However, about

38.7 percent agreed that the MTN Electronic Money system helps to move large sums of money unnoticed.

These perceptions held by many may not be a departure from other empirical studies. For instance, the results support Wahiduzzaman et al (2014) hinted that people or subscribers stay with the mobile because of service quality. They argue further that for the fact that even illiterates are able to use it with little or no assistance suggests that electronic money transaction is simple and not complex. Again, the results support the study of Ky and Rugemintwari (2015) who indicated that Electronic Money transaction provides an easy means of making cash deposit. This view of Ky and Rugemintwari (2015) is clearly in line with the results in this study.

Table 5: Reasons for using MTN electronic money system instead of the other networks

Reasons	Employment status				Total
	Unemployment	Employed	Self-employed	Business owner	
It is reliable	0(0.0%)	0(0.0%)	21(12.1%)	0(0.0%)	21(12.1%)
The chargers are low	21(12.1%)	19(11.0%)	49(28.3%)	19(11.0%)	108(62.4%)
The network connectivity is stronger	22(12.7%)	0(0.0%)	0(0.0%)	0(0.0%)	22(12.7%)
They have a higher coverage	0(0.0%)	22(12.7%)	0(0.0%)	0(0.0%)	22(12.7%)

Total	43(24.9%)	41(23.7%)	70(40.5%)	19(11.0%)	173(100.0%)
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$$\chi^2 (3, 173) = 176.15; p = 0.000; phi = .651$$

The perceptions on the subscribers juxtapose against certain groups of respondents. First the researcher tested whether or not there is some association between the perception of the respondents and the employment status. Generally, those in formal sector of employments may not utilise the Electronic Money (Electronic Money) system because of the banks and vice versa. The results on Table 5 proved that there exist a positive association at employment status and the perception held by subscribers of MTN Electronic Money services. For the effect size using the *phi* coefficient (0.651), there is the indication that employment status has a high effect on the determination on the usage or adoption of Electronic Money service by a subscriber. This result moreover gives the indication that the results are not due to chance but the actual view held by the respondents.

According to the results on Table 5, most of the users or subscribers (40.5%) of MTN Electronic Money are the self-employed people. The reasons for utilizing the Electronic Money services include largely low charges (28.3%) and its reliability (12.1%). Again, the unemployed subscribers stated that they use the Electronic Money services because the MTN network has very strong connectivity (12.7%) and very low service charges (12.1%). The full-time employed or the employed subscribers also indicated that they use the Electronic Money services because MTN network has a higher coverage in the country. Finally, those business owners also said they use the MTN Electronic Money

services because the chargers are lower compared to other networks and the traditional banks. Thus, various groups of subscribers hold different view why they have subscribed to the MTN Electronic Money services. This view very much aligns with the study of Kofigah (2010) though clients use the e-money platforms or the Electronic Money systems; there are various reason why an individual would prefer a network to the other network.

Table 6: Perception of subscribers according to gender

Sex	The coverage and agents are everywhere				Total
	Strongly Disagree	Disagree	Agree	Strongly Agree	
Male	20(9.4%)	41(19.3%)	41(19.3%)	31(14.6%)	133(62.7%)
Female	0(0.0%)	0(0.0%)	79(37.3%)	0(0.0%)	79(37.3%)
Total	20(29.4%)	41(19.3%)	120(56.6%)	31(14%)	212(100.0%)

$$\chi^2 (3, 212) = 96.54; p = 0.000; phi = .301$$

Results on Table 6 also present the views of respondents but however nested it against the sex or gender of the respondents. The researcher again tested to see if there was an association or relationship. The use of the chi-square test of association proved that there was an association between sex of the respondents and variations in the views presented. For instance, most of the females (37.3%) agreed that they utilize the MTN Electronic Money because coverage and also because the merchants or agents could be found almost everywhere in the country. On the contrary, most of the males (19.3%) disagreed with this view but inclined to other perception or reason for using the MTN Electronic Money

services. The results shows clearly the position of Nandi (2015) who stated that in India and other male dominated countries, there is a clear distinction between why the male uses mobile phones as directly opposed to females using the Electronic Money system. While the males think about convenience, the later thinks about charges and coverage. The results contradict to some extent with the study of Kusimba et al. (2013) who claimed that there is not clearly marked reason why females use the Electronic Money to the males use the Electronic Money because the basic reason using the e-money system does not differ from one subscriber to the other.

Table 7: Perception of MTN Electronic Money Merchants

Perceptions	SD	D	N	A	SD	Mean
Electronic Money is fast and secure	0.0%	56.8%	0.0%	36.8%	6.3%	2.1
Electronic Money is more profitable than the other networks	0.0%	25.3%	0.0%	36.8%	37.9%	3.7
The Electronic Money give opportunity for loans	31.6%	6.3%	0.0%	62.1%	0.0%	3.0
MTN Electronic Money has higher coverage	0.0%	25.3%	74.7%	0.0%	0.0%	3.6
The system is fraught with fraudsters	0.0%	56.8%	0.0%	43.2%	0.0%	2.2
Working the system has improved standard of living	0.0%	6.3%	25.3%	31.6%	36.8%	4.2

SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree and SD=Strongly Disagree

Table 7 also present the perception of merchant on MTN Electronic Money service network. Fifty six percent (56.8) of respondents do not agree with the suggestion that the MTN Electronic Money service is fast and secure compared to the other network operators. However, most of the merchants (37.9%) perceive the MTN Electronic Money to be more profitable than the other mobile operating networks. Furthermore, more than half of the entire merchants (62.1%) agreed that the MTN Electronic Money gives the opportunity to secure loans for their business. Again, almost two thirds of the respondents (74.7%) are indifferent that the MTN Electronic Money service has a higher coverage than the other networks. Finally, most of the respondents (37%) believed that working with MTN Electronic Money operations have improved their standard of living because it has become a source of employment and income.

The researcher as way of knowing the perception levels also ranked the responses. From the mean rank, the most perceived reason why merchants prefer or work with MTN network is because they feel that working the system has improved their standard of living because its s form of employments and income generation. The next is that the MTN Electronic Money is more profitable than the other networks. However, the low perceived reason is that the MTN Electronic Money system is fast and secure. These perceptions are in line with the results of PWC (2016); NCA, (2015). According to the NCA (2015) the rate at which MTN subscription have increased to 14,113,432 vis-à-vis mobile phone penetration rate have also increased to 15.4%, it come as no surprise to see the MTN Electronic Money to more profitable. Again, the MTN network were the

first to start the Electronic Money operation in Ghana thus may leverage on their returns to scale to surpass the other operators in the business. The report by PWC (2016) also indicate that the operation of the Electronic Money merchants have become a great source of employment for the young entrepreneurial minds especially where access to decent jobs have become hard to come by. It is also logical for the system to invite fraudsters and scammers since the system is profitable.

Table 8: Perception of merchants on location and profitability of operating MTN Electronic Money

Location	Profitability of MTN Electronic Money compared to others				Total
	Strongly Disagree	Disagree	Agree	Strongly Agree	
	Ada Foa	0(0.0%)	0(0.0%)	0(0.0%)	
Ashiaman	0(0.0%)	0(0.0%)	0(0.0%)	13(13.7%)	13(13.7%)
Big Ada	0(0.0%)	0(0.0%)	35(36.8%)	0(0.0%)	35(36.8%)
Sege	0(0.0%)	24(25.3%)	0(0.0%)	0(0.0%)	24(25.3%)
Total	0(0.0%)	24(25.7%)	35(36.8%)	36(37.9%)	95(100.0%)

$\chi^2 (6, 95) = 190.00; p = 0.000; phi = .472$

On Table 8 the study presented the views of MTN Electronic Money merchants on whether or not location or area or operation influences the choice of network operation and profitability of the job. The study again tested the association location of operation of profitability of the job. According to the results, using the chi-square test of association, there is a proof that at 5%

significance level, there exist associations or a positive relation between location profitability of the operation. The *phi* statistic shows that location has about 47% effect or influence on the profitability and thereby the choice of the network. For instance, apart from merchants in Sege who disagreed with this perception, all the other merchant responders agreed that location affect the profitability or otherwise of the Electronic Money operation.

Though this may support common logic and reason, it however contradicted the study of Pénicaud and Katakam (2013) that opined or suggested that because the operation of Electronic Money is gathering steam or momentum; wherever one would find him/her self, the operation would be profitable. On the contrary, the study of Nandi (2015), the operation of Electronic Money system works well in clearly marked population or well populated areas. Especially in populated communities with majority being informal people who lack access to the formal banks or the financial institutions the only option is the Electronic Money. Thus, the operation of Electronic Money becomes more profitable in such areas. The results again support the theory of financial deepening suggested by Demirguc-Kunt and Klapper (2012) such that in populations where people lack access to financial institutions, the e-money comes in handy. It also becomes profitable to operate such business in such communities.

Challenges with the use of the Electronic Money System

Table 9: Challenges of subscribers on the Electronic Money services

Challenges		Frequency	Percentage
Pin numbers are difficult to remember	Yes	42	19.8
	No	170	80.2
Network connectivity	Always	61	28.8
	Sometimes	151	71.2
Knowledge on the system is difficult	Yes	148	69.8
	No	64	30.2

Table 9 presents the challenges of subscribers on the MTN Electronic Money services. First majority of the subscribers (80.2%) disagreed that handling of the pin numbers are difficult to remember. Moreover, 71.2 percent stated that network connectivity is sometimes a challenge, while about 70 percent of the subscribers agreed that knowledge on the MTN Electronic Money system is a problem. The results support the view of Tobbin and Kuwornu (2011) in most developing or less developed countries where literacy rate is quite low, knowledge on the electronic system is always a problem to behold. Similarly, Afanu and Mamattah (2013) indicated that PIN sharing or keeping is always a problem for the aged and the illiterate clients.

Table 10: Other challenges of subscribers on the Electronic Money system

Perceptions	SD	D	N	A	SD
High possibility of transferring money to an unintended client	0.0%	9.9%	4.7%	63.2%	22.2%
The system is cumbersome and needs guidance	24.5%	0.0%	44.3%	26.9%	4.2%
There is always a problem withdrawing cash sent to unintended clients	9.4%	0.0%	10.4%	55.7%	24.5%
High possibility of being defrauded	20.8%	4.7%	5.2%	47.2%	22.2%
Services charges are expensive and too many	10.4%	0.0%	19.8%	56.1%	13.7%

SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree and SD=Strongly Disagree

Besides the difficulty mentioned on Table 9 by subscribers, they also added that their other challenges which have been expressed on Table 10. Over two thirds of the subscribers mentioned that there is always a high possibility of transferring cash to unintended clients. Even though there are systems to check these issues, most clients who may at some be in a hurry to send money may send the cash to someone else instead of the intended clients. Again, though some subscribers (44.3%) were indifferent that system is cumbersome and therefore needs guidance, about a quarter (24.5%) disagreed to this preposition.

Moreover, more than half of the entire subscribers (55.7%) agreed that there is always problem withdrawing cash sent to unintended clients. Again, most

clients (47.2%) agreed that there is always a high possibility of being defrauded when you utilize the Electronic Money services. Additionally, over fifty percent of the subscribers (56.1%) indicated that services charges on the system are expensive and sometime become too many. The intuition is that at any time you want have the services there is a charge to pay even if a client has paid for one service or the other. The results of Blumenstock et al (2014) support the results on Table 10, suggesting that on a system where a client does not see the to the other client, there is always a possibility to send money to wrong person or make a wrong suggestion. Observation has also shown that more often than not client send money to unintended clients and they would go through hectic time recovering other do not get the money back at all.

Table 11: Challenges Electronic Money merchants face in their operations

Perceptions	SD	D	N	A	SD
Most customers are ignorant on the system	6.3%	56.8%	36.8%	0.0%	0.0%
There is always an issue of threshold on withdrawals	56.8%	6.3%	0.0%	0.0%	36.8%
In most cases, demand for cash outstrip the supply	25.3%	0.0%	0.0%	43.2%	31.6%
Lot of pressure from clients especially at the end of the month	25.3%	0.0%	31.6%	0.0%	43.2%
Lot of hoax messages or scammers	31.6%	0.0%	0.0%	31.6%	36.8%
There is always request for ID cards which most clients do not have	25.3%	0.0%	6.3%	31.6%	36.8%

SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree and SD=Strongly Disagree

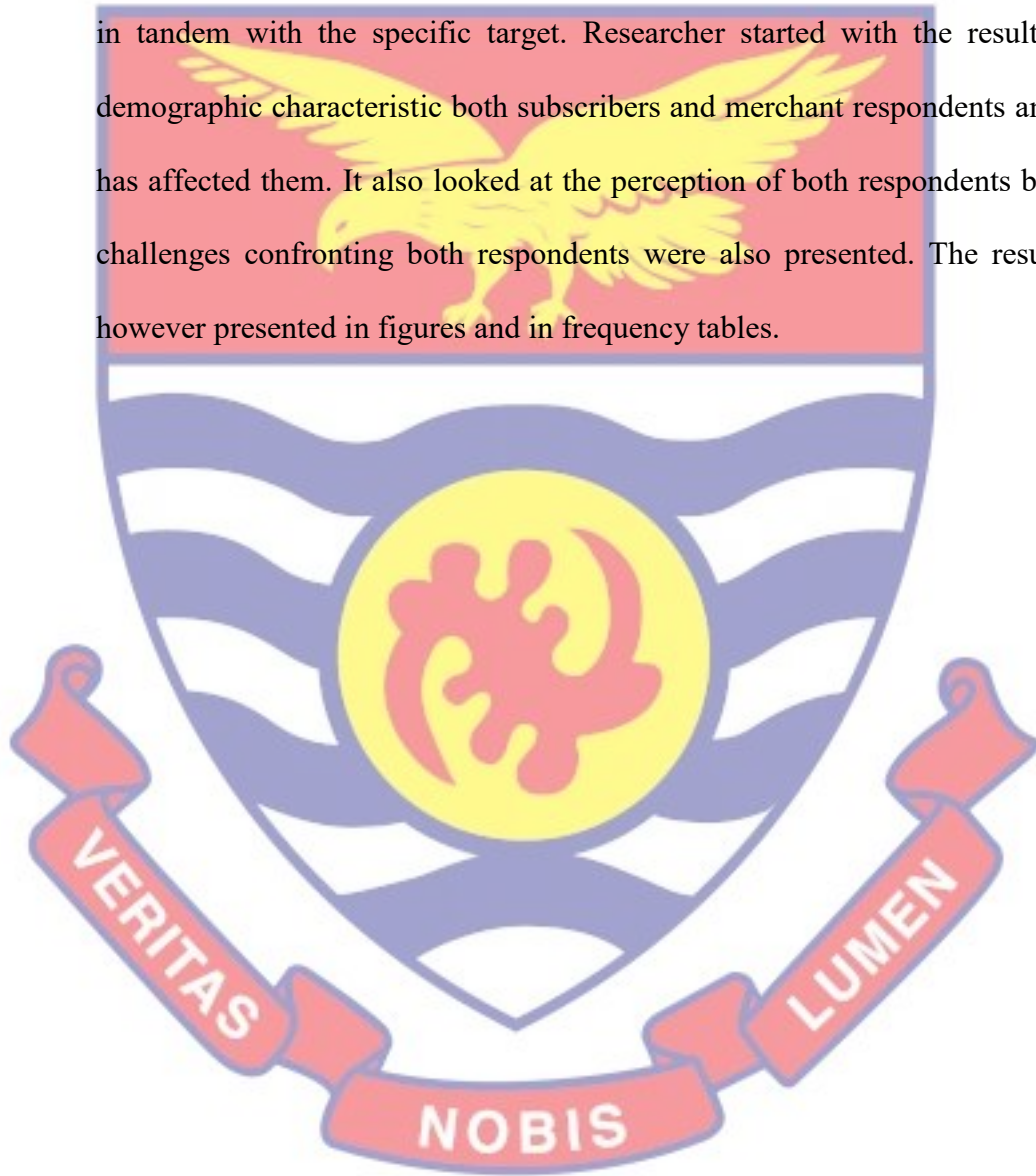
On the part of the merchant, the study showed that they also face some bit of challenges. Table 11 present the challenges faced by MTN Electronic Money merchant in the study area. Close to two thirds of the merchants (74.8%) indicated that in most cases, demand for cash outstrip the supply of the cash. This is quite evident in highly populated areas where numbers of customers or subscribers are more than the MTN Electronic Money merchants; demand for cash may sometime outstrip that of the supply. Again, over fifty percent of the entire respondents (68.4%) said there usually a hoax messages or scammers on the system. Those lots of subscribers come to the Electronic Money merchants with hoax messages that emanates for swindlers or scammers elsewhere. In this regard if a merchant is less vigilant, then they get to take huge sums of money from you before you realise it.

In addition, some clients are oblivious that before they can withdraw cash, the merchant would demand an ID card. That is because they operators as a way of strengthening the security of the system demand ID cards, clients would always have to come with ID cards. However, since some clients lack the required ID cards, the issue of cash withdrawal has been an issue in certain parts of the country. The results support the studies of Amankwa and Kevor (2013); and Blumenstock et al (2014). According to Blumenstock et al (2014) the issue of hoax messages of scammers is a global issue where some people would

intentionally sit at one place and send scandalous messages with the aim of hacking the phones of some subscribers and withdrawing cash from them.

Summary

The chapter presented the results and discussions of results were presented in tandem with the specific target. Researcher started with the results on the demographic characteristic both subscribers and merchant respondents and how it has affected them. It also looked at the perception of both respondents before the challenges confronting both respondents were also presented. The results were however presented in figures and in frequency tables.



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introductions

This chapter includes a summary of the findings, recommendations, and conclusions from the research.

Summary

The researcher set out to evaluate How Electronic Money Transactions Affect a Cashless Ghana: The Case of MTN-Ghana. Because the study makes it easier to describe the problem in detail, it used a descriptive design as its primary instrument. A total of 384 questionnaires were distributed in order to collect the data for this work, however only 307 of them were returned, representing a response rate of 79.9%. Charts and tables of frequency were used to display the results. In addition, parametric and non-parametric methods including the chi-square test, ANOVA, and Ordinary Least Squares regression were all used to evaluate how the adoption of the MTN Electronic money transactions has affected the respondents' lives and the economy. For the major findings, the study found that

- the adoption of the MTN Electronic Money transaction have impacted on the economy through employment, access to funds, and lower the risk in doing business. For instance, at 5% significance level the Electronic Money operation have increased employment by 0.690 units. It also significantly reduced the delays, queues, and risk of doing business.
- Subscribers perceived that the opening of Electronic Money Account is easy and opposed to the traditional bank account opening; Electronic

Money agents are easily accessible and could be found almost everywhere.

- There exist relationships between the perception or reason why different groups of respondents or subscribers use the MTN Electronic Money services. Whereas employers and entrepreneurs use the Electronic Money because of low service charges and convenience, the unemployed use it due to its of higher network connectivity whilst the full-time employed use because of the high coverage of the MTN network.
- On the part the merchants, the perception were that the MTN Electronic Money provides sustainable employment and income generation. Besides, most merchants believe that profitability of the Electronic Money business is largely influenced by the area or location of the merchant or agent.
- Regarding the challenges on the part of subscribers, the study found that network connectivity was sometimes a problem to handle, also there was a high possibility of sending money to different client unintended, there is always problem with withdrawing money sent to unintended clients or making wrong transactions and services charges are always expensive and too many.
- For the challenges on the part of Electronic Money merchants, they study found that request for ID cards when withdrawing cash has been a problem as well as dealing with lots of hoax messages or swindlers. Again, some merchant recounts time where demand for cash outstrips the

amount of money on them and the restriction that bars clients and merchants on the threshold of amount to send within a day.

Conclusions

The conclusions below were deduced from the findings.

It could be concluded that MTN Electronic Money operation is sustainable because of the tremendous impact on the lives of both subscribers and merchants and that of the economy. It has created avenue to access funds or cash easily, send or receive remittance, created employment especially for the merchants, and lower the risk and delays in accessing funds.

The study also revealed that lots of people hold different perceptions or reason behind the adoption of the Electronic Money services. While subscribers believed that accounts opening are easy, access to merchant are easy, and aid in the moving large sums of money unnoticed.

Merchants also believe that the MTN Electronic Money is a source of employment and an income generation venture.

However, irrespective of the merits, some challenges which needed attention has been associated with the electronic money services. These include hoax messages, request for national ID cards, service charges et al.

Recommendations

The recommendations below were deduced from the findings:

1. This researcher suggests that the security architecture of the operation should be improved. The intuition is that, since the operation appears to be

lucrative, swindlers and fraudsters take advantage of circumventing the system.

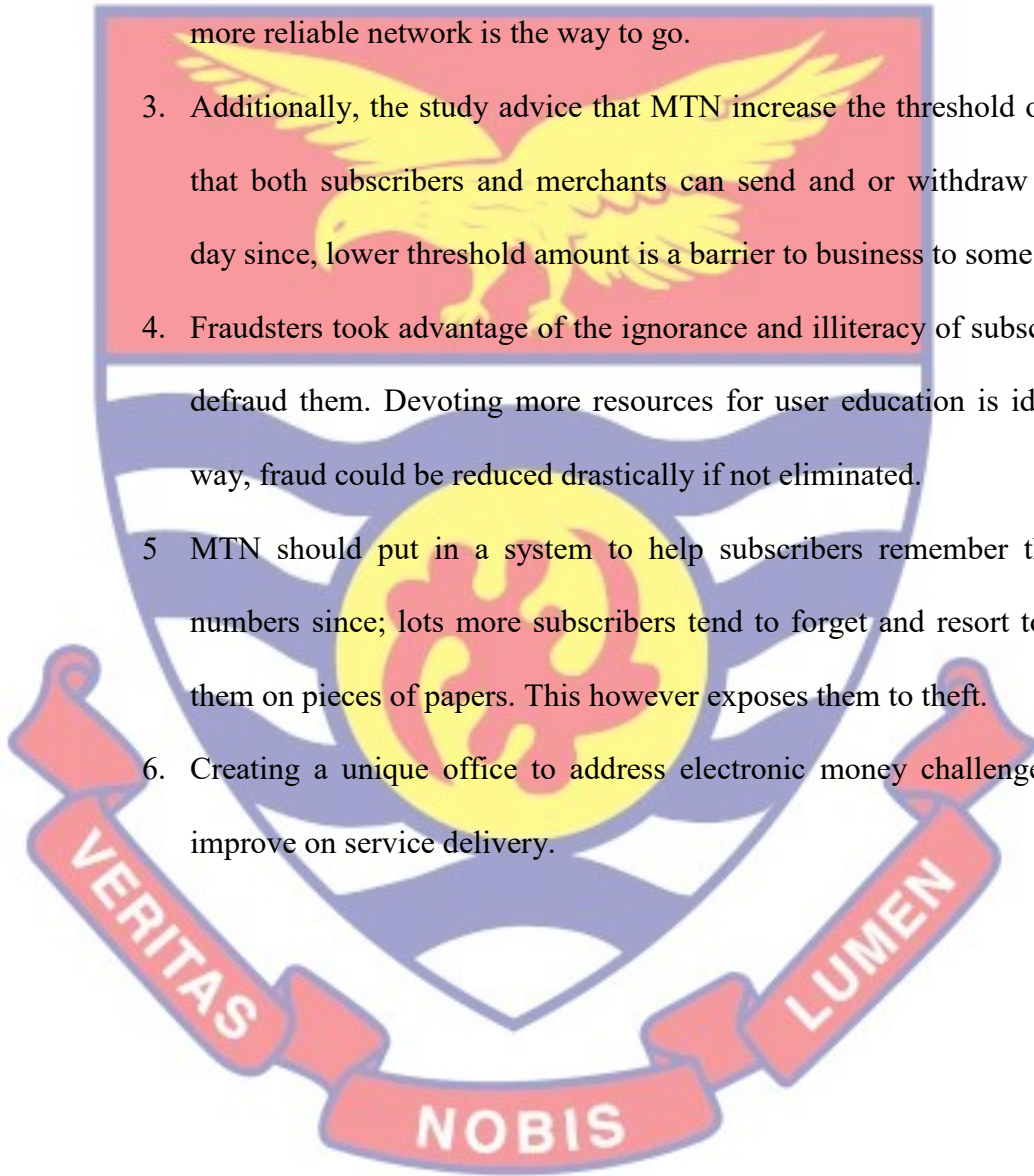
2. A stable network would enhance reliability and business growth. This study submits that committing more resource for the enhancement of a more reliable network is the way to go.

3. Additionally, the study advice that MTN increase the threshold of money that both subscribers and merchants can send and or withdraw within a day since, lower threshold amount is a barrier to business to some extent.

4. Fraudsters took advantage of the ignorance and illiteracy of subscribers to defraud them. Devoting more resources for user education is ideal. This way, fraud could be reduced drastically if not eliminated.

5 MTN should put in a system to help subscribers remember their PIN numbers since; lots more subscribers tend to forget and resort to writing them on pieces of papers. This however exposes them to theft.

6. Creating a unique office to address electronic money challenges would improve on service delivery.



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APPENDIX A
UNIVERSITY OF CAPE COAST
SCHOOL OF BUSINESS STUDIES
Questionnaire for MTN Mobile Money Subscribers

Hello All,

This author is an MBA Student, School of Business at the University of Cape Coast. In compliance with his dissertation, he is using this questions paper to collect information on the Emergence & Sustainability of Electronic Money Transaction in Ghana; The Case of MTN MoMo. Your responses are for purposes of this dissertation only and no part of it would serve any other purpose. Candid responses would serve a greater good.

Please tick (✓) what is in line with your understanding.

DEMOGRAPHIC INFORMATION

1. Age of respondents: a. <20yrs [] b. 20-30yrs [] c. 31-40yrs [] d. 41-50yrs [] e. 51-60yrs [] f. 61yrs + []
2. Sex of respondents: a. Male [] b. Female []
3. Marital status: a. Single [] b. Married [] c. Divorce/separated []
4. Level of education: a. Basic [] b. Secondary [] c. Tertiary [] d. None []
5. Employment status: a. Unemployed [] b. Employed [] c. Self-employed [] d. Business owner []
6. Income level : a. ≤ 100 [] b. 101-1000 [] c. 1001- 2000 [] d. ≥ 2000 []

BENEFITS OF ELECTRONIC MONEY TRANSACTIONS USAGE

7. How often do you use the electronic money transaction?

- a. Daily []
- b. Weekly []
- c. Monthly []
- d. As and when I need the services []
- e. Other (specify)

8. On average how much do you receive or transfer over the same period

- a. <GHC 100.00 [] b. GHC101.00-500.00 []
- c. GHC501.00-1,000.00 [] d. >GHC1000.00 []

What are the benefits of using the electronic money transactions? Kindly answer the following using the SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree and SD=Strongly Disagree

Benefits	SD	D	N	A	SA
Economic Benefits					
9. MTN electronic money transaction has reduced the time and the system is easy to use.					
10. The electronic money transaction system has also helped to save, take loans, and pay fees easily.					
11. Electronic money transaction has eased my access to money with no queue and delays.					
12. Electronic money transaction has given me easy access to financial services.					
13. The electronic money transaction has helped to pay bills and buy items easily.					
14. The electronic money transactions have improved ways of doing business					

Social Benefits				
15. Electronic money transaction has made it easy to send/receive remittances and buy airtime.				
16. The electronic money transaction has also eliminated cost of transportation to access funds.				
17. Electronic money transactions are secure and you move with large sums of money				
18. The electronic money transaction has also enabled me have access to my money anytime and anywhere.				
19. It has created a source of employment to people.				
20. It has reduced the theft and attacks on people who travel to do business.				

21. Mention other benefits of using the MTN electronic transaction?

.....

PERCEPTIONS OF CLIENTS ON THE USE OF ELECTRONIC MONEY TRANSACTIONS SYSTEM

22. Do you use MTN electronic money system? a. Yes [] b. No []

23. If Yes, why do you use MTN electronic money system instead of the other?

- a. It is reliable []
- b. The charges are low []
- c. MTN agents are easily accessible []
- d. Their network connectivity is stronger []
- e. They have a higher coverage []

What are the general perceptions of customers or clients to the use of electronic money transaction systems? Kindly answer the following using SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree and SD=Strongly Disagree

Perceptions	SD	D	N	A	SA
24. The electronic money transactions are easy to access and reliable.					
25. The electronic money transaction coverage and agent are almost everywhere.					
26. Accounts opening of the electronic money systems are easy.					
27. Transaction on the electronic money system takes short time.					
28. Charges on the electronic money systems are affordable compared to traditional banks.					
29. There is high security with the electronic money system.					
30. The system is convenient but prone to tricksters nowadays.					
31. It is very easy to transfer money to someone else instead of actual person you intend with the electronic money system.					
32. There are restrictions on the amounts of money to transfer with the electronic money transactions.					
33. No IDs requested when making transactions unlike the banks.					
34. The electronic money transactions ensure that clients move with large sums of money without being noticed					
35. When you take away the fraudsters and poor connectivity in some places, the system is perfect because it does not require writing, transportation and any bottlenecks.					

Kindly respond to the following using SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree and SD=Strongly Disagree

Challenges	SD	D	N	A	SA
47. Transactions on the electronic money transaction platform takes time					
48. The usage of the electronic money transaction system is cumbersome and needs one to guide you always					
49. You cannot transfer certain amount of money at a time as a client of the electronic money transaction system.					
50. There is high possibility of transferring money to an unintended clients with this system					
51. There is always a problem with withdrawing money sent to unintended clients					
52. There is high possibility of being defrauded					
53. There is always a possibility of losing money through theft.					
54. The lot of service charges on transactions makes transfers expensive.					
55. Do you agree that educational level of clients contributes to most of the challenges with the electronic money transfers					

56. Are you satisfied with the services of MTN electronic money transaction system? a. Very satisfied [] b. Satisfied [] c. Not satisfied []

d. Other (specify)

APPENDIX B
UNIVERSITY OF CAPE COAST
SCHOOL OF BUSINESS STUDIES
Questionnaire for MTN Mobile Money Merchants

Hello All,

This author is an MBA Student, School of Business at the University of Cape Coast. In compliance with his dissertation, he is using this questions paper to collect information on the Emergence & Sustainability of Electronic Money Transaction in Ghana; The Case of MTN MoMo. Your responses are for purposes of this dissertation only and no part of it would serve any other purpose. Candid responses would serve a greater good.

Please tick (✓) what is in line with your understanding.

DEMOGRAPHIC INFORMATION

1. Sex of respondents: a. Male [] b. Female []
2. Age: a. <20yrs [] b. 21-30yrs [] c. 31-40yrs [] d. 4yrs + []
3. Level of education: a. Basic [] b. Secondary [] c. Tertiary [] d. None []
4. Earnings per month: a. ≤ 100 [] b. 101-1000 [] c. 1001- 2000 [] d. ≥ 2000 []
5. Area or location of the respondents:

BENEFITS OF ELECTRONIC MONEY TRANSACTIONS USAGE

6. Are you the owner of the business? a. Yes [] b. No []
7. If Yes, who is it for? a. Relative [] b. Friend [] c. Someone else []
8. When did you start this business? a.<1 year [] b. 2-5yrs [] c. 6-10yrs [] d. 10yrs + []
9. Why are you a merchant? a. It is a profitable business []

- a. To help clients []
- b. Good network coverage []
- c. Am not able to get other job []
- e. MTN has more customers []
- f. Helping a relative/friend here []
- g. Other(specify)

How has working with electronic money system benefited you? Kindly answer the following with SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree and SD=Strongly Disagree

Variable	SD	D	N	A	SA
10. Electronic money transactions has helped to improve small businesses.					
11. The electronic money transaction business is profitable.					
12. The electronic money transaction system has given the poor access to finance.					
13. The electronic money transaction system has given the opportunity to pay bills, wages and buy products online.					
14. It has reduced the risk of doing businesses					
15. People in rural communities now have access to cash.					
Social benefits					
16. Electronic money transaction has reduced the transportation cost and waiting time at the banks.					
17. The electronic money transaction business provides employment					
18. The electronic money transaction business is a source of income.					
19. The electronic money system has brought joy more homes.					

PERCEPTIONS OF MERCHANTS ON THE USE OF ELECTRONIC MONEY TRANSACTIONS SYSTEM

20. Do you do electronic money transfer on other mobile networks apart from

MTN? a. Yes [] b. No []

21. If Yes, why?

22. If No, kindly state the reason?

Kindly attempt the following statements on perception with **SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree and SD=Strongly Disagree**

Perceptions	SD	D	N	A	SA
23. The electronic money transfer system is fast and secure					
24. The MTN electronic money transfer system is more profitable compared to the other network operators					
25. The MTN electronic money transfer system has more customers compared to the other networks					
26. Unlike the other networks, the MTN electronic money transfer system give the opportunity to secure loans.					
27. The coverage of the electronic money transfer system is high compared to traditional banks and other mobile network operators.					
28. The MTN electronic money transaction system is fraught with fraudsters.					
29. The electronic money transaction system is cumbersome.					
30. Do you think working as a merchant has improved your life?					

31. Would you want to continue working as an electronic money transaction agent? Yes [] b. No []

32. Please state the reason for your answer question (31)?

.....

.....

33. What are some other perceptions on the use of the electronic money transaction system?

.....

CHALLENGES WITH THE USE OF THE ELECTRONIC MONEY TRANSACTIONS SYSTEM

34. Are there delays in the payments of merchants? a. Yes [] b. No []

35. The customers on the electronic money transaction system are many and that causes lots of traffic on the network a. Yes [] b. No []

36. There are lots of confusing pop-up messages with the electronic money transaction system. a. Yes [] b. No []

Kindly attempt the following statements on perception with SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree and SD=Strongly Disagree

Variable	SD	D	N	A	SA
37. Most customers on the electronic money transaction system are ignorant					
38. There are issue with withdrawal of money beyond certain threshold on the electronic money transaction system.					
39. In most cases, the demands for cash outstrip the available cash.					
40. There lots of pressure from customers or clients with the electronic money transaction.					
41. Service charges are high with the electronic money transaction system.					
42. There are lots of scrutiny in opening an account with the electronic money					

transaction system					
43. There are lots of issues with the PIN handling with the electronic money transaction system.					
44. There are lots of hoax messages or scammers with the electronic money transaction system.					
45. There is always a request for ID cards for which most clients do not have.					
46. Handling of cash to and fro is always a problem					

47. Kindly mention any two other challenges of the system

.....

48. Is the electronic money transaction sustainable?

a. Yes [] b. No []

49. Has electronic money transaction improves the standard of living of people?

a. Yes [] b. No []

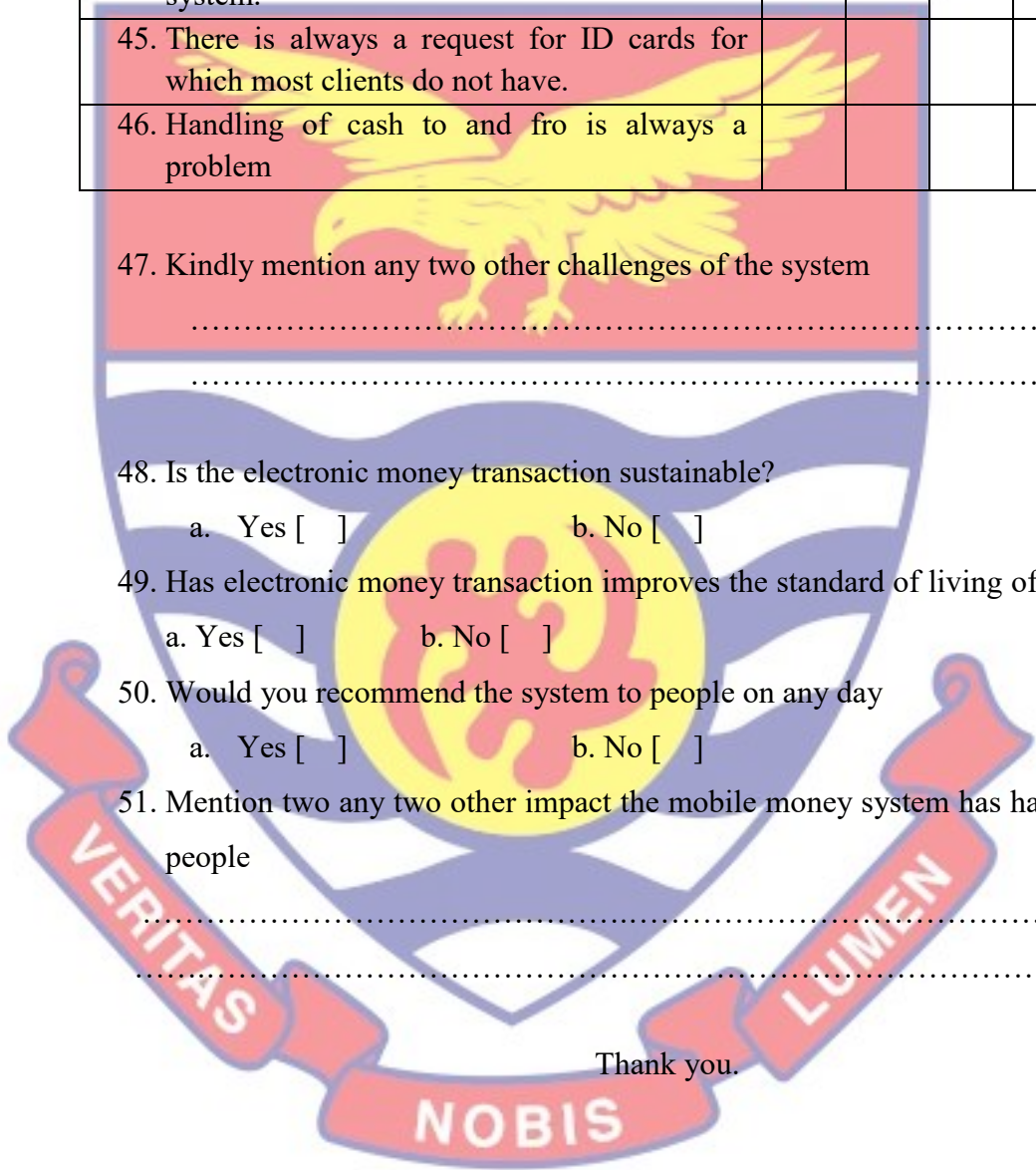
50. Would you recommend the system to people on any day

a. Yes [] b. No []

51. Mention two any two other impact the mobile money system has had on the people

.....

Thank you.



APPENDIX C

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	125.301	11	11.391	2739.826	.000 ^b
	Residual	.832	200	.004		
	Total	126.132	211			

a. Dependent Variable: Mention the impact of the services of MTN electronic money transaction system?

