FACTORS AFFECTING CUSTOMER'S INTENTION TO ADOPT CBEBIRR SERVICE: THE CASE OF CBE SELECTED BRANCHES IN KIRKOS DISTRICT ADDIS ABABA, ETHIOPIA

By: MATEWOS WONDIMKUN

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University, College of Business and Economics for the Partial Fulfillment of the Requirement of the Degree of Master of Business Administration

Advisor Mesfin Fikre (PHD)

ADDIS ABABA ETHIOPIA

June, 2024

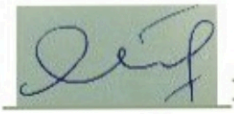
Declaration

I, Matewos Wondimkun, hereby declare that the research titled "Factors Affecting Customer's Intention to Adopt CBE Birr Service: the case of CIn Kirkos District, Addis Ababa " submitted in partial fulfillment of the requirements for the degree of Master of Arts in the Department of Business Administration at Addis Ababa University, is a record of original work carried out by me. This research has never been submitted to this or any other institution for any other degree or certificate. The assistance and help I acquired throughout this investigation have been duly acknowledged.

Declared by:
Name: Matewos Wondimkun Banje
Signature: ----------
Date: ----------

Approved by Board of Examiners

Advisor Mesfin Fikire (phD) Signature _____ Date 02/07/2024

Internal examiner Abera Legesse (PhD) Signature  Date 02/07/2024

External examiner Assegid Ayele(PhD) Signature _____ Date 28/06/2024

Acknowledgement

I am greatly thankful to God for providing me with the strength, health, and perseverance necessary to complete this project. I extend my heartfelt gratitude to my advisor, Dr. Mesfin Fikre, for his invaluable guidance and unwavering support throughout this journey. I am also deeply grateful to my brother, Shewakena Temtimu, whose selfless assistance with household tasks allowed me to focus wholeheartedly on my research. Additionally, I extend my appreciation to all others who contributed to this study, offering their support and assistance. Lastly, I owe a special debt of gratitude to my best friend, Mr. Mulugeta Belete, whose continuous feedback and assistance were instrumental in shaping this paper.

Abstract

The study aimed to examine the factors influencing the adoption of mobile money services, specifically CBE Birr, in Kirkos District. Utilizing a non-probability convenience sampling technique, branches within the district were selected for examination. Both primary and secondary data sources were used for data collection. Primary data were gathered through a structured questionnaire survey distributed to 385 estimated sample respondents, resulting in 365 responses. Additionally, a purposive sampling strategy ensured the suitable selection of respondents. Data analysis was conducted using SPSS V.26. Secondary sources included books, customer suggestion notes, CBE procedures and guidelines, published and unpublished research, journals, and various internet sources. The findings indicate that 62.8% of the variance in CBE Birr adoption in Kirkos District is influenced by five key independent variables: perceived usefulness, perceived cost, perceived ease of use, perceived trust, and reliable network, with the remaining 37.2% variation attributed to other factors. Based on these findings, the study recommends that CBE Birr service providers focus on these five critical variables to enhance adoption rates. Strengthening perceived usefulness, reducing perceived costs, improving ease of use, fostering trust, and ensuring a reliable network are crucial strategies for increasing the adoption of CBE Birr services among consumers in Kirkos District and similar contexts.

Keyword: Cbebirr, mobile money, commercial bank of Ethiopia, Addis Ababa, intention to adoption.

Table of Contents

LIST OF ACRONYMS

ANOVA: Analysis of Variance

CBE: Commercial Bank of Ethiopia

CCK: Communications Commission of Kenya

Cl: Confidence Level

DI: Diffusion of Innovation

ICT: Information and Communication Technology

KYC: Know Your Customer

MMT: Mobile Money Transfer

MNO: Mobile Network Operators

PC: Perceived Cost

PIN: Personal Identification Number

PU: Perceived Usefulness

RI: Relative Advantage

RN: Reliable Network

SD: Standard Deviation

SMS: Short Messaging Service

SN: Social Norm

SPSS: Statistical Package for Social Science

TAM: Technology Acceptance Model

UTAUT: Unified Theory of Acceptance and Use of Technology

VIF: Variance Inflation Factor

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The mobile platform represents a thrilling opportunity as a transport channel for digital economic offerings and as a technology that, like money, connects people with one another(Rea & Nelms, n.d.)Yet mobile money deployments around the world have not had unequivocal success. However, many of these mobile phone users live in cash economies without access to financial services for either credit or savings(Rea & Nelms, n.d.).

According to studies, more people in developing countries own mobile phones than they do bank accounts. In recent decades, mobile phone technology has emerged as the most promising and well-suited channel for financial inclusion, and it is widely used in nations where the majority of the population is unbanked. Consumers increasingly utilize mobile phones for banking, payments, budgeting, and shopping.

The mobile money transfer (MMT) service is part of a wider idea known as "mobile money" that is gaining traction in the banking and electronic payment industries. Mobile money is a digital financial invention that allows for money transfers and payments on a mobile phone via a simple messaging service (SMS) (Suri, 2017). By the end of 2015, there were 411 million registered mobile money accounts worldwide (222.8 million in developing economies, including Sub-Saharan Africa), with 134 million having at least one transaction in the previous 90

days(Scharwatt & Williamson, 2015).In 2016, there were half a billion mobile money users worldwide, out of which 277 million were in sub-Saharan Africa (Jenkins, 2008).

Safaricom developed and launched the first mobile money service in Kenya in 2007, and today it has 20 million clients, making it the most popular and successful in the world(Museba et al., 2021). Mobile money is consistently profitable since it is far less expensive than other cash options. In a worldwide comparison of 26 banks, branchless banking (including mobile money) was 19% cheaper than equivalent services(Ahmed & Cowan, 2021). There were 46.75 million mobile connections in Ethiopia in January 2020.

The number of mobile connections in Ethiopia increased by 7.2 million (+18%) between January 2019 and January 2020. As the first mobile money service in Ethiopia, M-Birr has been providing the mobile money service along with the service awareness to customers through six big microfinance institutions. Among them, Addis Credit and Savings Institution S.C. (ADCSI) is providing microfinance services in Addis Ababa. .It also provides M-Birr service along with its financial services to customers using its 156 branches and 1500 M Birr agents, since 2015.

Currently, a report of 2021 micro financial institutions shows that M-Birr service providers have combined 800 branches throughout Ethiopia and plan to have between 3000 and 6000 agents in the next 2 years. Even if in Ethiopia, populations of mobile phone users are increasing from time to time, the CBE-Birr service adoption in commercial banks of the Ethiopia is too low compared to the mobile phone users (Eshetu et al., 2020).

1.2. Statement of the Problems

Today, the emergence of digital financial services has transformed the landscape of financial transactions in Ethiopia, particularly with the introduction of Cbe-birr, a mobile money platform offered by Cbe. As of the 2nd quarter of the 2022-23 report from the Commercial Bank of Ethiopia (CBE), the bank operates around 1850, branches and serves over 32.5 million account holders, with 2.9 million users of cbebirr services. Ethiopia presents a lucrative market for the mobile money business, particularly because it is one of the most underbanked countries in the world. Mobile money could be an efficient way to reach the unbanked population,). However, despite this potential, CBE's annual report indicates that the adoption of mobile money services in Ethiopia remains among the lowest in the country. This highlights a significant need for expanded efforts to promote and grow mobile money services across Ethiopia, including the area studied in this research.

There is also disagreement on the characteristics that forecast users of mobile money services to accept the service, despite the fact that some studies have been done on the subject. For instance, (TESFAYE, 2019)study discovered a positive correlation between CBE birr use of mobile money services and perceived cost. On the other hand, a study by (Gebisa, 2021).found a negative correlation between the adoption of CBE birr mobile money services and their perceived usefulness.

As a result, there is a need to conduct this research to help financial and non-financial institutions, such as the bank sector, that participate in digital money services understand the factors influencing the adoption of mobile money services, and this might mitigate the research gap in this regard.

Therefore, this research aimed to examine the factors that influence adoption of CBEBirr service among customers of cbe in kirkos ditrict, Addis Ababa.

1.3 Research objectives

1.3.1 General Objective

The general objective of this study was to investigate factors affecting CBE birr adoption: the case of cbe selected branches in kirkos district, Addis Ababa.

1.3.2 Specific Objectives

The study aimed to:

- ❖ -Examine the effect of perceived cost on CBE-Birr adoption.
- ❖ Examine the effect of perceived usefulness on CBE-Birr adoption.
- ❖ Examine the effect of perceived ease of use on CBE-Birr adoption.
- ❖ Examine the effect of perceived trust on CBE-Birr adoption.
- ❖ Examine the effect of reliable network on CBE-Birr adoption.

1.3.3 Research Hypothesis

To meet the general and specific objectives of this study, the researcher formulated the following hypotheses:

H1; perceived cost has positive and significant effect on the adoption of cbebirr.

H2; perceived usefulness has positive and significant effect on the adoption of cbebirr.

H3; perceived ease of use has positive and significant effect on the adoption of cbe birr.

H4; perceived trust has positive and significant effect on the adoption of cbe birr.

H5; reliable network has positive and significant effect on the adoption of cbe birr.

1.4 Significance of the Study

Aside from fulfilling the requirements for a master's degree in business administration, this research offers key benefits. For the Commercial Bank of Ethiopia (CBE), it helps identify and differentiate the factors affecting the adoption of CBE-Birr among users. For readers, it enhances awareness about the CBE-Birr service system. Additionally, the study serves as a valuable reference for other researchers interested in conducting further investigations in this area.

1.5. Scope of the Study

The study's scope has been adequately defined to guarantee that its breadth, depth, and detail are compatible with and sufficient to address the stated purpose. The boundaries were set by considering conceptual, methodological, and target population considerations. To completely describe the study's interest, the conceptual scope was first established and carefully selected. Thus, the study concentrated on the factors influencing mobile money service adoption. This study concentrated only on five aspects, such as perceived cost. Perceived usefulness, reliability, trustworthiness, and ease of use. A study was carried out at the Commercial Bank of Ethiopia, geographically bound in Kirkos district. That is due to budget and time constraints. Therefore, any term found in this study will be interpreted in relation to the assessment of the factors that hinder the adoption of CBE-Birr service in Kirkos district, Addis Ababa.

.

1.6. Structure of the Study

The study was divided into five chapters. The first chapter includes background, a statement of the problem, research objectives, research questions, significance, scope, and the study's structure. The second chapter included a literature review on the conceptual framework of variables as well as empirical knowledge about the research field. The third chapter described the research methodology, which included the research approach, design, and target population, sample size, sampling procedure and instruments, data collection, method of data analysis, reliability, and validity. The study was then carried out while taking into account the respondents' ethical concerns. The fourth chapter included the results and discussion, which included descriptive statistics on the respondents' demographic features as well as inferential data from the multiple regression analysis of all variables used in this study. Chapter. Chapter five included a conclusion, recommendations, limitations that were faced during this study, and future areas of research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses a concept that is vital to this study and serves as input for this thesis by starting with a broad discussion. The chapter was structured to narrow down the idea of mobile money adoption. This includes a theoretical review of mobile money service adoption, empirical studies, and the conceptual framework for the study. The theoretical literature review sets the

foundation for the prevailing study relating to the subject matter, which is the determinants of mobile money service adoption. The empirical literature presents what has been practically observed and validated objectively. Lastly, the relevant concepts of mobile money adoption are proposed to be presented in the conceptual framework work part.

2.2.0Theoretical Review

This chapter begins with a theoretical review, which gives the background theories on which the research is built. The researcher presented an outline of the main difficulties surrounding the use of mobile money services. Thus, mobile money services have been introduced in developing nations as a means of extending financial services to the unbanked. However, more robust research is needed on the direct connection between using mobile money services and having easier access to banking resources In Kenya, "mobile money" services first surfaced in 2007 with the launch of M-PESA, where M stands for "mobile" and PESSA for "money" in Swahili, a well-known mobile money service offered by a local mobile network operator, Safari Com.(Hughes & Lonie, 2007)

2.2.1 Definition of Mobile money

The definition of "mobile money" differs throughout the communication sector due to its large variety of overlapping applications(Owusu, 2017).Mobile money encompasses a wide range of financial services that can be accessed via a mobile phone(Shrier et al., 2016), the most prevalent uses of mobile money services are airtime purchases, bill payments, and remittances. In contrast, mobile banking refers primarily to financial services linked with a bank account, such as deposits, withdrawals, or bill payments (Jack & Suri, 2011).

Digital Money: We use the phrase "digital money" to refer to both e-money and mobile money. Technically, practically all money today is "digital money," because when you make a deposit at a bank, the "money" is turned into 1s and 0s. We shall use the phrase "digital money" to refer to the new wave of innovative money access, transfer, and management technologies(Shrier et al., 2016).

E-Money, or electronic money, is a non-cash payment option in addition to credit and debit cards. E-money provides advantages over debit and credit cards in terms of convenience, speed, and efficiency(Wulandari et al., 2016). E-money is designed to be used as a payment method for low-value transactions. Several studies have proved the benefits of using electronic money for small-value payment transactions in order to optimize flexibility. For example, in transportation, theaters, and bars, as well as the payment of penalties, taxes, and court mandates, calculations for traditional and electronic goods purchases, such as computer software, are extremely simple to conduct online.

2.2.2Agency Banking

Agency banking is a service outlet contracted by a financial institution to execute clients' transactions instead of a bank teller(Vutsengwa & Ngugi, 2013).The retail establishment's owner or employee conducts the transaction and allows consumers to pay their bills, deposit money, withdraw it, transfer it, check their account balance, receive a direct deposit from their employment, or receive government benefits. Pharmacy, supermarkets, convenience stores, lottery outlets, post offices, and other establishments can serve as banking agents(Mwando, 2013).

2.2.3. Evolution of mobile money

When asked how to imagine money today, many people think of paper, metal, and plastic, but with the rise of e-money and mobile banking, this may soon be replaced by ideas of a smartphone app(Shrier et al., 2016). While still in the early stages of service offerings, the rapidly growing societal acceptance of mobile money paves the way for new business models and addresses essential questions regarding money and the way it relates to it.

2.2.4Mobile Money service development in the world

These days, there are many seasoned suppliers in the mobile money market with a wide range of operating skills, a comprehensive product line, and a global presence. With 372 million active accounts and 290 live services in 95 countries, mobile money is becoming widely used as a means of achieving financial inclusion in the majority of low-income nations. Due to the fact that more money is entering and exiting the system digitally, the percentage of digital transactions compared to cash-based transactions has climbed by almost 50% since 2017. This indicates that service providers have made significant efforts to guarantee that their clients' daily lives incorporate digital transactions. There were 1.04 billion active mobile money accounts as of 2019(Pénicaud & Katakam, 2019).

The way that a large number of individuals access and use their money has changed globally due to the mobile platform. Although mobile money services have been around for more than ten

years, numerous mobile money services—that is, services that let users' access payments and value transfers using a mobile phone, usually without the requirement for a bank account—have been introduced in numerous nations since 2007. Customers can now select from a variety of customized items thanks to the dramatic rise in the use of smartphones and the internet, improved interoperability, and new business models. Customers will see a shift away from cash in favor of digital payments for school fees, e-commerce, overseas remittances, savings, credit, pay-as-you-go utilities, and other services. For the industry, it is proof that the "payments as a platform model of business transformation by the industry to encourage more value, enhance digital, and diversify revenue models is paying off(Pénicaud & Katakam, 2019).

2.2.5 .Mobile money services in Africa

When compared to other parts of the world, the African mobile money services market has expanded dramatically in recent years. It is evident that Africa is leading the way in the revolution of mobile banking, driven by the financial services provided by mobile phones. Furthermore, Africa is seeing an increase in the number of mobile Internet users. When it comes to mobile money services, Africa appears to be leading the world. The ability and willingness to adopt advances in the field of mobile money services are present among Africans.Mobile money services in African countries have begun to change their domestic markets(Mitręga, 2020).

The history of African mobile money is said to have begun in Kenya in 2007 with the introduction of peer-to-peer money transmission via Safaricom's M-PESA product. Before then, sending money to a relative could be difficult because of low bank rates. When it comes to

mobile money services, Kenya leads both in Africa and beyond ,Of the country's 31 million mobile subscribers, 83%, or 26 million, use mobile money services(Ayiesa, 2018).

2.2.7. The Mobile Money Ecosystem

The golden rule of mobile money is: partnership, collaboration, partnership. We need to develop a mesh of partnerships that cover different networks of relationships(Jenkins, 2008)According to Napoleon Nazareno, President of Smart Communications, the mobile money ecosystem relies heavily on network interconnection. To that end, it is evolving on a worldwide scale, with numerous players, large and small, conventional and newcomers. While networks are an important aspect of the environment, conventional industry lines are progressively blurring, particularly between mobile service providers and finance, creating potential for new business models but also presenting competitive threats from unexpected sectors(Mogaji & Nguyen, 2022)

Table 2.1 Mobile Money Ecosystem

Actor	Responsibility
Mobile network operators	Provide the communication service and infrastructure. In some regions (where legally authorized). They are entering the

	financial arena by issuing e-money, offering payment services.
Fintech And banking institution	Banks create and provide mobile banking services. The fintech startup has been able to move more quickly than traditional banks. Both are useful in offering financial advice.
Agent	Customers frequently interact with touch points, which usually with physical presence .They generally handle cash in and out, as well as account openings and other transactions. In undeveloped countries, they can be considered the "face" of mobile money offerings.
Retailers/ employers	Payments could be for B2C transactions, which can range from a retail purchase or utility bill payment to wage payment and B2B transactions.
Regulators	Seek to develop a regulatory framework that will safeguard individuals while also stabilizing the financial sector and fostering innovation. Telecom and financial regulators must collaborate.

Source: (Jenkins, 2008)

2.2.8 The Differences between Mobile Money and Mobile Banking

In general, the phrase "mobile money" refers to electronic financial services carried out using a mobile device. It is important to note that in research and publications, the terms "mobile

banking" and the general category of "mobile money" are frequently used interchangeably. Mobile banking is merely one type of mobile money service: it allows consumers of a financial institution to access their accounts, make transfers, and payment(Buckley et al., 2015).Customers frequently use "mobile payment" and "mobile transfer" services, which are accessible via mobile phones but need the customer to have a bank account. Whereas Mobile money is accessed through an electronic account linked to the SIM card on the mobile phone. This electronic account is known as a "mobile wallet" and is protected by a personal identification number (PIN), with accounts debited or credited as soon as the transaction takes place, and mobile banking operates as online banking(Ali et al., 2020)

2.2.9. Major kind of mobile money services

Mobile money services are classified into three categories: mobile banking, mobile payments, and mobile transfers.

2.2.9.1 Mobile Money Transfer service

Mobile money transfer is peer-to-peer money transmission using a cell phone. Remittances can be made domestically or internationally. The service requires one player in the value chain to use a mobile phone (e.g., mobile to cash or cash to mobile); thus, users are not required to have a formal bank account in order to move money. This is because both the sender and the receiver's mobile wallets are linked to their SIM cards rather than their personal bank accounts. Financial institutions, remittance service providers, and telecom carriers are the main users of mobile money transfers (Owusu, 2017).

.

2.2.9.2 Mobile Payment service

Mobile payment is a sort of transaction in which a mobile phone plays a key part in the execution of payment (Schierz et al., 2010). It can be used to make person-to-business payments over the phone instead of cash. It involves using a mobile phone to pay for products and services, either remotely or in person. Mobile proximity payments are transactions involving physical encounters between phones and terminals, such as two phones or a phone and an agent point of sale terminal. To facilitate payment transactions, the phones use contactless technologies such as barcodes and near-field communication. Remote mobile payments, on the other hand, do not require physical contacts between phones and terminals, but instead rely on digital connectivity. Both payment methods use an electronic wallet linked to a mobile phone account, a bank account, or other electronic wallets(Teng & Khong, 2021).

2.2.9.3 Mobile banking service

Mobile money is a different product that differs from mobile banking. Mobile money systems, consequently, lie outside the traditional banking system and have frequently been referred to as shadow banking systems (Tan et al., 2022). From the consumer's perspective, the mobile money system is a payment account stored on their cell phone. It works through a menu on their SIM card and enables customers to conduct a range of financial operations(Etim, 2012)When mobile money first started off, its main goal was to make it possible for users to send and receive money digitally between people without using wire transfers or bank accounts.As mobile money increased its scope, people were able to use it to pay their bills, store and save money, make

person-to-business (P2B) payments, receive payments from businesses (wages), and receive government-to-person (G2P) payments.to receive payments from businesses (wages), and to receive government-to-person (G2P) payments. Simply put, mobile money operates on the basis of the customer showing up at a mobile money agent to register—the consumer's version of Know Your Customer (KYC) banking regulations. They register for the program using a government-issued ID. To make payments from their account, a consumer must first deposit cash at any mobile money agent in the country. After handing over the cash to the agent, they immediately receive news that money has been deposited into their account.

They can then transfer that money to anyone else in the country with a cell phone by entering their phone number into the menu. So, the customer side is fairly simple: A mobile money account is superficial. Very similar to a bank account, allowing deposits, withdrawals (a handful of banks in the poor world charge withdrawal fees, for low-balance accounts), keeping money, and making transfers to other people(Suri, 2017).However, there is no interest paid on deposits, and withdrawals are done through an agent for the mobile money service and not a bank branch. Loans and standing order payments are two other common bank services that are typically not accessible with mobile money. The money in a mobile money account is known as e-money, and it always exchanges one for one with cash (minus transaction fees). When a consumer puts money into their mobile money account, they are actually purchasing the equal value in e-money from the agent (Ohk et al., 2021).

2.2.9.4 Regulation of Mobile Money Service

In case of regulations, mobile money service needed some innovation in order to establish the requisite institutions and governance. For instance, as M-PESA grew in Kenya, several commercial banks pushed the country's central bank to impose stricter restrictions and regulations on it(Mbiti & Weil, 2015).In 2010, the Central Bank introduced agent banking legislation, allowing banks and other financial institutions to offer various banking services (account opening, deposits, and withdrawals) to nonbank agents, the same agents targeted by M-PESA (Mbiti & Weil, 2015).

2.3.0 The Success of Mobile Money service

M-PESA, a mobile money app, has been one of the most popular in Kenya. MPESA is widely used, with 97% of families having an account as of 2014. (Jack & Suri, 2011). Even though some other countries are now catching up (for example, in Uganda, 35% of individuals older than 15 years have an account, and in Tanzania, 32% do(Suri, 2017), The rapid deployment and growth of the agent network, or service end distributors, is undoubtedly critical to the success of mobile money systems. This expansion and dependability are coupled with a network that is trustworthy, efficient, liquid, and profitable for the agents(Suri, 2017).

2.3.1Theories and models of technology acceptance

In the past, technology was described as the verbal expression of manual labor or cunning. A Harvard University course on the "application of the sciences to the useful arts" in 1816 contains the first known use of the term "technology" in the United States. Technology was characterized as concepts, procedures, and nomenclatures in the Encyclopedia Americana of 1832. Technology is also viewed as a means of knowledge dissemination or as an enabler(Oye et al., 2014).

According to(Carr Jr, 1999)technology adoption is the "stage of selecting a technology for use by an individual or an organization.

The key models explored in the information and communication studies literature include the Technology Acceptance Model (TAM) and the Innovation Diffusion Theory (IDT)(Black, 1974) and the Unified Theory of Acceptance and Use of Technology(Dwivedi et al., 2011).

2.3.1.1 Technological Acceptance Model (TAM)

Because of its clarity and simplicity, TAM is one of the models that is most frequently applied to information systems research(King & He, 2006). It examines the impact of technology on human behavior. The model was primarily proposed by Davis (1989) and has its roots in cognitive psychology. It was adapted from a psychological theory—a theory of reasoned action—that explains human behavior in accepting information(Wadie, 2012). A user's intention to use the system is determined by their perceived usefulness (PU) and perceived ease of use (PEOU). PU and PEOU are defined as "the extent to which an individual thinks that utilizing a specific system would improve his or her performance" and "the extent to which an individual thinks that utilizing a specific system would require no effort" respectively. TTAM and its subsequent, expanded versions, TAM2 and TAM3, have been extensively used to explain the adoption of information systems and services(Jaradat & Al-Mashaqba, 2014). As a result, the framework is used in this study.

2.3.1.2. Innovation diffusion theory

The other extensively used theory is IDT, a tool in understanding customer behavior in the acceptance or non-adoption of an innovation. In theory, diffusion is described as the process by which an innovation is disseminated through certain channels over time among members of a social system(Sahin, 2006). The theory emphasizes five perceived characteristics that influence the adoption and non-adoption of an innovation: relative advantage, perceived compatibility,

simplicity or complexity of use, trial ability, and observability, as key characteristics that enable an innovation to be taken up by a population(Ghobakhloo, 2020).

.

2.3.1.3 The Unified Theory of Acceptance and Use of Technology

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a comprehensive model formulated to understand the factors that influence technology acceptance and usage.

Developed by (Venkatesh et al., 2012),UTAUT became a broad, powerful and robust theory that consolidates TAM, IDT , Theory of Planned Behavior (TPB),Combined TAM and TPB (C-TAM-TPB).Model of PC Utilization (MPCU and other models is the Unified Theory of Acceptance and Use of Technology (UTAUT) model. It is a good framework for examining technology adoption, capable of being adapted to various technological advancements and contextual requirements. Its ability to integrate and build upon previous theories makes it a cornerstone in the study of technology acceptance and use.

2.6. Empirical review related to mobile money adoption

This section presented empirical findings on the elements that influence mobile money adoption. Some research has been performed to investigate the relationship between mobile money service uptake and its determinants in both developed and developing countries.

In terms of empirical models, academics have long contemplated employing contingent valuation models to evaluate technology adoptions. Given the volume of empirical literature accessible on the issue of this research, it would have been difficult to provide the findings of all investigations. But I tried to see some of the research conducted on adoption of mobile money service, as follows:

The study "Modelling Mobile Money Adoption: A Malaysian Perspective" conducted by (Ramayah et al., 2017) explores the factors influencing mobile money adoption among Malaysian consumers. It employs the extended Theory of Planned Behavior (TPB) model to analyze the adoption process using data from 200 structured questionnaires. Key findings from the research include: subjective norms, perceive ease of use, convenience, perceived risk, Attitude and Behavioral Control. The study highlighted that effective marketing strategies should focus on highlighting the ease of use and convenience while addressing security concerns to build consumer trust. Modeling Adoption of Electronic Money in Indonesia by (Setiawan et al., 2019) Conceptual Approach for Less Cash Society Development" focuses on understanding how electronic money can be integrated into Indonesia's financial system to promote a less cash-dependent society.

The Next Frontier of Mobile Money Adoption" by (Gosavi & Gosavi, 2015), published in The International Trade Journal, explores the characteristics and determinants of mobile money usage among businesses in Kenya, Tanzania, Uganda, and Zambia. The study suggested that mobile money can play a crucial role in overcoming financial access barriers, particularly for small and older firms in regions where traditional banking infrastructure is limited.

A study conducted by (Gumbo et al., 2017) Perceived Usefulness (PU) and Perceived Ease Of Use (PEOU) as Key Drivers of Mobile Banking Adoption, suggested that for mobile banking to be successful, service providers must focus on improving the perceived usefulness and ease of use of their platforms. Additionally, enhancing financial literacy and trust in mobile banking services can further drive adoption.

According to (Ntlatlapa & Ntlatlapa, 2017) The Determinants of Mobile Money Adoption and Usage: The Case of Lesotho" examines factors influencing the adoption and usage of mobile money services in Lesotho. Key determinants include demographic variables, socioeconomic status, and the availability of technology. The study highlights the role of education, income levels, and access to mobile phones in driving mobile money adoption. Challenges such as limited financial literacy and infrastructural issues are also discussed. The findings emphasize the need for targeted policies to enhance financial inclusion through mobile money services. The study "Product-specific Determinants of Mobile Money Adoption carried out by (Mansour et al., 2021), Evidence from Egypt during COVID-19" investigates the factors influencing the adoption of mobile money services in Egypt amidst the COVID-19 pandemic. Here are the key findings: Perceived Benefits, Ease of Use, Proximity to Points of Sale, and Socio-Demographic Characteristics

A study conducted by (Nonvide et al., 2022), Who uses mobile money, and what factors affect its adoption process? Evidence from smallholder households in Côte d'Ivoire" examines the determinants of mobile money adoption among smallholder households in Côte d'Ivoire. The study identified several key factors influencing mobile money adoption and usage such as: demographic factor, economic status, Technology Access and Infrastructure. The study highlights the importance of a multifaceted approach to promoting mobile money adoption, which includes improving technological infrastructure, increasing financial lite.

According to (Dwivedi et al., 2011)(Ivatury & Mas, 2008) perceived usefulness (PU), perceived ease of use (PEOU), relative advantages (RA), and personal innovativeness (PI) all have a favorable relationship with the intention to utilize mobile banking services. Nevertheless, the sole

component deemed insignificant was social norms (SN) the challenges and potential of electronic money in Ethiopia were investigated using Dashen and Nib International Banks (ADBIB, 2013). The study was carried out using information gathered through questionnaires and interviews with employees and clients of the four banks.

(TESFAYE, 2019) carried out a research on "opportunities and challenges of CBE-Birr in Ethiopia". His study combined the Technology Acceptance Model (TAM) and Innovation Diffusion Theory (IDT) by incorporating Perceived Ease of Use, Perceived Usefulness, Perceived Trust, and Perceived Risk into the established frameworks. The study revealed that relative advantage, compatibility, perceived trust, perceived utility, perceived danger, perceived simplicity of use, and awareness all have a significant impact on mobile money usage among bank clients in Addis Ababa, Ethiopia.

2.7 Factors affecting mobile money adoption

2.7.1. Perceived Cost

The perceived cost construct refers to how much an individual perceives it costs to use a technology. When it comes to establishing and providing M-money services, costs are crucial. Expenses may cause a new technology to spread more slowly. There are many tariffs employed by mobile money services; however, they are typically all either transaction-based or involve fees charged to customers. The tariffs are chosen in order to encourage customers' different behaviors to use the services and to encourage them to put money into the system, such as charging higher fees to individuals who are not registered users, to encourage them to become customers(Gault & von Hippel, 2009). In addition, the Mobile Money fees include transaction

costs, registration fees, or the cost of a new device if one is needed to use the service. The transactional cost influences the customer's decision to use the MM services(Mahmoud, 2019). The charges for the services vary according to the type of transaction and generally increase with the amount. The fees are fixed and often free. They are usually displayed in retail shops. Fees are charged from the user's account, deduced from the e-money that is being transacted (Mahmoud, 2019).

2.7.2. Perceived Usefulness

Perceived usefulness is defined as the degree to which a person believes that using a specific system will improve his or her performance(Van der Heijden, 2004). Whereas the first definition was about the usefulness of fulfilling a work function, PU in the adoption of mobile money services is defined in a broader context, including how well consumers perceive mobile services can be incorporated into their daily activities(P. E. Tobbin, 2010), In a mobile payment environment, it can also be described as the extent to which the consumer believes that the mobile money transfer would enhance his transaction(P. Tobbin & Kuwornu, 2011).

2.7.3 Reliable Network

Beside the mobile money operator's outlet availability, scaling the agent network is mandatory to distribute the mobile network operation services to customers. Agents are typically located in close proximity to the customers they will serve and provide services including account registration, cash-in/cash-out, and OTC (over-the-counter) transactions, in addition to potentially helping market the service and educate customers. The most important factor in increasing mobile money adoption is the agent network. Firstly, facilitate cash-in/-out to enhance the ability

to put cash into a mobile money service (i.e., convert their physical cash into e-money) and to withdraw cash from the service (i.e., convert their e-money into physical cash) in a convenient way anytime and anywhere. Secondly, the agents must ensure that they have sufficient cash and e-money to facilitate customer transactions(Mahmoud, 2019)

2.7.4 Perceived Trust

According to(Rousseau et al., 1998)the term "trust" means "a psychological state characterized by the willingness to accept vulnerability based on positive expectations of another's intentions or behavior." The degree to which an individual believes that others will meet their expectations and not abuse the situation is known as perceived trust. This is one of the most often addressed external variables that prevents technology adoption. Taking unfair advantage of the circumstance is one of the most commonly stated external problems impeding the adoption of technology in his opinion. Lack of customer support to help customers with questions about the service, problems with transactions, or other concerns leads to a lack of trust in mobile money services (Lal & Sachdev, 2015). According to Noordin (n.d.) an exploratory investigation of the factors impacting M-commerce adoption in Malaysia found trust to be a significant factor. A comparable study conducted by(Gitau & Nzuki, 2014) found that trust, risk, and security all had an impact on M-money adoption. As such, this study incorporates it into the model and acknowledges it as a critical element impacting online customers' adoption of m-commerce.

2.7.5 Perceived Ease of use

Even though people think a certain application is helpful, they may find the system challenging to use(Davis, 1989). PEOU, according to Davis (1989), is the extent to which a person thinks that utilizing a specific system will require no effort at all. PEOU is more closely associated with the evaluation of the inherent qualities of information technology use. This implies that a person's opinion of PEOU is determined by how well the interface's flexibility, clarity, and ease of use are evaluated, as well as how simple it is to learn how to use. For example, the multiple steps required to complete a mobile payment transaction—such as registering with a service provider and initializing—may make it challenging for some people.

2.8. Conceptual framework

The evaluation of the CBE-Birr service adoption activity of customers was conducted by using both the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) framework with some modifications. Both models were used for a more precise understanding of the factors affecting the adoption of mobile money services at CBE in Kirkos district. The purpose of adopting this framework is simply to determine the aspects that affect it: perceived price, perceived utility, reliable network, perceived ease of use, and perceived trust.

The conceptual frame work is presented as follows

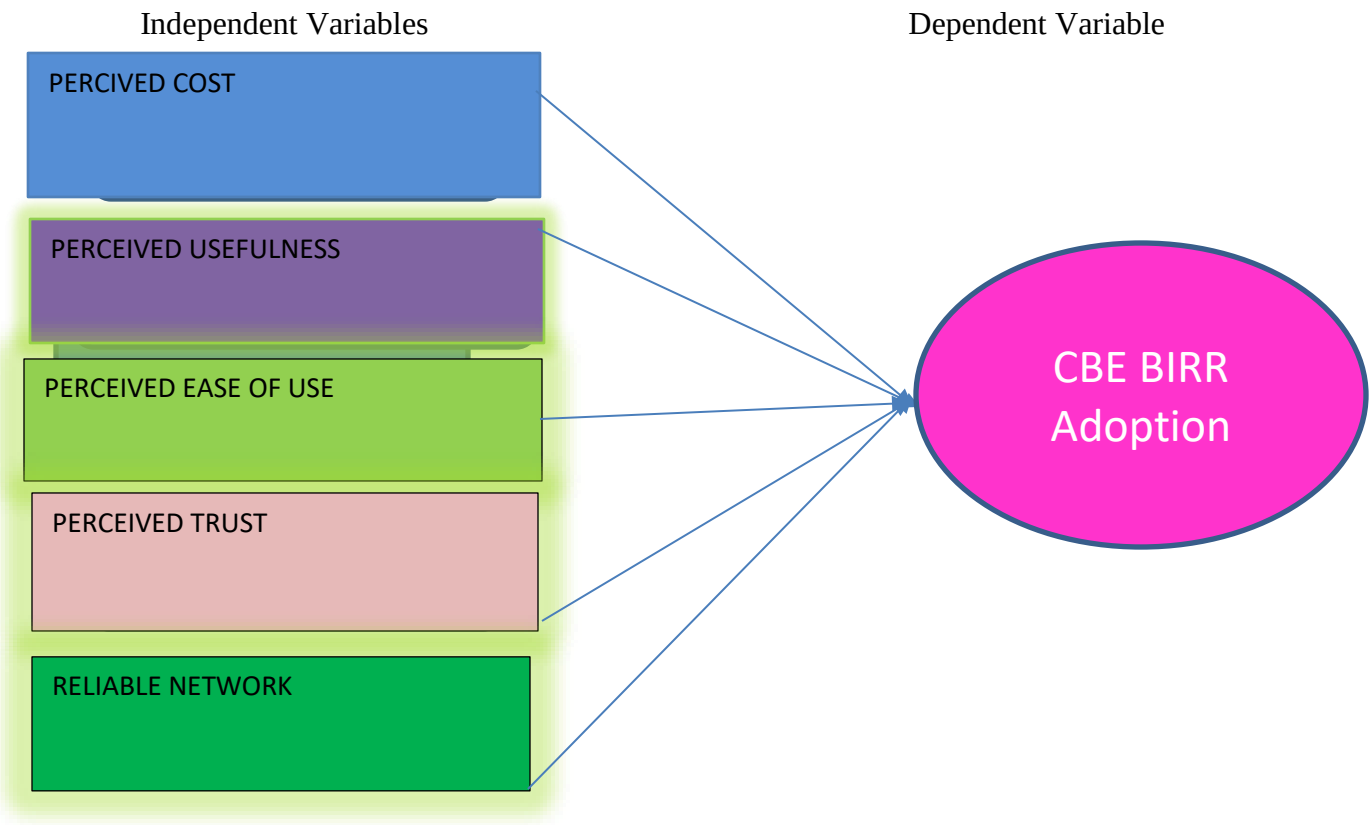


Figure 2. 2 Conceptual framework source (Phonthanukitithaworn et al., 2015)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter discusses the study methodology, design, data sources, target population, sample size and procedure, sampling techniques, and data collection instrument used by the researcher for collecting and analyzing the data required to meet the research objectives. According to (Collis & Hussey, 2014). Research is carried out with the intention of discovering things in a systematic or methodical manner, hence advancing knowledge. Research is not just based on beliefs, but also on logical relationships(Monod, 2014).

3.2 Research Approach

This study used a quantitative research approach. Quantitative research allows for a numerical analysis of the variable's cause-and-effect relationship(Williams, 2007).The study's goal is to establish the degree to which the independent variable effects the dependent variable. The study's goal was to investigate factors influencing the adoption of CBE-birr services, and the hypothesis was tested at the Commercial Bank of Ethiopia in Addis Ababa's Kirkos District.

3.3 Research Design

The research design used in this study was descriptive, explanatory, and correlational. The frequency, percentage, mean, and standard deviation were all calculated using the descriptive analysis approach. As it was proposed, the correlation analysis method was used to analyze the correlations of dependent and independent variables. In this study, regression analysis was used to analyze the cause and effect of the variables, their significance level, and the effect of the exponent of beta that each explanatory variable has on CBE-Birr adoption.

3.4 Target Population

According to(Ofosu-Boateng, 2020)the population of the study may be considered the number of all units of the phenomenon to be investigated that exist in the area of investigation. The part of the general population left after its refinement is termed the target population, which is defined as the set of individuals or participants with the precise traits of interest and relevance(Asiamah et al., 2017).

The researcher used the branch's grading system. As a result, the grading system categorized CBE branches in Kirkos district from Grade I to Grade IV based on the volume of transactions, site location, variety of services provided, staff strength, cash holding limits, and service delivery efforts.

Accordingly, the target population for this study was both employees and customers who were holders of active CBE-Birr service, specifically found in selected Grades 1-4 branches of CBE in Kirkos district. Due to resource and time constraints, the selection of four branches from other

CBEs in Kirkos district was conducted purposefully by including all grade types (I, II, III, and IV). The four branches of CBE in Kirkos district that were included in this study were Lanchia (grade I), Beklobet (grade II), Populare (grade III) and temenja Yaji (grade IV). As of the 3rd quarter 2021–22 report of the cbe the number of mobile money users was 2.9 million. Out of these, 10500 active CBE-Birr customers were found in the above-selected four CBE branches in Kirkos district. These customers were computed as the target population for the case of this study. So in the case of this paper, the researcher took a total of 10,500 active CBE-birr users from four selected branches in Kirkos district, Addis Ababa.

3.5 Sample size and Sampling Technique

The sample size refers to the number of elements or units chosen from the population. Determining the sample size is often a difficult operation(Taherdoost et al., 2016).A sample's size is determined by the basic features of the population, the type of information needed for the survey, and the costs associated(Turner, 2003).The researcher selected the branches in the district for the study using a non-probability selection technique known as convenience sampling. The researcher also used the purposive sampling technique to choose a suitable sample respondent, which are only active CBE-birr users from chosen branches, and disseminate the questionnaires. The surveys were dispersed to 385 respondents who might be reached by waiting for mobile money CBE-Birr users when they physically come to the chosen branches in order to obtain banking services. In the case of this study, the (Yamane, 1967)formula was applied to compute the sample size. By using a 95% confidence level with a 5% margin of error, the target population is 10500.

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

Whereas, n is sample size

N is population size

e is margin of error and its value is 0.05.

$$\mathrm{n} = \frac{10500}{1 + 10500(0.05)2} = 385$$

From the above calculation total sample is 385.

The number of CBE-Birr users in each bank is not the similar. Therefore, the number of samples for each bank was calculated as follow:

$$n1 = \frac{\mathrm{nN1}}{\mathrm{N}}$$

Where:

n= total number of samples

N= total number of populations

N1= total number of populations in each branch

n1=number of samples in each branch

S.NO	Branch	Branch grade	Cbe birr user	No of questionnaires (n) distributed for each branch	No response
1	T/Yaji	IV	3613	3613/10500*385=132	125
2	Populare	III	2989	2989/10500*385=110	103
3	Beklo bet	II	2073	2073/10500*385=76	72
4	Lanchia	I	1825	1825/10500*385=67	65
Total			10500	385	365

Source taken from kirkos district Cbe -birr data base.

3.6. Source of Data collection

This study applied both primary and secondary data sources. Primary data is information on a certain issue that the researcher gets on their own(Sahu & Sahu, 2013).The primary benefit of this kind of data collection is that the information is more consistent with the study questions and goals and can be gathered with the researcher's goal in mind. In this case, primary data was collected from 365 active customers of CBE-Birr in CBE in Kirkos District, Addis Ababa. Secondary data was collected from books, customer suggestion notes, cbe- procedures and guidelines, published and unpublished research works on the topic of the study journals, and different internet sources.

3.7. Data Collection and Measurement Instruments

The data was collected and analyzed using pre-determined research instruments. Primary data was collected through a structured questionnaire with close-ended questions on a five-point Likert scale, where strongly agree (SA) = 5, agree (A) = 4, neutral (N) = 3, disagree (D) = 2, and

strongly disagree (SD) = 1, directly by the researcher, and a secondary source was considered from related literature. The structured, closed-ended questionnaires have been used for the collection of primary data from CBE-Birr user employees and customers. In this study, internet-enabled devices and library instruments have been used to gather secondary data. The researcher used different sources to develop the questionnaire survey for the dependent and independent variables that are included in this study. The questionnaire for the dependent variable mobile money, which has four sections, was adapted from(Venkatesh et al., 2012); the survey for perceived cost, which has four sections, was adopted from (Dodds et al., 1991)the survey for perceived trust, which has four sections, was adopted from(Gefen et al., 2003)); and the survey for perceived usefulness, which has four sections, was adopted from(Baganzi & Lau, 2017)). The survey for reliable networks, which has four sections(Naito & Yamamoto, 2022). and the survey for perceived ease of use, which has three sections(Venkatesh et al., 2012)

3.8. Data analysis methods

To determine what factors influence the acceptance of the cbe-birr service, a questionnaire was developed from related literature and distributed to cbe-birr customers and staff at chosen branches of the commercial bank of Ethiopia's Kirkos district that use it. For the benefit of respondents. For those who couldn't understand English, the questionnaire was available in both English and Amharic. Following the completion of the questionnaire, the data was entered correctly into the Statistical Package for Social Science (SPSS) software, which was then utilized for data analysis and presentation. The following is a quick overview of the statistical approaches used to examine the data, including multiple regression analysis, correlation analysis, and descriptive analysis. The study's multiple regression measurements were coded, entered, and

computed using the statistical package Version 26. The coefficient of determination measures how much variation in the dependent variable can be explained by changes in the independent variables. The coefficient of beta value, p value, mean, and standard deviations are utilized to analyze the study's conclusions.

3.8.1. Model Specification

This study was developed by two sets of variables: the dependent variable (mobile money/CBE Birr service adoption) and the independent variables (perceived usefulness, cost, trust, perceived ease of use, and reliable network). The primary goal of employing regression equations was to improve the researcher's ability to describe, comprehend, predict, and regulate the specified variables. In this study, the regression model includes five independent variables and one dependent variable. The regression equation model used in the study is provided below:

$$MM = \beta 0 + \beta 1\ PU + \beta 2\ PC + \beta 3\ PEOU + \beta 4\ RN + \beta 5\ PT + \varepsilon i.$$

Where

MM = mobile money/CBE Birr service adoption

PC = perceived cost

PU = perceived usefulness

PT = perceived trust

RN = reliable network

PEOU = perceived ease of use.

3.9. Research Ethics

Firstly, respondents were given an explanation by the researcher about the study's objectives. After that, each respondent received one questionnaire. Respondents were guaranteed that no one other than the researcher would have access to their personal information. The respondents then provided their informed consent by completing and returning the questionnaire.

CHAPTER FOUR

4. DATA PRESENTATION, ANALYSIS and INTERPRETATION

4.1. Introduction

This section discussed the final results and the process by which they were obtained. This contains background information about the respondents as well as statistical approaches such as reliability analysis, descriptive analysis, regression analysis, and correlation analysis. These studies employed questionnaires with a total of 385 respondents. However, 365 respondents completed and returned their surveys, resulting in a 95% response rate. According to(Hira & Mugenda, 1999)a response rate of 50% is suitable for analysis and reporting; as 60% is regarded good and 76% or more is considered outstanding, this number is excellent for reporting and analysis.

4.2. Data Presentation & Analysis

The major objective of this study was to discover factors that affect mobile money. / CBE-Birr service and its impact on adoption, based on the data which was obtained from the Customers.

4.2.1. Validity test

Validity is the extent to which data accurately reflects what it is designed to reflect; that is, the instrument measures what it is supposed to measure(Sechrest, 2005).In other words, asking the correct questions should help to elicit meaningful and usable responses to the subjects being studied. Thus, the goal of assessing validity in the study was to find relevant data that confirmed the responses obtained with the measurement apparatus, which is the nature of the problem. To

ensure the questionnaire's validity, pilot testing and input from CBE practitioners were conducted. CBE staff confirmed that the questions included were indicative of their practice. Then, twenty-three surveys were provided to consumers to ensure that the questionnaire was clear before it was distributed to the entire group.

4.2.2 Reliability Analysis

Cronbach's Alpha (α), the standard scale reliability test, was used to assess questionnaire consistency. Table 4 shows that the least Cronbach's Alpha (α) value from all variables was 0.716, which exceeded the standard value of 0.70(Cohen & Sayag, 2010). An alpha value of 0.70 or higher is considered a reliable indicator. In short, the responses generated for all of the variables employed in this study were adequate for data analysis

Table 4.1 reliability test

Factors (variables)	Cronbach's Alpha	N of Items
MM	.745	4
PC	.798	4
RN	.786	4
PEOU	.769	3
PT	.716	4
PU	.725	4

Source: own survey 2024

4.3. Demographic characteristics of the Respondents

Table 4.2 demographic characteristics of respondents

Demography	Category	Frequency	Percent
Gender	Male	155	42.5
	Female	210	57.5
	Total	365	100.0
Education level	None formal education	31	8.5
	primary education	98	26.8
	secondary education	185	50.7
	degree and above	51	14.0
	Total	365	100.0
Monthly income	below 1,000	23	6.3
	between 1,001-3,000	92	25.2
	between 3,001-10.000	170	46.6
	above 10,000	80	21.9
	Total	365	100.0
Age	less than 25	103	28.2
	between 25-60	216	59.2
	above 60	46	12.6
	Total	365	100

Source: Own survey 2024

According to Table 4.2, 57.5 percent of the 365 respondents were female, with the remaining 42.5 percent male. This could indicate that women are either more prevalent users or potential users of CBE-Birr services in Kirkos District, or simply more available to participate in the survey. This demographic skew might influence the results and interpretations related to mobile money adoption, potentially highlighting gender-specific preferences and barriers.

The majority of respondents have at least secondary education (50.7%), with a significant portion having primary education (26.8%) and a smaller percentage holding a degree or higher (14.0%). This distribution indicates a relatively well-educated respondent base, which might suggest a

higher likelihood of adopting new technologies such as mobile money. The educational background could also affect respondents' understanding and trust in mobile money services, influencing their adoption behavior.

The higher number of respondents have a monthly income between 3,001 and 10,000 (46.6%), with a significant number earning between 1,001 and 3,000 (25.2%) and above 10,000 (21.9%). A smaller percentage earns below 1,000 (6.3%). This income distribution suggests that most respondents fall within the middle-income bracket, which could indicate that they have disposable income for using mobile money services. The income level may also impact their perceived cost and ease of use, as those with higher incomes might find transaction fees less burdensome.

The majority of respondents are between the ages of 25 and 60 (59.2%), followed by those under 25 (28.2%), and a smaller group above 60 (12.6%). This age distribution suggests that most respondents are in their prime working years, which is a demographic likely to be involved in economic activities that could benefit from mobile money services. Younger respondents may be more technologically savvy and open to adopting new technologies, while older respondents may have different levels of trust and familiarity with mobile money services.

As a result the demographic characteristics suggested that a relatively balanced mix of gender, a moderately educated population, a middle-income majority, and a predominance of working-age individuals. These factors collectively indicate a respondent base that is potentially favorable towards adopting mobile money services (CBE-Birr).

4.4. Descriptive Analysis

Descriptive statistics were used to obtain the average and standard deviation of respondents' scores, which were then analyzed. The mean is the most commonly used measure of central tendency

Table 4.3 Descriptive Statistics

Descriptive Statistics		
	Mean	Std. Deviation
RN	3.5356	.84562
PU	3.5500	.78560
PT	3.5658	.77884
PEOU	3.7872	.61659
MM	3.7541	.83636
PC	3.7260	.78443

It is possible to conclude from the above table that each variable's mean and standard deviation value indicates that respondents' degree of agreement with the idea asked for in the questionnaire was significant and had an impact on the adoption of CBE birr in the CBE Kirkos district of Addis Ababa.

The analysis of the mean and standard deviation for each independent variable reveals that perceived ease of use (3.78), perceived cost (3.72), perceived trust (3.56), perceived usefulness (3.55), and reliable network (3.53) are significant factors influencing the adoption of CBE-Birr mobile money services. As shown in table 4.3, the overall adoption mean of CBE-Birr is 3.75 with a standard deviation of 0.84, indicating moderate variability on a 5-point Likert scale. Among these variables, perceived ease of use stands out as the most influential factor, followed by perceived

cost and perceived trust. Perceived usefulness ranks fourth, while a reliable network is the least influential. The standard deviation of perceived ease of use (0.61) is closest to the mean, suggesting a more consistent agreement among respondents, which is preferable. Consequently, the mean and standard deviation values demonstrate that respondents significantly agreed on the factors affecting the adoption of CBE-Birr in the CBE Kirkos district of Addis Ababa

4.4. Correlation analysis among variables

According (Pallant et al., 2016), Correlation analysis is used to study the strength of relationship among between two variables. The value of correlation coefficient is lies between -1 and +1. Where, the value more close to zero then the relationship is said to be weak. The value is nears to -1 or +1 then the relationship between the variables is negative or positive respectively. However, it does not explain whether the variable is the cause or effect. In this analysis, Bivariate Pearson Product-Moment Coefficient (r) has been used to see the relationship between the dependent and predictor variables. Correlation analysis, in this study determines the strengths of relationship between (Mobile Money/CBE Birr Service Adoption and contributing factors such as perceive cost ,perceived usefulness ,perceived trust ,perceived ease of use and reliable network. The guidelines suggested by(Field, 2005)was followed. His classification of the correlation coefficient (r) is as follows: 0.1– 0.29 is weak; 0.3 – 0.49 is moderate; and= >0.5 is strong.

Table ***4.4.correlation test***

Correlations							
		RN	PU	MM	PEOU	PC	PT
RN	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	365					
PU	Pearson Correlation	.687	1				
	Sig. (2-tailed)	.000					
	N	365	365				
MM	Pearson Correlation	.648	.658	1			
	Sig. (2-tailed)	.000	.000				
	N	365	365	365			
PEOU	Pearson Correlation	.550	.659	.625	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	365	365	365	365		
PC	Pearson Correlation	.597	.626	.710	.604	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
	N	365	365	365	365	365	
PT	Pearson Correlation	.303	.478	.452	.421	.455	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	365	365	365	365	365	365

Source: Own Survey, 2024

According to table 4.6 the above correlation matrix indicates that the five factors were positively and strongly correlated with Adoption of Mobile Money. There is significant strong positive relation between PU and Service Adoption of Mobile Money (sig=.000, r= .658). There is also significant high positive relation between PC and Service Adoption of Mobile Money (sig=.000, r= .710). There is significant positive relation between RN and Service Adoption of Mobile Money (sig=.000, r= .648). There is significant positive relation between PEOU and Service

Adoption of Mobile Money (sig=.000, r= .625). There is significant positive relation between PT and Service Adoption of Mobile Money (sig=.000, r= .452).

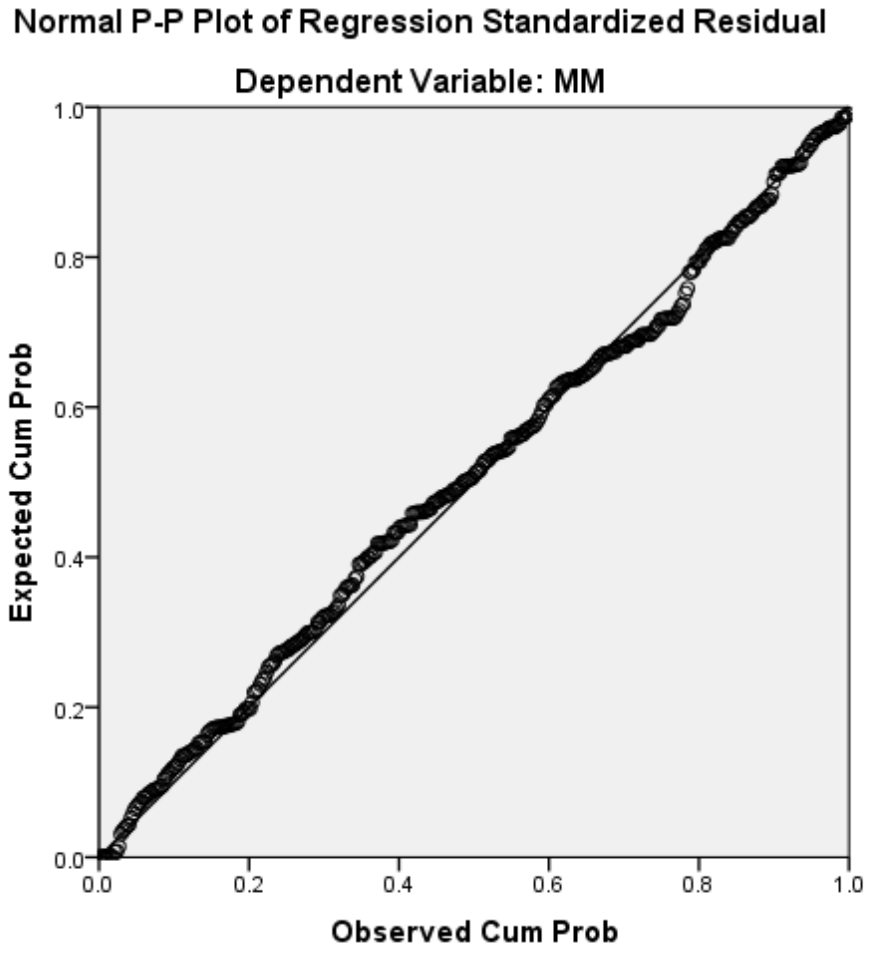
4.5. Regression Analysis

Regression analysis is a tool to analyze the relationship between independent and dependent variable and whether the relationship is significant or not. It is also widely used to make predictions, which means it will be helped to answer the question what would happen to dependent variable if an increasing of one unit in one of the independent variable, while taking other independent variable constant. Multiple regression analysis was applied to address the research questions and hypothesis since the research has more than one independent variable. There are an assumptions to test before conducting regression analysis; linearity, normality, multi-collinearity, autocorrelation, and heteroscedasticity tests

4.5.1. Linearity

The linearity assumption deals about the relationship between independent and dependent variables should be linear. The linear regression equation is: $Y = \alpha + \beta 1x1 + \beta 2x2 + \beta 3x3 + ... + \beta ixi + e$. Where, Y is the dependent variable, xi is the independent variables, βi is the coefficient of independent variables, α is constant and e is error term. Linear equation can be evaluated by using a scatter plot. Since the points in the scatter plot roughly fall along a straight diagonal line, there exists a linear relationship between the variables.

Figure 4.1. Linearity test



Source: Own Survey, 2024

Figure 4.1 shows the presence of linear relationship between the independent (predictor) and dependent variable.

4.5.2 Multi-co linearity Test

Multi-collinearity test is used to check if there is significant correlation among two or more predictor. Tolerance and the variance inflation factor (VIF) can be used to test this. If the value of tolerance is greater than 0.1 and VIF value is in interval of 1 to 5, this showed that no collinearity. As the below table indicates that VIF for all independent variables is less than 5 and tolerance level is greater than 0.1. Therefore, the model has no multi-collinearity problem.

Table 4.5 Multi-Collinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	RN	.471	2.124
	PU	.371	2.694
	PEOU	.496	2.017
	PC	.486	2.059
	PT	.714	1.400
a. Dependent Variable: MM			

Source: Own survey SPSS Output, 2023

4.5.3 Normality Test

As illustrated in Figure 4.2, the researcher employed a histogram to assess the normal distribution of residuals. The results demonstrate that while some standard residuals deviate slightly from the curve, most residuals are relatively close to it. The histogram exhibits a bell-shaped pattern, indicating that the majority of scores are concentrated near the center of the distribution.

Consequently, the tallest bars in the histogram are clustered around this central value. This bell-shaped appearance signifies that the residuals follow a normal distribution.

Figure 4.2 Normality test

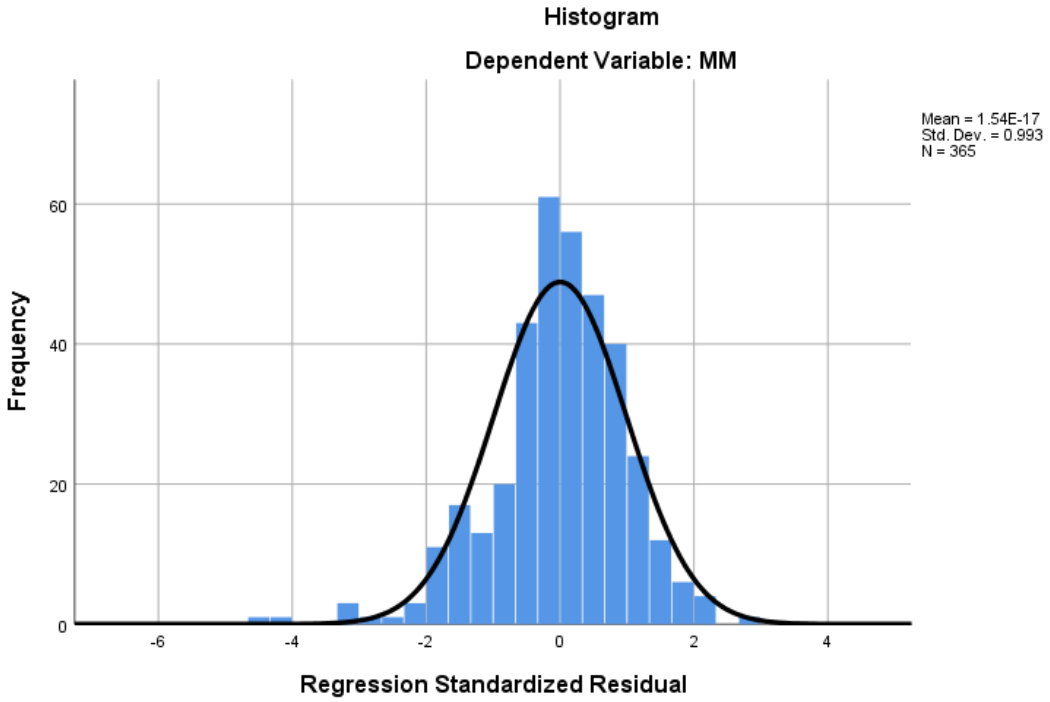


Figure 4. 2 Histogram Regression of Standardized Residual

Source: own survey, 2024

The scatter plot of residuals in figure 4.1 reveals no significant difference in the spread of the residuals as you look from left to right. This result suggests that the relationship we are attempting to forecast is linear. Similarly, the graphic above depicts the normal distribution of residuals about zero. Based on the aforementioned image, it is possible to conclude that the researcher's inferences about the population parameter from the sample are somewhat correct.

4.5.4. Autocorrelation test

According to(Brooks, 2019), the flaws are thought to be unrelated to one another. This assumption was tested by Durbin Watson (DW) test of autocorrelation. Durbin-Watson (DW) is a test for first order autocorrelation-- i.e. it tests for a relationship between an error and its immediate previous value.

Table4.6. *Autocorrelation test*

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.792[a]	.628	.622	.51388	1.741
a. Predictors: (Constant), PT, RN, PEOU, PC, PU					
b. Dependent Variable: MM					

Source: own survey 2024

In the case of this research from a total of 325 respondents and 5 independent variables, the DW test statistic value for the model was 1.741. As a result, the decision value for the test suggests that the model does not have an autocorrelation problem. According to Brooks (2014), if the DW test is between 1.5 and 2.5, the model is free of autocorrelation

4.5.5 Homoscedasticity Test

Heteroscedasticity is a crucial assumption in the traditional linear regression model. According to (Brooks, 2019), the heteroscedasticity assumption states that the disturbances occurring in the population regression function are homoscedastic, which means that they all have the same variance.

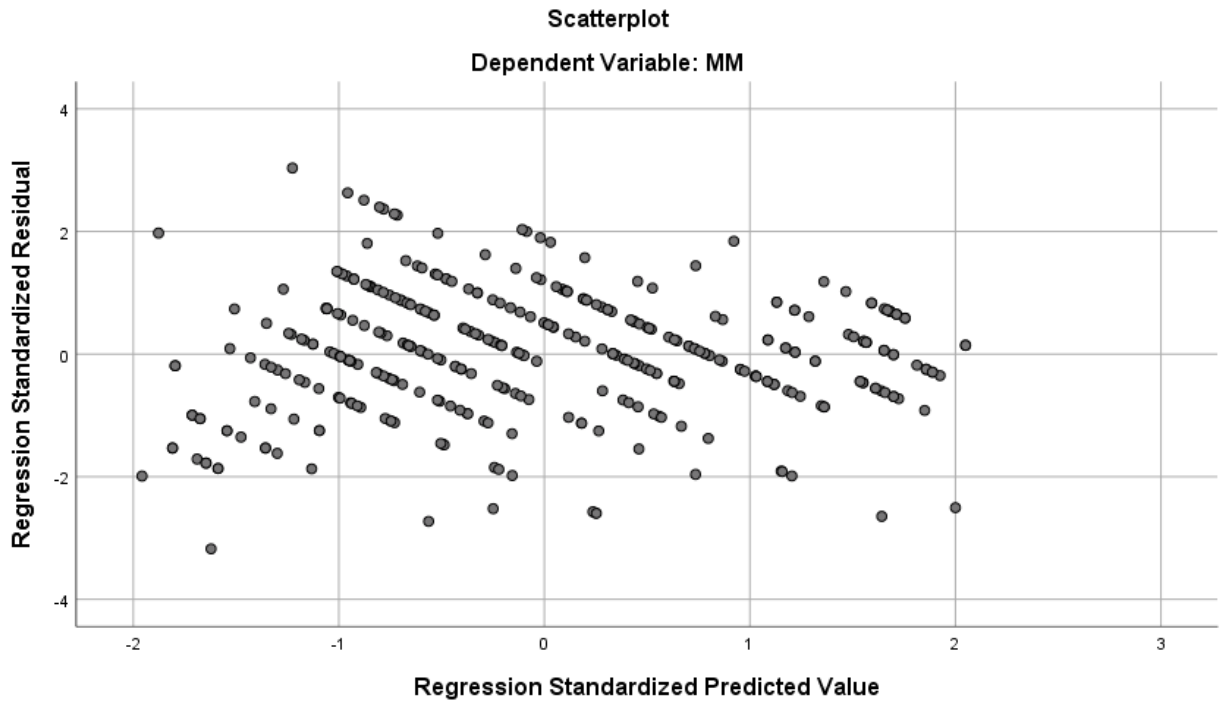


Figure 4.3 homoscedasticity test

Source own servey, 2024

As seen in Figure 4.3, the residuals are shown in a random pattern, indicating that there is no trace of heteroscedasticity. As a result, the null hypothesis of no heteroscedasticity should be accepted. Thus, from an examination of the information presented in all the five tests the researcher conclude that there are no significant data problems that would lead to say the assumptions of classical linear regression has been seriously violated.

4.6. Regression Analysis results

$MM = \beta_0 + \beta_1 * PC + \beta_2 * PEOU + \beta_3 * PT + \beta_4 * P\ U + \beta_5 * RN + e$

Where: MM represents Mobile Money (dependent variable)

And independent variables include;

Perceived Cost (PC),

Perceived Ease of use (PEOU),

Perceived trust (PT),

Perceived usefulness (PU)

And Reliable Network (RN)

The error term (e) refers to non-independent factors that affect the dependent variable (MM) for a given observation. Regression results have been shown in below Tables

4.6.1 Regression Model and Summary

Table 4.7 Results of multiple regressions between Mobile Money and the combined effect of predictors.

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.792[a]	.628	.622	.51388	1.741
a. Predictors: (Constant), PT, RN, PEOU, PC, PU					
b. Dependent Variable: MM					

Source: Own survey, 2024

This research was employed to examine the factors affecting mobile money (cbebirr) service adoption and R square is one way to elaborate the relationship of dependent and independent variables. Tables 4.9 showed that the coefficient of determination (R-squared) is 0.628.This indicates that 62.8% of the relationship or variation was explained by independent variables

(perceived cost, perceived trust, and perceived ease of use, Perceived usefulness, and reliable network) and the remaining 37.2% of variance of mobile money adoption factors could be explained by other.

Table 4.8 ANOVA OUT PUT

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	159.818	5	31.964	121.042	.000[b]
	Residual	94.801	359	.264		
	Total	254.619	364			
a. Dependent Variable: MM						
b. Predictors: (Constant), PT, RN, PEOU, PC, PU						

Source: own survey, 2024

The ANOVA output in Table 4.10 indicates that the five independent constructs—perceived usefulness, perceived cost, perceived ease of use, perceived trust, and reliable network—significantly predict the dependent variable, mobile money adoption (CBE-Birr). With an F-value of 121.042 and a p-value of .000b, which is less than 0.05, the model is confirmed to be a good fit.

Since the overall model is adequate, the next step for the researcher is to test the significance of each individual independent variable. The detailed results of these tests are presented below.

4.6.2 Regression Coefficient Analysis of the Model

Table 4.9 Coefficients of variables.

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.054	.157		.343	.032		
	RN	.232	.046	.235	5.000	.000	.471	2.124
	PU	.134	.056	.126	2.374	.018	.371	2.694
	PEOU	.148	.042	.162	3.540	.000	.496	2.017
	PC	.375	.049	.351	7.604	.000	.486	2.059
	PT	.100	.041	.093	2.449	.015	.714	1.400
a. Dependent Variable: MM								

Source: own survey SPSS Output, 2023

Therefore the regression model is become

MM = 0.054 + 0.375*PC+0.148*PEOU+0.100*PT+0.134*PU+0.232*RN

Where MM represents Mobile Money (dependent variable) andindependent variables include; Perceived Cost (PC), Perceived Ease of use (PEOU), Perceived trust (PT), Perceived usefulness (PU) And Reliable Network (RN)and The error term (e).

The regression analysis results demonstrated that the five independent variables PC, PEOU, PT, PU, and RN all had a substantial influence on Mobile Money Service Adoption to varying degrees (refer beta). As a consequence of the regression analysis, all five factors are statistically significant at the 95% confidence level. As shown in the table above, all significant values are $P < 0.05$. As a

result, it is possible to conclude that all five factors discussed had an impact on MM Service Adoption.

4.7. Results Interpretation and Summary

The regression coefficient explains the average amount of change in the dependent variable resulting from a unit change in the predictor variable. The higher the Beta coefficient of the predictor variable, the stronger the support for the independent variable as the more important determinant in predicting the dependent variable.According to the regression results, the relationship between the variables included in the model is as follows:

MM = 0.054 + 0.375*PC+0.148*PEOU+0.100*PT+0.134*PU+0.232*RN

Where: MM represent Mobile Money (dependent variable) and independent variables include; perceived cost(PC), Perceived ease of use (PEOU), Reliable network (RN) ,Perceived trust (PT) and Perceived usefulness (PU) .

4.8.0 Using multiple regression to test hypotheses

Multiple regressions were utilized to test the hypothesis for the independent variables because correlation analysis did not provide enough information to make an accurate decision regarding the relationship between the variables.

The results of the model predicting mobile money adoption factors through the variables are perceived cost, perceived trust, perceived usefulness, perceived ease of use, and reliable network. From regression analysis we have found P and B value for all independent variables that can express the level of statistical significance and relationship between dependent and independent variable. A P values is less than 0.05 statistically significant that indicates strong evidence

against the null hypothesis therefore we reject the null hypothesis and accept alternative hypothesis. And B value is positive that can express direct relationship but when B value is negative to explain indirect relationship between independent and dependent variables.

In a regression model, the constant term indicates the predicted value of the dependent variable (mobile money cbe-birr) when all independent variables are zero. In this case, the constant value of 0.054 suggests that when all independent variables value is zero; the expected value of mobile money adoption became 0.054.

Hypothesis 1; perceived cost has significant effect on the adoption of cbe birr

An output on the table.4.9, shows that, the intention of customers, hindered them, not to Continuously use mobile money/ CBE-Birr in CBE at kirkos district was in way that, consumers Assumed, using the service exposed them to costly price of using CBE-Birr services. Which Means, customers have been associating the perception of unfair cost with using of mobile Money

The coefficient of perceived cost was 0.375 at 95% confidence level this means when one unit increase in perceived faire costs leads to an increase of mobile money adoption by 37.5% while remaining other independent variables constant. The sign of the coefficient (positive in this case) indicates the direction of the relationship, which means that dependent and independent variables have positive relationship. The p-value for this coefficient is 0.00 statistically significant because p value is less than 0.05 meaning that perceived cost is a significant predictor of cbe birr adoption in cbe kirkos district. Hence, the Null hypothesis was rejected. Furthermore, the discussion analyzes the statistical findings of the study on the previous empirical evidence.

Hypothesis 2 perceived usefulness has significant effect on the adoption of cbe birr.

As is shown in the above table the coefficient of perceived usefulness is 0.134at 95% confidence level this means when one unit increase in perceived usefulness is leads to an increase of mobile money adoption by 13.4% while remaining other independent variables constant. The sign of the coefficient (positive in this case) indicates the direction of the relationship, which means that dependent and independent variables have positive relationship. The p-value for this coefficient is 0.018 statistically significant because p value is less than 0.05 meaning that perceived usefulness is a significant predictor of cbe birr adoption in cbe kirkos distric. There for the researcher accepted the alternative hypotheses that stated the perceived usefulness of mobile money to have a Positive and significant effect on the adoption of mobile money service. This result implies that, when Customers decide to use mobile money service, perceived usefulness has a positive and significant effect on their decision. The finding of this research is consistent with past studies conducted on the relationship between Mobile money service with perceived usefulness(Lema, 2017).And CBE will be able to attract customers to mobile money services if they can work on improving the perception of customers towards the usefulness of mobile money service. As the researcher stated in the statement of the problem there was no agreement on the prediction of factors for adopting mobile money services users. A study conducted by(TESFAYE, 2019)found positive relationship between perceived usefulness and CBE birr adoption of mobile money Services. however, a study by(Gebisa, 2021)reported a negative relationship between perceived Usefulness and adoption of CBE to birr mobile money services. This means it motivated the researcher to further study. Therefore, this study is not in line with

the past studies of (Gebisa, 2021). In which his study result shows that, “perceived usefulness and adoption of cbebirr.

Hypothesis 3; perceived ease of use has significant effect on the adoption of cbe birr

As is shown in the above table the coefficient of perceived ease of use is 0.148 at 95% confidence level this means when one unit increase in perceived ease of use is leads to an increase of mobile money adoption by 14.8% while remaining other independent variables constant. The sign of the coefficient (positive in this case) indicates the direction of the relationship, which means that dependent and independent variables have positive relationship. The p-value for this coefficient is 0.000 statistically significant because p value is less than 0.05 meaning that perceived ease of use is a significant predictor of cbe -birr adoption in cbe kirkos district. There for the researcher accepted the alternative hypotheses that stated the perceived ease of use of mobile money to have a Positive and significant effect on the adoption of mobile money service.

Hypothesis 4; perceived trust has significant effect on the adoption of cbebirr.

As is shown in the above table the coefficient of perceived trust is 0.100 at 95% confidence level this means when one unit increase in perceived trust is leads to an increase of mobile money adoption by 10 % while remaining other independent variables constant. The sign of the coefficient (positive in this case) indicates the direction of the relationship, which means that dependent and independent variables have positive relationship. The p-value for this coefficient is 0.015 statistically significant because p value is less than 0.05 meaning that perceived usefulness is a significant predictor of cbe- birr adoption in cbe kirkos district. There for the

researcher accepted the alternative hypotheses that stated the perceived trust of mobile money to have appositive and significant effect on the adoption of mobile money service. This result implies that, when Customers decide to use mobile money service, perceived trust has a positive and significant effect on their decision. The finding of this research is consistent with past studies conducted on the relationship between Mobile money service with perceived trust Since, their study result showed that, perceived trust has a positive effect on mobile money adoption(Mazhar et al., 2014) this study is consistent with previous study.

Hypothesis 5; reliable network has significant effect on the adoption of cbe birr

In Ethiopia, mobile network is caused by lack of efficient network distribution, as a result it

Determines the adoption of the CBE-Birr system. In the above table.4.9, the multiple linear

Regression analysis output for a reliable network revealed that, the coefficient of beta value of reliable network is 0.232 at 95% confidence level this means when one unit increase in reliable network is leads to an increase of mobile money adoption by 23.2 % while remaining other independent variables constant. The sign of the coefficient (positive in this case) indicates the direction of the relationship, which means that dependent and independent variables have positive relationship. The p-value for this coefficient is 0.000 statistically significant because p value is less than 0.05 meaning that perceived usefulness is a significant predictor of cbe -birr adoption in cbe kirkos district. There for the researcher accepted the alternative hypotheses that stated the reliable network of mobile money to have a Positive and significant effect on the adoption of mobile money service. This result implies that, when Customers decide to use mobile money service, reliable network has a positive and significant effect on their decision.

The finding of this research is consistent with past studies conducted on the relationship between cbe-birr adoption and reliable network.

Table 4.10 Summary of hypothesis

Hypothesis	**Tool**	**β value & p value**	**Result**
perceived cost has positive effect on cbebirr adoption	Regression	B=0.375, p<0.05	Accepted
perceived usefulness has positive effect on cbebirr adoption	Regression	B=0.134, p<0.05	Accepted
perceived ease of use has positive effect on cbebirr adoption	Regression	B=0.148, p<0.05	Accepted
perceived trust as positive effect on cbebirr adoption	Regression	B=0.100, p<0.05	Accepted
Reliable network has positive effect on cbebirr adoption	Regression	B=0.232 p<0.05	Accepted

Chapter Five

5. Conclusion and Recommendation

5.1 Introduction

By dividing the study into four sections, this chapter discusses the conclusion, recommendations, limitations, and areas for further research of the study. Conclusion is the first section that describes the finding of the research. In the second section, recommendations are contributed by the researcher, considering the gaps in the study's findings. The third section, the limitation part, elaborates on the drawbacks of the paper. Lastly, in the fourth section, the area of further study indicated the area to be covered while conducting any research about the adoption of CBE-birr. So, in the case of this study, the conclusion and recommendation were carried out from the perspective of the findings.

5.2. Conclusion

This chapter concludes the study by summarizing its findings, addressing their ramifications, and making suggestions for further research. CBE has played a vital part in Ethiopia's development endeavors. Mobile money is the latest service system used by financial institutions (Donovan, 2012).

The general objective of this study is to find out the determinant factors of mobile money service adoption and to assess the extent to which explanatory variables affect the adoption of CBE-Birr by contributing ideas that fulfill the gaps found. As a result of demographic profile analysis conducted by descriptive statistics for the gender of respondents, most of the CBE-Birr service

users at CBE in Kirkos district were females when compared with males. The greater percentage of mobile money service users were also younger, secondary education holders, and had a medium monthly income that fell between 3,001 and 10,000 birr. The respondent's responses emphasize that they used the technology for individual account transactions rather than organizational issues.

Almost all of the CBE-Birr user respondents' registration at CBE in Kirkos district was active. So, the result of inferential statistical data analysis using SPSS V-26 from the respondent's response at CBE in Kirkos district reveals that the five independent variables identified in this study contributed to the mobile money CBE-Birr system adoption at CBE in Kirkos district (62.8%). The contribution of other variables that were not included in this study was only 38.2%. The most important determinant factor that has a greater contribution to CBE-Birr adoption is perceived cost, which has a value of.375 Exp (B), followed by reliable networks, which have a value of.232 Exp (B). As anyone can see from the result of the multiple regression analysis conducted for this study, the coefficient of beta and p-value for perceived trust are (β =.093 and p =0.015, $P<0.05$), respectively. This shows the variable is statistically significant and positively associated with CBE-Birr adoption. In other words, most of the respondents perceive that using mobile money (CBE-Birr) is good for them. The output of the data analysis with regard to perceived usefulness indicates that the coefficient of beta value (.134) means that most of the respondents are aware of the usefulness of the service. As a result, they positively associated the perceived usefulness with adoption, and the p-value ($P<0.05$) shows the variable has a statistically significant effect. With regard to a reliable network, the output reveals a positive association with and statistically significant effect on the adoption of CBE-Birr (a beta value

of.232 and p < 0.05). We can also understand from the output in relation to perceived ease of use that the coefficient beta value (β =.148) implies that the variable has a positive association and is statistically significant with a p-value (P< 0.05), respectively.

5.3. Recommendations

According to the research finding the researcher would like to recommend: -CBE

The analysis result for the demographic profile of respondents shows that, compared to Males, the smaller number of users of mobile money CBE-Birr service at CBE in Kirkos district were females, Also, the least percentage of respondents use the service for organizational rather than personal activities; to improve the gender, income, and age-related mismatch in the use of the CBE-Birr system among customers of CBE in Kirkos district, it is advisable that the management body of CBE prepare and implement the strategic plan of integrated marketing communication in order to create awareness and induce new customers to become users. Simplifying the steps on manuals to be followed when using the service and localizing the language of using the service could be another Option to initiate and enable customers of CBE to consistently use the technology. The findings underline that perceived usefulness has a considerable and favorable impact on the adoption of mobile money services. This finding implies that in order for users to accept mobile money technology, they must perceive it as a helpful and faster means to complete tasks than traditional methods. As a result, it is possible to deduce that individuals will accept mobile money services if the value and benefits of mobile money are clear.

The gaps relating to the absence of a reliable network and the lack of trust in the adoption of the CBE-birr service are another gap identified by this assessment. As a researcher believes, the government should give consideration to the financial and banking sectors, and enough budgets should have to be allocated to each sector, which helps upgrade the mobile network capacity of CBE-Birr service users. Finally, the extension of mobile money by CBE-Birr Technology, improving its consistency, and following up on the service practices among CBE Can improve the trust of the users in the adoption of the CBE-Birr service.

5.4. LIMITATION.

During the course of this study, the following limitations were noted: First, the lack of updated reference materials, particularly regarding the adoption of mobile money (CBE-Birr) in the banking sector's context, may limit the study's breadth. Second, because some journals, like the Journal of Information Technology and the European Journal of Information Systems, refuse to provide privileged access, certain studies could not be considered. Thirdly, the analysis of moderating variables and how they affect the constructs is not taken into account in this study. To obtain more useful results, the researchers can examine in greater detail how modifiers like age, gender, experience, and voluntariness of use affect the relationships of the constructs. Lastly, the researcher focused only on the five independent variables, such as perceived cost, perceived usefulness, perceived trust, perceived ease of use, and reliable network, and also focused only on the CBE kirkos district aerially.

5.5. Area of Further research

Consumers using mobile money CBE-Birr: Customers do not need to physically visit the branch. Consequently, consumers' time and transportation expenses can be reduced by technology. Thus, mobile money makes a substantial economic contribution at both the individual and national levels. It is advised to conduct additional research on this title because the utility of CBE-Birr adoption is uncontested. Based on the information provided by the respondents, binary logistic regression analysis revealed a significant relationship between the adoption of the CBE-Birr system and five independent variables: perceived cost, perceived usefulness, and perceived ease of use, perceived trust, and mobile network. In the future, demographic factors (gender, age, income, and educational attainment) can be used to perform additional studies. Beside these, future research can also focus on extending this study to other regions and countries by using an additional determinant variable and drawing a comparative analysis of cbe-birr adoption.

.

Reference

Ahmed, H., & Cowan, B. (2021). Mobile money and healthcare use: Evidence from East Africa. *World Development*, *141*, 105392.

Ali, G., Ally Dida, M., & Elikana Sam, A. (2020). Evaluation of key security issues associated with mobile money systems in Uganda. *Information*, *11*(6), 309.

Asiamah, N., Mensah, H., & Oteng-Abayie, E. F. (2017). General, target, and accessible population: Demystifying the concepts for effective sampling. *The Qualitative Report*, *22*(6), 1607–1621.

Ayiesa, N. O. (2018). *Factors Affecting Adoption of Mobile Money Payment Services By Students at Institutions of Higher Learning: Case Study of Kenya Institute of Special Education*. United States International University-Africa.

Baganzi, R., & Lau, A. K. W. (2017). Examining trust and risk in mobile money acceptance in Uganda. *Sustainability*, *9*(12), 2233.

Black, M. M. (1974). Idiopathic Pigmentation of the Upper Back. *Archives of Dermatology*, *110*(3), 463–464. https://doi.org/10.1001/archderm.1974.01630090089029

Brooks, C. (2019). *Introductory econometrics for finance*. Cambridge university press.

Buckley, R., Greenacre, J., & Malady, L. (2015). The regulation of mobile money in Malawi. *Wash. U. Global Stud. L. Rev.*, *14*, 435.

Carr Jr, V. H. (1999). Technology adoption and diffusion. *The Learning Center for Interactive Technology*.

Chiemeke, S. C., & Evwiekpaefe, A. E. (2011). A conceptual framework of a modified unified theory of acceptance and use of technology (UTAUT) Model with Nigerian factors in E-commerce adoption. *Educational Research*, *2*(12), 1719–1726.

Cohen, A., & Sayag, G. (2010). The effectiveness of internal auditing: an empirical examination of its determinants in Israeli organisations. *Australian Accounting Review*, *20*(3), 296–307.

Collis, J., & Hussey, R. (2014). Writing up the Research. In *Business Research* (pp. 297–330). Springer.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319–340.

Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research*, *28*(3), 307–319.

Donovan, K. (2012). *Mobile Money more Freedom? The Impact of M-PESA's Network Power on Development as Freedom*.

Dwivedi, Y. K., Rana, N. P., Chen, H., & Williams, M. D. (2011). A Meta-analysis of the Unified Theory of Acceptance and Use of Technology (UTAUT). *Governance and Sustainability in Information Systems. Managing the Transfer and Diffusion of IT: IFIP WG 8.6 International Working Conference, Hamburg, Germany, September 22-24, 2011. Proceedings*, 155–170.

Etim, A. S. (2012). Ehrbeck et al. In *Jack & Suri*. Hughes & Lonie.

Field, A. P. (2005). Is the meta-analysis of correlation coefficients accurate when population correlations vary? *Psychological Methods*, *10*(4), 444.

Gault, F., & von Hippel, E. A. (2009). *The prevalence of user innovation and free innovation transfers: Implications for statistical indicators and innovation policy*.

Gebisa, G. (2021). *Determinants of Mobile Money (Cbe-Birr) Service Adoption: The Case of Commercial Bank of Ethiopia in Bahirdar City Branches*.

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, 51–90.

Ghobakhloo, M. (2020). Determinants of information and digital technology implementation for smart manufacturing. *International Journal of Production Research*, *58*(8), 2384–2405.

Gitau, L., & Nzuki, D. (2014). Analysis of determinants of m-commerce adoption by online consumers. *International Journal of Business, Humanities and Technology*, *4*(3), 88–94.

Gosavi, A., & Gosavi, A. (2015). The Next Frontier of Mobile Money Adoption. *The International Trade Journal*. https://doi.org/10.1080/08853908.2015.1081113

Gumbo, L. C., Halimani, D., & Diza, M. (2017). Perceived Usefulness (PU) and Perceived Ease Of Use (PEOU) as Key Drivers of Mobile Banking Adoption. A Case of Zimbabwe. *Journal of Corporate Governance Insurance and Risk Management*. https://doi.org/10.56578/jcgirm040106

Hira, T. K., & Mugenda, O. M. (1999). The relationships between self-worth and financial beliefs, behavior, and satisfaction. *Journal of Family and Consumer Sciences*, *91*(4), 76.

Hughes, N., & Lonie, S. (2007). M-PESA: mobile money for the "unbanked" turning cellphones into 24-hour tellers in Kenya. *Innovations: Technology, Governance, Globalization*, *2*(1–2), 63–81.

Ivatury, G., & Mas, I. (2008). The early experience with branchless banking. *CGAP Focus Note*, *46*.

Jack, W., & Suri, T. (2011). *Mobile money: The economics of M-PESA*. National Bureau of Economic Research.

Jaradat, M.-I. R. M., & Al-Mashaqba, A. M. (2014). Understanding the adoption and usage of mobile payment services by using TAM3. *International Journal of Business Information Systems*, *16*(3), 271–296.

Jenkins, B. (2008). Developing mobile money ecosystems. *Washington, DC: International Finance Corporation and Harvard Kennedy School*, *10*.

King, W. R., & He, J. (2006). A meta-analysis of the technology acceptance model. *Information & Management*, *43*(6), 740–755.

Lal, R., & Sachdev, I. (2015). *Mobile money services: Design and development for financial inclusion*. Harvard Business School Boston, MA.

Lema, A. (2017). Factors influencing the adoption of mobile financial services in the unbanked

population. *Inkanyiso: Journal of Humanities and Social Sciences*, *9*(1), 37–51.

Mahmoud, Z. (2019). *Determinants of mobile money adoption*.

Mansour, H., Mansour, H., & Mansour, H. (2021). Product-specific determinants of Mobile Money Adoption: Evidence from Egypt during COVID-19. □□□□ □□□□□□□ □□□□□□□□□. https://doi.org/10.21608/jocu.2021.45382.1061

Mazhar, F., Rizwan, M., Fiaz, U., Ishrat, S., Razzaq, M. S., & Khan, T. N. (2014). An investigation of factors affecting usage and adoption of internet & mobile banking in Pakistan. *International Journal of Accounting and Financial Reporting*, *4*(2).

Mbiti, I., & Weil, D. N. (2015). Mobile banking: The impact of M-Pesa in Kenya. In *African successes, Volume III: Modernization and development* (pp. 247–293). University of Chicago Press.

Mitręga, M. (2020). Dynamic marketing capability–refining the concept and applying it to company innovations. *Journal of Business & Industrial Marketing*, *35*(2), 193–203.

Mogaji, E., & Nguyen, N. P. (2022). The dark side of mobile money: Perspectives from an emerging economy. *Technological Forecasting and Social Change*, *185*, 122045.

Monod, J. (2014). On the logical relationship between knowledge and values. In *The social impact of modern biology* (pp. 11–21). Routledge.

Museba, T. J., Ranganai, E., & Gianfrate, G. (2021). Customer perception of adoption and use of digital financial services and mobile money services in Uganda. *Journal of Enterprising*

Communities: People and Places in the Global Economy, *15*(2), 177–203.

Mwando, S. (2013). Contribution of agency banking on financial performance of commercial banks in Kenya. *Journal of Economics and Sustainable Development*, *4*(20), 26–34.

Naito, H., & Yamamoto, S. (2022). Is better access to mobile networks associated with increased mobile money adoption? Evidence from the micro-data of six developing countries. *Telecommunications Policy*, *46*(6), 102314.

Nonvide, G. M. A., Nonvide, G. M. A., Alinsato, A. S., & Alinsato, A. S. (2022). Who uses mobile money, and what factors affect its adoption process? Evidence from smallholder households in Cote d'Ivoire. *Journal of Financial Services Marketing*. https://doi.org/10.1057/s41264-022-00144-1

Ntlatlapa, M. J., & Ntlatlapa, M. J. (2017). *The determinants of mobile money adoption and usage: the case of Lesotho*. https://www.semanticscholar.org/paper/338d380ac19b539384ab926042c2a0d65c587b93

Ofosu-Boateng, I. (2020). Influence of consumer sales promotion on consumers' purchasing behaviour of the retailing of consumer goods in Tema, Ghana. *International Journal of Trends in Marketing Management*, *2*.

Owusu, N. (2017). Factors influencing the usage of mobile money services in Ghana. *Turun Yliopisto. University of Turku. Retrieved September*, *22*, 2018.

Oye, N. D., A. Iahad, N., & Ab. Rahim, N. (2014). The history of UTAUT model and its impact

on ICT acceptance and usage by academicians. *Education and Information Technologies*, *19*, 251–270.

Pallant, J. F., Haines, H. M., Green, P., Toohill, J., Gamble, J., Creedy, D. K., & Fenwick, J. (2016). Assessment of the dimensionality of the Wijma delivery expectancy/experience questionnaire using factor analysis and Rasch analysis. *BMC Pregnancy and Childbirth*, *16*, 1–11.

Pénicaud, C., & Katakam, A. (2019). State of the industry 2013: Mobile financial services for the unbanked. *Gates Open Res*, *3*(1429), 1429.

Ramayah, T., Ramayah, T., Ramayah, T., Ramayah, T., Lian, L. S., Lian, L. S., Rahman, S. A., Rahman, S. A., Taghizadeh, S. K., & Taghizadeh, S. K. (2017). Modelling mobile money adoption: a Malaysian perspective. *International Journal of Mobile Communications*. https://doi.org/10.1504/ijmc.2017.10003971

Rea, S. C., & Nelms, T. C. (n.d.). *Mobile Money: The First Decade*.

Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, *23*(3), 393–404.

Sahin, I. (2006). Detailed review of Rogers' diffusion of innovations theory and educational technology-related studies based on Rogers' theory. *Turkish Online Journal of Educational Technology-TOJET*, *5*(2), 14–23.

Sahu, P. K., & Sahu, P. K. (2013). Collection of Data. *Research Methodology: A Guide for*

Researchers In Agricultural Science, Social Science and Other Related Fields, 63–73.

Scharwatt, C., & Williamson, C. (2015). Mobile money crosses borders: New remittance models in West Africa. *GSMA, London*, *12*.

Schierz, P. G., Schilke, O., & Wirtz, B. W. (2010). Understanding consumer acceptance of mobile payment services: An empirical analysis. *Electronic Commerce Research and Applications*, *9*(3), 209–216.

Sechrest, L. (2005). Validity of measures is no simple matter. *Health Services Research*, *40*(5p2), 1584–1604.

Setiawan, A. D., Setiawan, A. D. A., Rahman, I., Rahman, I., Hidayatno, A., Hidayatno, A., Zelin, A. D. E., & Zelin, A. D. E. (2019). Modeling Adoption of Electronic Money in Indonesia: Conceptual Approach for Less Cash Society Development. *ICIBE*. https://doi.org/10.1145/3364335.3364398

Shrier, D., Canale, G., & Pentland, A. (2016). Mobile money & payments: Technology trends. *Massachusetts Inst. Technol*, *27*.

Suri, T. (2017). Mobile money. *Annual Review of Economics*, *9*, 497–520. https://doi.org/10.1146/ANNUREV-ECONOMICS-063016-103638

Taherdoost, H., Business, H., Sdn, S., Group, C., & Lumpur, K. (2016). Sampling Methods in Research Methodology ; How to Choose a Sampling Technique for. *International Journal of Academic Research in Management (IJARM)*, *5*(2), 18–27.

Tan, Y., Li, Z., Liu, S., Nazir, M. I., & Haris, M. (2022). Competitions in different banking markets and shadow banking: evidence from China. *International Journal of Emerging Markets, 17*(6), 1465–1483.

Teng, S., & Khong, K. W. (2021). Examining actual consumer usage of E-wallet: A case study of big data analytics. *Computers in Human Behavior*, *121*, 106778.

TESFAYE, Y. (2019). *ASSESSING OPPORTUNITIES AND CHALLENGES OF CBE–BIRR MOBILE MONEY SERVICE: CASE STUDY ON COMMERCIAL BANK OF ETHIOPIA*. st. mary's University.

Tobbin, P. E. (2010). *Modeling adoption of mobile money transfer: A consumer behaviour analysis*.

Tobbin, P., & Kuwornu, J. K. M. (2011). Adoption of Mobile Money Transfer Technology: Structural Equation Modeling Approach. In *European Journal of Business and Management www.iiste.org ISSN* (Vol. 3, Issue 7). Online. www.iiste.org

Turner, A. G. (2003). Sampling strategies. *Handbook on Designing of Household Sample Surveys. Geneva: United Nations Statistics Division*.

Van der Heijden, H. (2004). User acceptance of hedonic information systems. *MIS Quarterly*, 695–704.

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS Quarterly*,

157–178.

Vutsengwa, R. M., & Ngugi, K. (2013). An assessment of the challenges facing commercial banks in sustainability of agency banking in Kenya: A case of commercial banks. *International Journal of Social Sciences and Entrepreneurship*, *1*(2), 613–620.

Wadie, N. (2012). *An exploration of facebook. com adoption in Tunisia using technology acceptance model (TAM) and theory of reasoned action (TRA)*.

Williams, C. (2007). Research methods. *Journal of Business & Economics Research (JBER)*, *5*(3).

Wulandari, D., Soseco, T., & Narmaditya, B. S. (2016). Analysis of the use of electronic money in efforts to support the less cash society. *International Finance and Banking*, *3*(1), 1–10.

Yamane, T. (1967). *Statistics, An Introductory Analysis 2nd ed.*

Appendix

A. Research Questionnaire

ADDIS ABABA UNIVERCITYDEPARTMENT OFBUSINESS ADMINISTRATION (MBA) PROGRAM.

QUESTIONNAIRES ON: FACTORS AFFECTING MOBILE MONEY (CBE-BIRR) SERVICE ADOPTION: THE CASE OF COMMERCIAL BANK OF ETHIOPIA, KIRKOS DISTRICT.

Dear respondents: - The intention of this research questionnaire is to collect data from the respondents in order to assess the intermediating factors that influence customers' decision to use Mobile money/ CBE-Birr service. The quality of the result for this research will be based on the accuracy of the information you will provide. Eventually, I promise you, the information you will provide me is going to be reported and communicated in aggregate and utmost care will be taken for its confidentiality. I would like to thank you for your cooperation and allowing me to take a few minutes of your valuable time.

NOTE: -

- ➢ No need of writing your name.
- ➢ Your confidentiality maintained sincerely.

➢ CBE-Birr is the subscription name of 'Mobile money among CBE

Please put this sign for your choice ✓

1.Gender	✓
Male	
Female	

2. What is your level of education?

s.no	Education	✓
1	Non-formal education	
2	Primary education	
3	Secondary education/diploma	
4	Degree and above	

4. What is your age?

s.no	Age	✓
1	Less than 25	
2	Between 25-60	
3	Above 60	

5. How much your monthly income (in Birr)?

s.no	monthly income	✓
1	Below 1,000.00	
2	Between 1,001.00-3,000.00	
3	Between 3,001.00-10,000.00	
4	Above 10,000.00	

Part II Questions related to Adoption

No.	**Variable**					
1	**Mobile money (cbe birr) adoption**	1	2	3	4	5
a	I plan to continue to use mm service frequently					

b	I perceive the cost of CBE - Birr mobile money is not costly					
c	CBE-Birr mobile money is useful way of making payment					
d	I find mobile money services easy to use					

Part III - Questions related to factors that affect customers' behavioral intention to use CBE – BIRR mobile money service

Please indicate the extent you agree or disagree of the factors (Perceived price, Perceived usefulness, Lack of reliable mobile network, Perceived safety, perceived trust) that affect customers' intention to use mobile money CBE - Birr service. 1= Strongly Agree, 2= Agree 3=Not sure 4= Dis Agree and 5= Strongly Disagree Factors that may affect customer intention of CBE-BIRRadoption.

No.	**Variable**					
1	**Perceived cost**	1	2	3	4	5
a	I find the cost of CBE - Birr mobile money is fair					
b	I perceive the cost of CBE - Birr mobile money is not costly					
c	It is costly conduct payment, withdrawal and transaction using CBE Birr/mobile-money-service					
d	Mobile money/CBE - Birr processing may expose to further expense					
2	**Perceived Usefulness**	1	2	3	4	5
a	CBE-Birr mobile money is useful way of making payment					

b	CBE - Birr Mobile money service helps save time					
c	CBE-Birr is more convenient and accessible					
d	CBE - Birr mobile money service would outweigh the disadvantages					
3	**Reliable Mobile Network**	1	2	3	4	5
a	I couldn't continue to use mobile money service because of mobile network					
b	I believe my mobile network is not capable of running the CBE-birr transaction service consistently					
c	I will continue using of CBE-Birr service if there, accessible network					
d	I suffered from the lack of mobile network to use CBE-Birr service					
4	**Perceived Trust**	1	2	3	4	5
a	I don't believe that it is possible to transfer money using my mobile					
b	I suspect to use mobile to execute payment to other					
c	I trust that, using CBE-Birr mobile money doesn't expose to risk					
d	For I don't know how to use the CBE-birr service, I afraid to be served with mobile money service.					
5	Perceived ease of use	1	2	3	4	5
a	I find mobile money services easy to use					

b	Learning how to use mobile money services is easy for me					
c	Skillfully using mobile money services is easy for me					

መጠይቅየጥናቱርዕስ፣ FACTORS AFFECTING MOBILE MONEY (CBE-BIRR) SERVICE ADOPTION: THE CASE OF COMMERCIAL BANK OF ETHIOPIA, in Addis Ababa KIRKOS DISTRICT.

ለዉድመረጃሰጭዎች፡-

የዚህጥናትዋናአላማ፣በተጠቀሰዉየጥናቱርዕስዙሪያከተጠቃሚዎችመረጃንለመሰብሰብሲሆን፣የ CBE-Birr

ተጠቃሚየሆኑትንደንበኞች፣አገልግሎቱንየመጠቀምናያለመጠቀምሁኔታቸዉንየሚወስንምክንያቶችለ መተንተንነዉ።የእርስዎትክክለኛመረጃመስጠትየምርምሩዓላማግቡንእንዲመታይረዳል።በመጨረሻም ፣የሚሰጡኝመረጃበምስጢርየሚያዝሲሆንለዚህምርምርአገልግሎትብቻይውላል።ስለትብብርዎበቅድ ሚያእናመሰግናለን።

➢ስምመፃፍአያስፈልግም

ክፍል I - የመልስሰጪዎችማንነትጠቅላላመረጃ

ተ. ቁ		እባክዎለመረጡትምላሽይህንንምልክትይጠቀሙ ✓
1	ፅታ	
	ሀ. ወንድ	
	ለ. ሴት	

2.	የትምህርትደረጃ	
ሀ.	የመጀመሪያደረጃ፣ትምህርትያላገኘ	
ለ.	የመጀመሪያደረጃ፣ትምህርትየተማረ	
ሐ.	የሁለተኛደረጃትምህትየተማረወይምዲፕሎማ	
መ.	ዲግሪእናበላይ	

4.	እድሜ	
ሀ.	ከ25 በታች	
ለ.	ከ 25-60	
ሐ.	ከ 60በላይ	

5.	የወርገቢበብር	
ሀ.	ከ 1,000.00 በታች	
ለ.	ከ 1,001.00-3,000.00	
ሐ.	ከ 3,001.00-10,000.00	
መ.	ከ 10,000.00	

ክፍልII ቴክኖሎውንከመቀበልጋርየተገናኘጥያቄ።

ተ. ቁ.	ተለዋዋጮች					
1	**Mm money (cbebirr)**	1	2	3	4	5
ሀ.	Cbebirr አገልግሎትን በተደጋጋሚ መጠቀሜን ለመቀጠል እቅድ አለኝ					
ለ.	ለ ‹‹CBE- Birr›› አገልግሎት የሚቆረጥ ቀረጥ/ዋጋ ውድ እንዳልሆነ ተረድቻለሁ					
ሐ.	ለ ‹‹CBE- Birr›› አገልግሎትጠቃሚየክፍያመንገድነው ብየ አስባለሁ					
መ.	የ‹‹CBE- Birr›› አገልግሎትአጠቃቀምቀላልሆኖአግኝቼዋለሁ					

ክፍል III፣የ‹‹CBE-Birr››አገልግሎትእንዳይጠቀሙጫናየሚፈጥሩከደንበኛእይታጋር፣የተያያዙጥያቄዎች።ስለ ‹‹CBE-Birr››አገልግሎትየደንበኛዉንእይታሊወስኑየሚችሉተለዋዋጭምክንያቶች፡ለአገልግሎቱተጠቃሚነትየሚቆረጥቀረጥ፣ስለአገልግሎቱጥቅምየደንበኛዉእይታ፣አስተማማኝየሆነየሞባይልኔትወርክአለመኖር፣የአገልግሎቱየአጠቃቀም ቀላልነትጋርየተያያዘየደንበኛእይታ፣ስለአገልግሎቱየግንዛቤማነስምክንያትእምነትማጣት።

መመሪያ፡- እባከዎ፣የ‹‹mobile money CBE-Birr ››አገልግሎትእንዳይጠቀሙየሚያደርገዎትንእይታ/ስለአገልግሎቱየሚሰማዎትንሁኔታ፣የአገልግሎቱተጠቃሚነዎትንላይጫናእንዳለዉመስማማትወይንምአለመስማማዎትንያሳዩ።1= በደንብእስማማለሁ, 2= እስማማለሁ, 3= እርግጠኛአይደለሁም 4= እቃወማለሁእና 5= በጣምእቃወማለሁ

ተ.ቁ.	ተለዋዋጮች					
1	**የተገነዘበዋጋ**	1	2	3	4	5
ሀ.	ለ ‹‹CBE-Birr›› አገልግሎትየሚቆረጥቀረጥ/ዋጋጥሩነዉብየአስባለሁ					
ለ.	ለ ‹‹CBE-Birr›› አገልግሎትየሚቆረጥቀረጥ/ዋጋዉድነዉብየአላስብም					
ሐ.	ለ ‹‹CBE- Birr›› አገልግሎትየሚቆረጥቀረጥ/ዋጋዉድነዉብየአስባለሁ					
መ.	የ‹‹CBE- Birr›› አገልግሎትአጠቃቀምለአላስፈላጊወጪያጋልጣል					
2	**የተገነዘበጠቀሜታ**	1	2	3	4	5
ሀ.	የ‹‹CBE- Birr›› አገልግሎት፣ጠቃሚየሆነየክፍያመፈፀሚያመንገድነዉ					
ለ.	የ‹‹ Mobile money/CBE-Birr›› አገልግሎትጊዜለመቆጠብይጠቅማል					
ሐ.	የ‹‹ Mobile money/CBE-Birr›› አገልግሎትምቹናበቀላሉየሚገኝነዉ					
መ.	የ‹‹CBE-Birr››አገልግሎት፣ከጉዳቱጥቅሙያመዝናልብየአስባለሁ					
3	**አስተማማኝየሞባይልአውታረመረብ**	1	2	3	4	5

ሀ.	በሞባይልኔትወርክምክንያትተጠቃሚሆኜመቀጠልአልቻልኩም					
ለ.	የኔሞባይልኔትወርክየ‹‹CBE-Birr››አገልግሎት፣ያስቀጥለኛልብየአላምንም					
ሐ.	በቂየሞባልኔትወርክቢኖረኝየ‹‹CBE-Birr››አገልግሎት፣መጠቀምንእቀጥላለሁ					
መ.	በኔትወርክእጥረትምክንያት ‹‹CBE-Birr›› ለመጠቀምተቸግሬሃለሁኝ					
4	የተገነዘበ የአጠቃቀም ቀላልነት	1	2	3	4	5
ሀ.	የሞባይልገንዘብአገልግሎቶችንለመጠቀምቀላልሆኖአግኝቼዋለሁ					
ለ.	የሞባይልገንዘብአገልግሎቶችንእንዴትመጠቀምእንዳለብኝመማርለእኔቀላልነው። የሞባይልገንዘብአገልግሎቶችንበብቃትመጠቀምለእኔቀላልነው።					
ሐ.						
5	**የተገነዘበእምነት**	1	2	3	4	5
ሀ.	ስልኬንበመጠቀምብርማስተላለፍይቻላልብየአላምንም I					
ለ.	ሞባይልበመጠቀምብርለሰዉማስተላለፍእጠራጠራለሁ					
ሐ.	የ‹‹ CBE-Birr ››አገልግሎትመጠቀምለኪሳራያጋልጣልብየአላምንም					
መ.	የ‹‹CBE-Birr ››አገልግሎትአጠቃቀምስለማለዉቅልገለገልበትእፈራለሁ					

አመሰግናለሁ!