



ADDIS ABABA UNIVERSITY
COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES
SCHOOL OF INFORMATION SCIENCE

**FACTORS INFLUENCING USERS' ADOPTION OF MOBILE
BANKING APPS AT COMMERCIAL BANK OF ETHIOPIA**

By
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aba University in Partial Fulfillment of the Requirements for the
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By: MELKAMU TIRUNEH

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Declaration

This thesis has not previously been accepted for any degree and is not being concurrently submitted in candidature for any degree in any university.

I declare that this thesis entitled “Factors influencing users’ adoption of Mobile Banking Apps at commercial bank of Ethiopia” is a result of my own investigation, except where otherwise stated. I have undertaken the study independently with the guidance and support of my research advisor. Other sources are acknowledged by citations giving explicit references. A list of references is appended.

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This thesis has been submitted for examination with my approval as university advisor.

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Abstract

In a dynamic growth of mobile technology, the adoption and usage rate of mobile banking is still lower and shows adoption problem gaps since mobile banking started in our country banking industry. The main objective of this research was to investigate factors influencing mixed or both quantitative and qualitative research approach to the study. The main source of data was gathered or collected using questionnaires distributed to CBE Kaliti district grade 3 and 4 branches for mobile banking users and the head office system development department for interview questionnaires. Statistical Package for Social Sciences (SPSS) version 20 was used to analyze the data. Descriptive analysis based on mean and standard deviations, implementing two models IDT (Innovation Diffusion Theory) and UTAUT (Unified Theory of Acceptance and Use of Technology) have average mean values to adopt mobile banking apps and also Correlation analysis, and Multiple logistic regression model were used to analyze the gathered data. , relative advantage, and Compatibility have positively correlated with users of mobile banking adoption apps with the coefficient values of 1.172, 1.357, 1.189, and 1.302 respectively and the linear relationship(s) is statistically significant at $p < 0.05$. The multiple regression analysis result showed regressing independent variables against mobile banking app adoption, as dependent variables are positively correlated with all factors of those independent variables. This study recommended that to enhance the adoption rate of mobile banking CBE should use our local languages by customizing its features convenient to the customer as a standard like the English language

Keywords: Mobile banking, Adoption, Apps, users

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List of Acronyms

Apps	Applications
ATM	Automated Teller Machine
CBE	Commercial Bank of Ethiopia
IDT	Innovation Diffusion Theory
NBE	National Bank of Ethiopia
PIN	Personal Identification Number
PEOU	Perceived Ease of use
PU	Perceived Usefulness
SMS	Short Message service
SPSS	Statistical Package for Social science
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UTAUT	Unified Theory of Acceptance and Use of Technology
WAP	Wireless Application Protocol

CHAPTER ONE

1. INTRODUCTION

In this introductory chapter, the background of the study, the inspiration or motivation behind the research, the problem statement, research questions, study goals, research scope, the significance of the study, and the organization of the research are all presented.

1.1 BACKGROUND

Mobile Banking is defined as a service provided by banks which helps customers to conduct financial transactions remotely using devices such as smart phones (Malaquias et al., 2018; Siyal et al., 2019; Zhang et al., 2018). Thus, mobile banking enables customers to access banking services conveniently. The adoption of mobile banking is influenced by different factors. From studies, among the various factors leading to the adoption of mobile banking, are ease of use, perception of security, functionality, customization, and convenience (Naruetharadhol et al., 2021; Siyal et al., 2019; Srivastava & Vishnani, (2021).

Different researchers defined mobile banking in many ways. Mobile banking refers to the utilization of mobile devices for accessing financial information, facilitating communication, and conducting financial transactions to customers anytime and anywhere. These include Check your account balances, send money, and access other banking products and services Tam & Oliveira, (2017). Mobile banking presents a cost-effective alternative to traditional banking services by eliminating the expenses associated with traveling to physical bank branches, saving both time and opportunity costs. Furthermore, its convenience knows no bounds as long as mobile network services are accessible, enabling customers to engage in mobile banking from any location at any time. This potential makes mobile banking a viable solution for addressing banking challenges in rural communities within developing nations Mlitwa & Tshetsha, (2012).

Mobile technologies offer numerous advantages over alternative technologies, including the ability to communicate and interact with individuals regardless of their location. They provide independence and autonomy in their usage, allowing users to access customized information and services tailored to their specific needs. Additionally, mobile technologies enable prompt responses

and quick answers from users, facilitating efficient and timely communication Daştan & Gürler, (2016).

Mobile banking plays a vital role in enabling customers to conveniently access a wide range of banking services without the need for physical visits to their local banks(Baanni Azumah et al., 2020; Zhang et al.T, (2018) .Mobile banking adoption is influenced by a variety of factors determined by the beliefs and expectations of the target customer. According to Dwivedi & Rana, (2017), factors such as price, trust, and performance expectations influenced the adoption of mobile banking in Jordan. Furthermore, the study indicated that the same factors influenced customers' attitudes towards the mobile banking innovation Elhajjar & Ouaida, (2019); Zhang et al.T, (2018) .The study confirmed that customer' attitudes towards and adoption of mobile banking services were influenced by their perceptions of ease of use, usefulness, and risks associated with the technology. Furthermore, Zhang et al.T, (2018) the study shown that the adoption of mobile banking was influenced by the perceived reliability and privacy aspects. Customers who perceived mobile banking as secure and dependable were more inclined to adopt the technology and utilize it for accessing various services. Thus, across Europe, South America, and Asia, it is apparent that the adoption of mobile banking is influenced by different factors.

In Africa, the adoption of mobile banking has been slow(Baanni Azumah et al., 2020; Ezeh & Nwankwo, 2018). In countries such as Nigeria, Ghana, Tanzania, Zimbabwe, and South Africa, studies indicate that perceived usefulness, perceived ease of use, and perceived costs influenced adoption of mobile banking(Ezeh & Nwankwo, 2018; Siano et al., 2020).Issues of Privacy and security concerns are significant factors that influence the acceptance of mobile banking in Africa. In Kenya, the adoption of mobile banking has been relatively slow, but there has been a gradual rise in the number of users over the past few years Nyambura Ndung'u et al.,(2012) .

Customers' willingness to accept new technology is influenced by trust Jahan & Shahria, (2022). Potential customers are hesitant to use mobile banking due to its reliability; for example, mobile banking adoption in a developing country is influenced by perceived reliability (Priya et al., 2018). Hence, trust stands as a crucial factor that can hinder the adoption and success of mobile banking services(Hafez, 2023).Furthermore, the research conducted by Naruetharadhol et al., (2021) emphasizes the significance of perceived utility in shaping the inclination to accept mo-

mobile banking. Moreover, the perceived ease of use emerges as a critical determinant of consumer satisfaction and the willingness to embrace mobile banking services Alalwan et al., (2016).

Mobile banking refers to the utilization of mobile communication techniques and devices within an electronic framework to provide financial services. This subcategory of electronic banking holds great potential for expanding financial activities, particularly in developing nations such as Ethiopia, where the number of mobile phone users surpasses those with traditional bank accounts (Kala Kamdjoug et al., 2021). Mobile banking also offers a more cost-effective alternative to establishing physical bank branches, especially in rural areas (Rachmawati et al., 2020). As per the CBE bank procedure, active mobile banking users are defined as customers who have registered and have subsequently used mobile technology, even if it is for tasks such as checking account balances and accessing various services.

1.2 RESEARCH MOTIVATION

Today's globalization and dynamic commercial environment forces many companies to face increasingly strong competition. A competitive commercial situation and rapid technological development are the keys to gaining a sustainable competitive advantage in providing quality services that lead to customer satisfaction. High quality service, reflected in rapid technological development, is a key differentiator and source of competitive advantage (Grönroos, 2020)

The development of mobile banking has led to a significant revolution in the manner in which banking transactions are conducted. It has significantly accelerated and simplified banking services, providing customers with convenient and swift access to their accounts. Consequently, mobile banking has effectively reduced the time customers spend on transactions, making them more convenient and user-friendly. The Easy bank account access reduces the hassle of having to visit a bank branch, thereby making transactions possible anywhere, regardless of where the branch is located (Tam & Oliveira, 2017). The advent of mobile banking has provided bank customers with a convenient means to conduct business transactions (RAMLI et al., 2021).

The advancement of mobile banking has experienced significant progress as several banks and mobile network operators now offer services that enable customers to perform financial transactions, such as money transfers, utility payments, and also accessing various financial services, through their mobile phones (Jawad et al., 2022). The issue of security plays a vital role in influ-

encing consumers' perceptions of online banking. It becomes a primary consideration when individuals contemplate adopting mobile banking services, as they may harbor concerns about the security risks associated with data input and output methods, potential connection interruptions, and personal errors. Consequently, many individuals may choose not to engage with this service, despite its additional advantages. Moreover, the perceptions of service providers and users towards them also impact the adoption of mobile banking.(Kaur & Arora, 2023)

Customers' willingness to adopt mobile banking is influenced by various factors, including security, efficiency, perceived ease of use, and perceived cost (Singh & Srivastava, 2020). Additionally, reducing switching costs and implementing innovative measures to build consumer trust and enhance service quality have been shown to impact the adoption of mobile banking (Uzzal Hossain et al., 2020) . Numerous academic theories have been developed to identify the factors that influence acceptance and explore how potential consumers evaluate new advancements in mobile banking(Zhou, 2012).

Individual innovativeness and social norms significantly influence user attitudes and intention to use mobile banking, while perceived risks and costs hinder the adoption of such services. Another study highlights the paramount importance of security factors when introducing mobile banking services, and it also emphasizes the influence of facilitation conditions on the actual usage of mobile banking services(Mostafa & Eneizan, 2018) .For these different findings, mobile banking research is questionable and needs further and deeper research.

Laekemaryam (2015) conducted in commercial Bank of Ethiopia to investigate factors that influence the adoption of mobile banking. The study utilized the Unified Theory of Acceptance and Use of Technology (UTAUT) model to analyze the causal relationship between mobile banking adoption and various factors, including performance expectations, perceived risk, perceived cost, expected effort, trust, mobile banking quality, and intention to use. The purpose of the study was to identify how these factors impact the adoption of mobile banking and how they relate to users' behavior and intentions. By employing the UTAUT model, the researchers aimed to understand the underlying mechanisms that drive the adoption of mobile banking in the context of commercial Bank of Ethiopia.

Mobile Banking has been used in many parts of the world since the early 2000s. In Ethiopia, Mobile banking first launched its services in 2013 with Commercial Bank Ethiopia.

In Ethiopia, as per NBE directive No. FIS/01/2012 Mobile and Agent Banking Services have a ten years banks service. NBE has established specific technological requirements for the implementation of mobile and agent banking services to ensure security. These requirements are considered essential components of a financial institution's technology risk management program. They include addressing user risks and infrastructure and software application risks.

Regarding user risks, it is necessary for customers to be educated about information security, including safeguarding their personal identification number (PIN) and other security features. Alongside this information security standard, certain aspects related to application error, message type and handling, PIN and user authentication, storage of financial and non-financial data, service availability and backup, confidentiality of user information, as well as data and transaction integrity, are considered minimum requirements for obtaining a business license. These requirements are crucial to ensure the security and reliability of mobile and agent banking services in compliance with NBE regulations.

The attitudes towards technology appear to be determined by cultural factors and experiences and also resistance to change in a new technology are factors.

I observed in a day to day activity at Commercial Bank of Ethiopia the service quality of mobile banking raised many issues that can be upgraded and easy to use 24/7 access at anywhere whereas customers' still needs to visit a branch unfulfilled access on Simple, secure and convenient mobile banking applications.

1.3 STATEMENT OF THE PROBLEM

A widespread adoption of mobile devices has resulted in the rapid expansion of mobile banking services worldwide. This trend is particularly significant in Africa and other developing countries, as it has facilitated financial inclusion for the most economically disadvantaged individuals who were previously unbanked (Demirguc-Kunt et al., 2018)

The growth of wireless technology has further fueled the development of e-commerce, establishing mobile phones and handheld devices as alternative payment methods in technologically advanced societies(Taneja, 2021)

Mobile banking, an evolving technology in the commercial sector, combines information technology with trading applications. It enables consumers to access specialized services 24/7 without the need to physically visit a traditional bank branch, primarily utilizing Short Message Service (SMS) for mobile banking transactions. The key motivations behind the use of mobile phones and SMS for banking purposes include time savings, flexibility, and convenience(Singh et al., 2022)

Various theoretical frameworks have been employed by researchers to study the adoption of new technological innovations. Notable frameworks in this particular context include the Technology Acceptance Model (TAM) proposed by (Davis, 1989). TAM suggests that an individual's acceptance of a technology depends on two belief sets: perceived ease of use (PEOU) and perceived usefulness (PU). Another framework relevant to this topic is the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB), which state that an individual's intention to adopt and the factors influencing technology use are determined by attitude, subjective norms, and perceived behavioral control. On the other hand, the Unified Theory of Acceptance and Use of Technology (UTAUT), developed by (Rogers, 1995) provides an explanation of how the diffusion of innovations occurs within a social system.

The use of mobile devices allows customers to conduct transactions at any time and from anywhere, providing access to account details and enabling money transfers. However, security is a critical concern for customer trust, as the data stored on the customer's mobile device is as sensitive as the data in the bank's server. Therefore, ensuring security is paramount, and manufacturers must design mobile devices with features that prevent unauthorized access and prioritize privacy and safety in financial transactions. Authentication in mobile banking is a core issue that requires attention to establish and maintain customer trust(Narendiran et al., 2009)

Users are increasingly interested in accessing financial services through mobile platforms, with mobile banking based on Wireless Application Protocol (WAP) and Short Message Service (SMS) gaining popularity (Y. Zhang et al., 2013)

Mobile phone manufacturers are responsible for developing mobile devices that possess the capability to safeguard against unauthorized access by potential attackers. This is essential for maintaining the privacy and security of financial transactions. In order to establish and maintain customer trust, manufacturers must prioritize addressing security concerns associated with mobile banking. Authentication in mobile banking emerges as a fundamental aspect that necessitates focused attention and efforts. (Roth et al., 2020)

According to CBE half year 2014/15 reports and at the time of mobile banking starting period on CBE the total number of CBE customers were 9.5 million account holders and active mobile users were 73,990. But currently, the total number of CBE customers reached 40.3 million and Mobile banking users recruited are 5,746,400. From this annual report understand that the percentage share of mobile banking user is 14% (June, 2022/23 annual report). The adoption and utilization rate of mobile banking remains relatively low and shows adoption problem gaps within nine years.

On the other hand, the total number of Kaliti district customers are 1,063,166 among of this 184,591 customers use mobile banking but 83% of the district customers did not use mobile banking service this shows still needs a further research on adoption of mobile banking.

Even if Expand Digital Banking is a Strategic Objective of the bank, numbers tell as mobile banking performance disparity compared to customer base percentage growth rate.

In contrast to Ethiopia, the progress of mobile banking in Other African countries, like Kenya, has made notable developments in the advancement of mobile banking. Kenya, in particular, has witnessed significant development in mobile banking with the introduction of M-Pesa in 2007. M-Pesa is a mobile phone-based money transfer service launched by Vodafone for Safaricom and Vodacom, the leading mobile operators in Kenya and Tanzania. As per Safaricom's 2013/14 report, M-Pesa had an impressive 18.2 million active customers Kariuki & Dougan, (2014).

Technical system failures can undermine customer trust in mobile banking. To enhance the user experience, it is crucial to integrate the mobile banking system with various bank products like ATMs, agency banking, and other third-party financial institutions.

Several factors influence the adoption of mobile banking apps by users, including Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Relative advantage, Compatibility, and Complexity.

It is important to note that the study conducted by Laekemariam in 2015 focused solely on a commercial bank in Addis Ababa, Ethiopia, which may have a different technological environment compared to other locations and banks. As a result, future studies should encompass a broader scope to capture variations in mobile banking adoption across different regions and financial institutions.

Therefore, my motivation to study and fill these gaps on Factors Influencing Users adoption of mobile banking Apps in Ethiopia in the case of commercial bank of Ethiopia Kaliti District.

I will try to see this gaps at Kaliti District grade 3 and grade 4 branches found four in Addis Ababa and four in Bishoftu town in Oromia Region.

1.4 RESEARCH QUESTONS

The research question derived from the above mentioned problem statement is as follows:

1. What key factors influence the adoption of mobile banking Apps within commercial bank of Ethiopia?
2. How can mobile banking App users' adoption be improved?

1.5 RESEARCH OBJECTIVE

1.5.1 GENERAL OBJECTIVE

The main goal of this study is to determine the factors that influence the adoption of mobile banking apps at the Commercial Bank of Ethiopia (CBE).

1.5.2 SPECIFIC OBJECTIVE

- To assess the association of mobile phone skill on adoption of mobile banking.
- To examine the extent of users' adoption of mobile banking Apps in CBE.

- To evaluate the effect of usability on the adoption of mobile banking apps.
- To make recommendations to improve mobile banking Apps adoption.

1.6 SCOPE OF THE STUDY

This study are focuses Factors Influencing Users Adoption of Mobile Banking Apps at Commercial Bank of Ethiopia Kaliti District Customers of the district up to June 30, 2023 and the result will not be extended to other districts of CBE. Additionally, the study focuses UTAUT and Innovation Diffusion Theory (IDT) Models. The Unified Theory of Acceptance and Use of Technology (UTAUT) factors are Performance expectancy, Efforts expectancy, Social influence and Facilitating conditions. The Innovation Diffusion Theory (IDT) includes relative advantage, compatibility, and complexity.

1.7 SIGNIFICANCE OF THE STUDY

The primary aim of this research is to examine the factors that influence the adoption of mobile banking apps specifically at the Commercial Bank of Ethiopia in Kaliti district. The outcomes of this study have significant implications for the district's welfare, providing valuable insights for the implementation of the bank's Digital Banking Policy. Furthermore, the findings are assist the bank's management in enhancing mobile banking services.

Ultimately, the results of this study are expected to yield crucial findings that can serve as valuable input for future investigations in this area.

1.8 ORGANIZATION OF THE STUDY

This research involves five chapters. The first chapter contains study background, the statement of the problem, research question, objectives of the research, the scope of the study, and significance of the study. Chapter two is literature review about overview of electronic banking, mobile banking, benefits of mobile banking, mobile banking apps adoption, challenges in mobile banking adoption, and related works. The third chapter presents research methodology which organizes research approaches, strategies, sampling technique, data collection methods, data analysis technique, and data reliability and validity. Chapter four is data analysis and five includes conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1. INTRODUCTION

This chapter explores research on mobile banking app adoption, examining both local and international studies and literature that are related to mobile banking apps adoption. It focuses on the various factors identified by different researchers that influence people's decision to use mobile banking apps. The main focus areas are an overview of electronic banking, mobile banking, benefits of mobile banking, mobile banking adoptions, factors influencing mobile banking adoption, challenges in mobile banking adoptions, Mobile banking risks, technology adoption theories and models, related works, and summary of the chapter.

2.2 OVERVIEW OF ELECTRONIC BANKING

Electronic banking services have been around for very a few times within the shape of programmed teller machines and phone exchanges. In more lately a long time, cutting edge e-banking administrations such as web and versatile keeping money has revolutionized managing an account administrations. The advancement of the e-banking industry can be followed to the early 1970s when banks started to see at these sorts of administrations as an elective to a few of their conventional bank capacities. To begin with, such a choice was considered suitable since it guarantees decreased costs as branches were exceptionally costly to set up and keep up. Moment, e-banking items and administrations like ATMs and electronic finance exchange were an imperative subjective component of separation for banks that utilized them Mobarek, A. (2007) as cited by (Sarlak & Hastiani, 2011). Given that banks work in a furiously competitive industry, their capacity to distinguish themselves on the premise of cost is constrained. Hence, in arrange to stay on the showcase it is basic for banks to alter their procedures in reaction to changing customers' needs and improvements in innovation (Sarlak & Hastiani, 2011). The term electronic managing an account is portrayed in numerous ways. A common definition for electronic banking an account comes from the Basel Committee on keeping money supervision+(BCBS,1998):“E-banking incorporates the arrangement of retail and little esteem managing an account items and services through electronic channels as well as huge vale electronic in-

installments and other discount managing an account administrations conveyed electronically” (Viterbo, 2019). Moreover, People from different backgrounds have very different ideas about the application of keeping money.

E-banking is the utilize of a computer to recover and handle keeping money information (articulations, exchange points of interest, etc.) and to start exchanges (installments, exchanges, demands for administrations, etc.) specifically with a bank or other money related benefit supplier remotely through a broadcast communications network (Poon, 2007).

According to Sathye, (1999) electronic banking encompasses various stages, including internet banking, telephone banking, television-based banking, mobile phone banking, and PC banking.(Daniel, 1999) further explains that e-banking refers to online banking conducted through secure websites operated by retail or virtual banks, credit unions, or building societies. This enables account holders to access account information and perform certain financial transactions via personal computers and the organization's website on the internet.

According to Malhotra & Singh, (2007) E-banking can be defined as the delivery of banking services and products to customers using electronic and communication systems. It encompasses platforms such as internet banking (online banking), television-based banking, mobile phone banking, and PC banking (offline banking). These services are accessed by customers using intelligent electronic devices such as personal computers, smartphones, tablets, automated teller machines (ATMs), point-of-sale (POS) systems, kiosks, or touch-tone telephones (Nandavita, 2022).

According to Clive, W. (2007) as cited by Ullah et al., (2022),in his electronic managing an account is characterized as a shape of managing an account in which reserves are exchanged through an exchange of electronic signals between money related educate, instead of an trade of cash, cheques or other debatable rebellious.

2.3 OVERVIEW OF MOBILE BANKING

Mobile banking , refers to conducting various banking transactions through a mobile device such as a mobile phone or Personal Digital Assistant (PDA). Initially, mobile banking services were primarily offered through SMS, known as SMS banking. Mobile banking is particularly useful in areas with limited infrastructure, especially remote and rural areas. It is also popular in

countries where banks are mainly concentrated in large cities, requiring customers to travel long distances to access banking services. The range of services offered may include conducting bank and stock market transactions, managing accounts, and accessing personalized information Tiwari&Buse, (2007)as cited by Tsu Wei et al., (2009).

Mobile banking is commonly performed through SMS or the Mobile Web, but it can also utilize dedicated applications downloaded to the mobile device. The typical range of activities covered by mobile banking includes checking mini-statements and account balances, receiving alerts for account activity or predefined thresholds, monitoring term deposits, accessing loan statements, accessing card statements, managing mutual funds and equity statements, managing insurance policies, managing pension plans, checking the status of cheques and placing stop payments, ordering checkbooks, checking account balances, viewing recent transactions, managing payment due dates (including stopping, modifying, and deleting payments), PIN setup, PIN change, and PIN reminders via The services provided include utilizing the internet, blocking cards that have been lost or stolen, facilitating both domestic and international fund transfers, processing micro-payments, enabling mobile recharges, facilitating commercial payment processing, handling bill payment processing, enabling peer-to-peer payments, allowing withdrawals at banking agents, and facilitating deposits at banking agents. (Rahman, 2006) as cited by (Nuruzzaman, 2015)

According to (Naruetharadhol et al., 2021) and (Shaikh et al., 2023) M-banking, as defined as a form of electronic commerce (e-commerce) that revolves around mobile application technologies and services. With the emergence of new information and communication technologies (ICTs), M-banking provides an alternative for financial transactions including shopping, donations, fund transfers, peer-to-peer payments, and non-financial services such as PIN changes and balance inquiries. These transactions, previously considered essential banking services, can now be conveniently conducted through mobile devices such as smartphones.

According to Trinh et al. (2020) as cited by (Ha et al., 2024) defined mobile banking as a subset of electronic banking where customers utilize electronic channels to access various financial products, including savings and credit services. According to Odera, (2013) as cited by (Mullan et al., 2017) further describes mobile banking as the practice of conducting financial transactions through mobile devices. They argue that financial services encompass a wide range of products and services that are of interest to the banking industry, including mobile banking, mobile pay-

ments or deposits, and mobile commerce, all of which involve using handheld wireless devices to initiate transactions.

The most common methods of mobile banking today are include SMS and Mobile Web, which offer distinct methods for customers to access their accounts: a web-based interface and a straightforward text messaging interface. Mobile banking entails utilizing a mobile phone or smartphone to access bank accounts and carry out various banking operations. Additionally, it encompasses accessing additional features provided by bank websites, such as credit applications and comprehensive investment banking information. Gradually, these two avenues of usage have merged into a unified application (app) that leverages the same underlying technology, thereby significantly broadening the array of services accessible to users.(Yu, 2014).

The remarkable technological advancement of mobile phones has witnessed extensive usage in the developing world. The affordability of handsets and the availability of prepaid cards have enabled hundreds of millions of individuals to experience the convenience of voice calls and text messages in their daily routines. Nevertheless, a significant portion of these new mobile phone users reside in informal or cash-based economies, where access to financial services is limited. Surprisingly, in numerous developing nations, the number of individuals possessing mobile handsets surpasses the count of those with bank accounts, highlighting the disparity in financial inclusion Porteous, (2006) as cited by Gapp et al., (2022).

2.4 BENEFITS OF MOBILE BANKING

M-banking enables users to remotely conduct financial transactions using a mobile method, and it can be offered by both banks and other financial institutions. Typically, mobile banking is facilitated through applications provided by financial institutions (Wazid et al., 2019). According to Otamurodov (2017) as cited by (Chand Jamali et al., 2022) suggests that Mobile banking provides continuous accessibility, allowing users to access their accounts and perform banking transactions at any time of the day or night. It extends the accessibility of financial services in terms of time and location, significantly reducing network construction costs and processing small transactions. This expansion allows formal financial services to reach low-income individuals and remote areas. Financial institutions offering mobile banking services ensure security by limiting the number of accounts accessible through mobile banking and the amount of money

that can be transferred. Similarly, Lee, Lee, and Kim (2007) as cited by (Ankush, 2022) believe that the integration of telecommunications and banking services creates opportunities for mobile commerce, particularly mobile banking. Mobile banking provides customers with convenience, timeliness, and independence while saving costs. Banks can also expand their market reach through mobile services.(Chen, 2013) also suggests that the integration of mobile communication technology and banking services makes mobile banking increasingly flexible. Users can access financial services without restrictions on time and location. According to Chandran (2014) as cited by mobile banking is considered more secure than online banking. Mobile banking apps generally employ authentication methods such as sending a verification code to the user's phone or utilizing fingerprint or facial recognition if the phone supports it. According to Otamurodov (2017) indicates that conducting transactions through mobile banking is typically faster than visiting a physical bank branch, as offline banking often involves time-consuming queues, especially on payday. With mobile banking, customers can access their accounts at any time without waiting in line. Based on research into Chinese Internet users` attitudes towards mobile banking, AC Nielsen Consult (2002)as cited by (He et al., 2021) the convenience, security, high standards, and cost savings associated with mobile banking have contributed to its increased adoption.

2.4.1 BENEFITS OF MOBILE BANKING TO BANK

M-banking offers significant cost reduction for banks by eliminating expenses related to communication, paper, and other materials. Additionally, banks can generate additional revenue through service charges imposed on customers. Another advantage of mobile banking for banks is its ability to attract new customers. Mobile banking also serves as a measure to control fraud. By sending real-time SMS notifications about account transactions, any fraudulent activity can be easily detected. Banks keep customers informed about their card usage and the amount deducted for each transaction. The reminder feature allows banks to notify customers about upcoming credit repayment dates, monthly installment payments, or pending charges that need to be paid. Customers can check their account balance on their phones and authorize payments accordingly (Sasikumar, 2017).

Mobile banking enables banking services to be accessible anytime and anywhere within network coverage, providing inherent advantages(M. Anwarul Islam, 2016). The widespread adoption of mobile phones among various groups of people makes it an ideal instrument for advancing elec-

tronic banking. Instead of being rivals, internet banking and mobile banking are expected to co-exist as mutually beneficial services. Mobile banking offers convenience as a major advantage, enabling customers to carry out banking tasks and associated activities conveniently from their residences or workplaces. This eliminates the inconveniences linked to traveling to a physical bank branch, such as expenses for fuel and parking. Moreover, mobile banking empowers customers to conduct banking transactions 24/7 throughout the year (Eckhardt et al., 2009).

2.4.2 BENEFIT OF MOBILE BANKING TO CUSTOMERS

According to Pallab S. and Munish M. (2013) as cited by (Isirimah, n.d.) Conducted an analysis the benefits of online banking from the perspective of customers and the banking sector in general.

Accessibility: It is a key advantage of mobile banking as the mobile device is almost always with the customer. It can be utilized over a wide geographical range, eliminating the need for customers to visit bank ATMs or branches to access banking services. This saves customers time and costs. Mobile banking enables customers to conveniently pay their utility bills before the due date and receive notifications from their bank. This helps them avoid late payment fees or other penalties. (Sasikumar, 2017).

Security features: mobile banking ensure that alerts are received only on the registered mobile number. Account balances and transactions can only be accessed when the request is received from the registered mobile phone number, verified by a four-digit code provided during the enrollment process. The mobile phone number and code serve as the customer's ID and password for authentication, and it is important to keep the code confidential (Sasikumar, 2017).

Banks can take advantage of the time saved by customers through the shift to mobile banking and allocate it towards enhancing marketing and sales efforts, thereby fostering business growth. Mobile banking enables banks to reduce costs associated with dispatch, communication, and paperwork, as well as the expenses of setting up branches and processing transactions (Sunil and Durga 2013) as cited by (Aisha & Ramya Rakesh, 2022). Banks that offer mobile banking services gain a competitive advantage over those that do not. Mobile banking has also been found to increase customer loyalty, as customers using mobile banking do not need to visit bank branches

for transaction support or information, fostering a positive relationship between banks and customers(Goswami & Raghavendran, 2009) .

Customers no longer need to stand at bank counters for various inquiries about their accounts. This saves valuable time and travel costs associated with visiting the bank for financial transactions (Sunil and Durga 2013) as cited by (Aisha & Ramya Rakesh, 2022). Mobile banking allows customers to pay their utility bills on time and avoid penalties through timely alerts from the bank. Mobile banking provides customers with ubiquitous access, convenience, and flexibility (Laforet, 2009). Delport (2010)as cited by (Peter Ngbede, 2023) points out that with mobile banking, customers no longer need to allocate scarce time and resources to travel to bank branches. However, despite the widespread use of mobile phones and the numerous benefits of mobile banking, its adoption is still not widespread (Riquelme & Rios, 2010).

2.5 MOBILE BANKING ADOPTION

Mobile banking is a transformative innovation driven by one of the fastest-growing sectors in the world. However, like any emerging technology, there are barriers to its adoption. Trust is crucial for users to embrace technology in financial services. Banks have evolved from paper-based solutions to more advanced technologies such as online banking and mobile banking Qatawneh & Makhoul, (2023).

The widespread use of mobile banking has an important impact in lowering costs for banks and is driving significant changes within the retail banking industry (Çelik & Özköse, 2023).According to (De Leon, 2019) mobile banking has the potential to provide reliable services to individuals living in remote areas with limited internet access.

Despite the growing technological confidence among customers worldwide, there are still challenges in adopting technology-driven solutions. The acceptance and adoption rates of mobile banking remain low, even among educated customers. It is crucial for banking to be customer-centric, ensuring that customers are satisfied with the services provided. The main drivers for the adoption of mobile banking are as follows Dubey,(2010).

1. **Customer experience:** Customers are becoming accustomed to accessing information conveniently at any time and location. Mobile banking enhances customer experience by leveraging the latest technology for real-time data exchange.
2. **Cost savings:** Traditional banking transactions conducted at branches and ATMs incur operational costs for both customers and banks. Mobile banking reduces the need for physical visits and minimizes the use of checks for transfers and bill payments, leading to cost savings.
3. **Security:** Mobile banking initially relied on SMS communication, which posed security risks. However, advancements in technology, such as browser-based banking and downloadable mobile applications, have significantly improved security measures and made mobile banking more standardized and comprehensive.

2.6 FACTORS INFLUENCING MOBILE BANKING ADOPTION

According to Mattila M (2003) as cited by (Cudjoe et al., 2015) several factors play a crucial role in the adoption of mobile banking, including internet availability, complexity, compatibility, awareness, and interest. Lack of knowledge, technological skills, and cultural barriers also hinder the development of electronic mobile banking (Laforet, 2009). Consumer behavior regarding mobile banking adoption is influenced by factors such as financial cost, usefulness, self-efficacy, and credibility (Luarn & Lin, 2005) . The cost of internet connection is another barrier to the adoption of mobile banking (Zhou, 2012). Factors like awareness, usefulness, ease of use, compatibility, social influence, security and privacy risks, self-efficacy, and cost-benefit trade-off impact the adoption of mobile banking.

Awareness

Consumer adoption behavior is influenced by technology-related information about the innovation (Zhou, 2012). Previous studies have shown that providing information about online banking services is a critical factor in driving the adoption of new banking services and features.(Wan et al., 2005). Given that mobile banking is a new concept for banking users, banks should create awareness to accelerate the adoption process.

Usefulness

People adopt a new development only when they perceive that utilizing a specific technology will improve their quality of life.(Wan et al., 2005) If consumers believe that mobile banking technology provides better and high-quality services, they are more likely to accept the new technology (Mauro C. Hernandez & Afonso Mazzon, 2007).

Ease of use

Customers are more likely to adopt technology that is simple and requires less mental and physical effort to use. If technology is complex and difficult to learn and use, the chances of adoption decrease (Davis, 1989). Several studies, including (Yadav, 2016),(Kolodinsky et al., 2004), (Eriksson et al., 2005), (Poon, 2007), (Mukherjee & Nath, 2003), have also emphasized the importance of ease of use in mobile banking adoption.

Compatibility

Technology must be compatible with the needs of the user. Consumers will adopt mobile banking only if it aligns with their banking activities. If the technology is compatible and provides the best solution for customers, the chances of adoption increase (Agarwal & Prasad, 1999).

Social influence

According to (Ajzen, 2011) described that individual adoption decision-making is influenced by the beliefs and opinions of people in their social circle. Family, social groups, social class, and culture have a significant impact on consumer adoption of new technology. Opinions of society members influence consumer intentions to use mobile banking (Amin, 2008) and (Venkatesh et al., 2012).

Security and privacy risk

Security and privacy are major concerns when using mobile banking. Consumers are cautious about sharing personal information online due to privacy issues (Asdullah et al., 2016). Consumer trust is a key factor in mobile banking adoption (Gu et al., 2009). Security and privacy concerns have been emphasized by(Daniel, 1999; Sathye, 2003) in the adoption of e-services by

consumers. Banks need to build trust with their customers to ensure secure online services, leading to better customer satisfaction.

2.7. CHALLENGES IN MOBILE BANKING ADOPTION

According to Sarita B. (2012) cited by (S & Balaji, 2022) there are five major challenges in addressing the issue of financial inclusion through mobile banking:

1. **Regulatory Challenges:** With the internet enabling services to be provided globally, there is a risk that banks may try to evade regulation and supervision. To address this, regulators can require banks offering services remotely via the internet to obtain licenses. This is particularly important in cases where supervision is weak and cooperation between a virtual bank and the home supervisor is insufficient.

2. **Legal Challenges:** Electronic banking introduces legal risks for banks. While electronic banking allows for faster expansion of services across geographical boundaries, banks may not always be fully aware of local laws and regulations before offering services in a new jurisdiction. This applies whether they operate with a license or without one where it is not mandatory.

3. **Operational Challenges:** an electronic banking arises from the dependence on new technology to deliver services, which increases the risk associated with security and system availability. Both internal and external factors can pose security threats to the system. Therefore, banking regulators and supervisors play a crucial role in ensuring that banks implement effective measures to protect the confidentiality of data and uphold the integrity of the system and its information.

4. **Reputational Challenges:** Security cracks and disruptions to system uptime can severely harm a bank's reputation. The more a bank depends on electronic banking channels, the greater the potential for reputational damage from such incidents.

5. **Personal Information:** Internet banks require the gathering of personal information in order to carry out their operations. However, if they fail to adhere to local laws regarding information collection, they may face lawsuits and government penalties. It is crucial for banks to comply with local regulations in handling personal data.

2.8. MOBILE BANKING RISKS

There are major mobile banking risks in financial institutions. Some of the risks are mentioned below.

Technical risk

Mobile banking involves the use of mobile communication technology to provide banking services. This introduces new elements such as information systems, mobile terminals, and wireless communication channels that differ from traditional banking services. The innovation in business, management, and organizational models in mobile banking changes the risks faced by financial institutions (Hassan & Shirkhodaie, 2023). According to (Herzberg, 2003) technical risks include the unstable performance of intelligent terminals, compatibility issues between application software and mobile phone platforms, and the threat of mobile phone viruses. These risks manifest in the proliferation of mobile phone Trojan horses and viruses, as well as the potential for virus spread through smartphone apps.

Credit risk

As (Karnouskos, 2004) studied, the introduction of network technology and mobile communication technology in mobile banking alters the existing business processes. Credit risk arises from the potential misunderstanding of transactions. In mobile financial services, transactions occur through electronic channels, and the generation, transmission, and confirmation of information rely on electronic means. This makes electronic information vulnerable to attacks and tampering, compromising the authenticity of transactions and leading to credit risks. According to Zhou Chao (2014) as cited by (Ash Siddiqi et al., 2023, p. 31000) credit risks also include the failure of mobile banking parties to disclose necessary information, resulting in information asymmetry between the bank and the customer. Failure to disclose potential risks may lead to legal consequences if users incur losses and seek compensation.

Information security risks

According to (Dahlberg et al., 2008) point out in their review security is a crucial concern in mobile financial services. Technical security risks arise from the demand for security in mobile banking, encompassing both customer expectations and financial institutions' operational securi-

ty needs. Information security is a primary consideration in mobile banking, requiring banks to protect the exchange of information between the institution and customers. Information theft, tampering, and successful transaction completion are key concerns. (Sadiku et al., 2017) conclude that network attacks, such as unauthorized use, hacking, eavesdropping, information loss, malware, and PIN recovery attacks, pose potential threats to the security of mobile banking. Authentication technologies, including password authentication, physical devices, one-time passwords, transaction profile scripts, face recognition, and fingerprint recognition, can help safeguard mobile devices from unauthorized access.

Legal risk

As mobile banking has developed gradually in recent years, there are still some legal gaps in this field. (Weber & Darbellay, 2010) Legal risks in mobile banking are defined from a legal perspective and relate to the evolving nature of the industry. Establishing relevant supervisory systems to ensure customer protection and industry competition order is crucial. Mobile banking falls within the scope of banking services, so regulations should focus on the integration of financial markets and banks. Legal aspects play a significant role in customer trust and the consolidation of focused services. Data security and customer protection are key concerns in the regulatory process.

2.9. TECHNOLOGY ADOPTION THEORIES AND MODELS

The adoption of technology is a well-established research field within information systems. (Carr et al., 2010) Technology adoption can be defined as the act of selecting a particular technology to be utilized by individuals or organizations. With the rapid advancement of information communication technology, new products, especially in the banking industry, have been introduced. However, the success of these products relies on the extent to which users embrace and adopt them. Theoretically, scholars have developed different theories and models (such as information system - IS, information technology - IT, and disciplines focused on human behavior) to explain and understand the phenomenon. The theories and models used include the technology acceptance model (TAM) (Davis, 1989); the innovation diffusion theory (IDT) (Rogers, 1995); the unified theory of acceptance and use technology (UTAUT) (Venkatesh & Davis, 1996); the theory of reasoned action (TRA) (Ajzen & Fishbein, 1975); the theory of planned behavior (TPB)

(Ajzen, 2011); the decomposed theory of planned behavior (DTPB) (Taylor & Todd, 1995) as cited by (Shih & Fang, 2004); and the social cognitive theory (SCT) (Bandura, 1989).

Several theories have been proposed to identify the factors influencing people's acceptance and usage of new technologies and information systems (Indrit Troshani & Sally Rao, 2007). This study specifically focuses on two models: UTAUT and IDT, which will be discussed in the following sections.

2.9.1 THE UNIFIED THEORY OF ACCEPTANCE AND USE OF TECHNOLOGY (UTAUT) MODELS

(Venkatesh et al., 2003) developed a comprehensive research model called the Unified Theory of Acceptance and Use of Technology (UTAUT), which integrates key elements from eight prominent user acceptance models. The UTAUT model presents a unique framework that encompasses core determinants of user behavioral intention and usage. The primary objective of the original UTAUT is to explain users' intentions to use an information system (IS) and their subsequent usage behavior. Furthermore UTAUT model suggests that that several factors influence individuals' acceptance intentions (Hasonah et al., 2018). (Venkatesh et al., 2003), in their investigation article theorized that, four theories play a significant role as direct determinants of user acceptance and usage behavior:

I. Performance Expectancy (PE)

Performance expectancy (PE) refers to “the degree to which an individual believes that using the system will help him or her to attain gains in job performance” (Venkatesh et al., 2003). PE emerges as the most influential predictor of intention and maintains its significance across various measurement points, whether in voluntary or mandatory contexts. However, from a theoretical perspective, it is reasonable to anticipate that the relationship between performance expectancy and intention may be influenced by factors such as gender and age.

Perceived usefulness, relative advantage, product expectation, job fit, and extrinsic motivation are the components that contribute to the construct of performance expectancy (PE). These components are derived from various theoretical models, including the Technology Acceptance Model (TAM), Innovation Diffusion Theory (IDT), Social Cognitive Theory (SCT), Model of PC Utilization (MPCU), and Motivational Model (MM) (Venkatesh et al., 2003).

Previous studies, such as the research conducted by (Venkatesh et al., 2003) have established a positive correlation between performance expectancy and behavioral intention. Applying this concept to the context of mobile learning implies that individuals perceive mobile learning as beneficial due to its convenient access to information without constraints of physical location and time.

II. Effort Expectancy

Effort expectancy is a concept derived from perceived ease of use, complexity, and ease of use, which are components of existing models such as TAM, MPCU, and IDT. Initially, effort expectancy has demonstrated significance in early time periods, but its impact tends to diminish over time (Venkatesh et al., 2003). As individuals gained greater familiarity with the technology, the required effort to use it decreased. Earlier studies have provided evidence that the level of effort required to learn and utilize a new technology has a significant impact on its acceptance and usage (Gefen et al., 2003). Previous research, as indicated by (Carlsson et al., 2006), suggested that when effort expectancy is enhanced, it directly influences both performance expectancy and the intention to use mobile learning. This implies that improving the perceived ease and reduced effort associated with using mobile learning can positively impact users' expectations of performance and their motivation to engage with the technology.

III. Social Influence

Social influence refers to the extent to which an individual perceives that influential others believe they should adopt and use a new system. It exerts its impact on individual behavior through three mechanisms: compliance, internalization, and identification, as defined by (Venkatesh & Davis, 1996). Earlier studies, such as the research conducted by Sungwoo (2009), indicated that gender played a moderating role in the relationship between certain factors. Specifically, the effect was found to be stronger for females compared to males. However, in the current study, the

results did not support gender as a moderator in the tested model. Additionally, experience was not found to be a significant moderator, which contradicts the findings of the Unified Theory of Acceptance and Use of Technology (UTAUT) by (Venkatesh et al., 2003), where non-users exhibited a stronger effect compared to users.

IV. Facilitating Conditions

Facilitating conditions refer to the degree to which an individual believes that the organizational and technical infrastructure is in place to support the use of a system, as defined by (Venkatesh et al., 2003). This comprehensive definition encompasses concepts represented by three distinct constructs: perceived behavioral control from the Technology Acceptance Model (TAM), facilitating conditions from the Model of PC Utilization (MPCU), and compatibility from the Innovation Diffusion Theory (IDT).

V. Trust in Mobile Banking Indeed, the model proposed by Venkatesh et al. does not explicitly include trust as a variable. However, trust has brought significant attention from scholars due to its mysterious role in the adoption of mobile payments, as noted by Misra and Wickamasinghe (2004) and cited by (Nguyen et al., 2023). Trust is recognized as a crucial element in establishing and nurturing successful relationships between customers and businesses (Garbarino & Johnson, 1999). It can be agreed as “the belief that vendors will perform some activity in accordance with customer’s expectations” (Gefen et al., 2003). The establishment of trust in a mobile payment system primarily relies on maintaining anonymity, ensuring security, and, most importantly, demonstrating the reliability of the service model, as mentioned by Egger (2001) and cited by (Skačkauskienė et al., 2018). These factors play a crucial role in building the trust of users in the mobile payment system. (Gefen et al., 2003), emphasized the significance of the trust variable in facilitating the adoption of e-commerce. Trust was a key focus for Gefen and was extensively utilized to investigate behavioral intention and the adoption of various technologies. The research highlighted the crucial role that trust plays in influencing individuals' decisions to adopt e-commerce platforms.

When it comes to mobile payments,(Pousttchi et al., 2007) conducted a survey that yielded a significant finding. The study revealed that more than 96% of the respondents expressed a strong desire for data confidentiality when exchanging information with the service provider. The research suggested that without ensuring data confidentiality, establishing trust among individuals becomes a challenging task.

VI. Perceived Risk

According to Kabir (2013) as cited by (Jahan & Shahria, 2022), explains that perceived risk in mobile banking can be viewed from multiple angles, including privacy risk, financial risk, system risk, and physical security risk. Lee et al (2009) cited by(Park & Tussyadiah, 2017) provide the following definitions for these risks:

1. Privacy risk: This refers to the potential loss resulting from fraud or unauthorized access by hackers, which compromises the security of personal and financial information of mobile banking users.
2. Financial risk: It encompasses the possibility of experiencing monetary losses within the mobile banking context.
3. System risk: This pertains to deficiencies or malfunctions within the mobile banking system itself.
4. Physical security risk: It involves the exposure to attacks and threats that can cause physical harm, injury, and monetary loss for users of mobile banking services.

VII. Service Quality

Service quality includes various aspects such as reliability, content quality, and personalization, as stated by (Daft et al., 1990) .They emphasized that accuracy, reliability, and the quality of information exchanged through a medium are crucial for its effectiveness. In the context of mobile banking, content refers to the information, features, or functions provided through mobile banking services.

This content should be logically structured to assist users in finding information, and it should incorporate attributes such as accuracy, timeliness, relevance, and flexible presentation, as highlighted by (Huizingh, 2000). A reliable mobile system should ensure the effectiveness of mobile banking, and therefore service quality is included in the study.

VIII. Perceived Cost

Perceived cost, as defined by (C. Lin et al., 2005) refers to the extent to which an individual believes that utilizing mobile banking will result in financial expenses. These costs typically encompass the expenses related to mobile devices, network charges, transaction fees imposed by banks, as well as the costs associated with data transmission through the network infrastructure. Among variables such as perceived usefulness, perceived risk, and compatibility, perceived cost had the least impact on mobile banking adoption according to (J.-H. Wu & Wang, 2005).

2.9.2 Innovation Diffusion Theory (IDT)

In (Rogers, 1995) study, identifies three key qualities of innovations are highlighted: relative advantage, compatibility, and complexity. It has been consistently observed that adopters and non-adopters hold distinct perceptions regarding these qualities. Kotler et al., (2000), further emphasize that the characteristics of an innovation significantly influence its adoption rate. While certain products quickly become popular, others face a continued journey to attain acceptance.

According to Ching & Ellis, (2004), various factors impact the probability of developing a positive attitude towards an innovation. These factors include perceiving the innovation as superior to the current system (relative advantage), its alignment with the needs of potential adopters (compatibility), and its ease of understanding and use (complexity). The study conducted by (Y. Lee et al., 2003) in the context of mobile banking adoption revealed that the perceived relative advantage, compatibility, and complexity of the innovation were crucial in determining its reception.

Rogers, (1995) innovation diffusion model outlines various attributes such as complexity, compatibility, relative advantage, and triability. Research indicates that the attitude towards adopting mobile banking services is significantly influenced by the relative advantage, compatibility, and ease of use (opposite of complexity) of the innovation. Moreover, compatibility shows a positive

association with the adoption of mobile banking. Customers who hold positive beliefs regarding the relative advantage of mobile banking generally exhibit a favorable attitude towards adopting these services.

In contrast, (Y. Lee et al., 2003) conducted eight interviews and carefully examined the transcripts. Their findings revealed that the adoption of mobile banking was influenced positively by relative advantages and compatibility, which were identified as significant factors in their study.

Relative Advantage

Relative advantage refers to how an innovation is perceived as superior to its predecessor (Rogers, 1995). The importance of perceived relative advantage in driving the adoption of mobile banking is highlighted by (Gerrard & Barton Cunningham, 2003) . (Kotler et al., 2000) suggest that individuals, as they go through the process of making an innovation decision, are motivated to gather information in order to reduce uncertainty about the comparative advantages offered by the innovation. Potential adopters seek to understand how the new idea surpasses existing practices. Consequently, relative advantage often becomes the main focus of communication networks discussing an innovation. Relative advantage serves as an indicator of the benefits or drawbacks that result from adopting an innovation, encompassing dimensions such as economic profitability, reduced discomfort, time savings, and effort (Rogers, 1995).

According to (Pikkarainen et. al 2004)as cited by (Nyagadza, 2019) ,relative advantage in the realm of mobile banking refers to the comparative benefits that users can derive, which may not be accessible through traditional banking services. Users are more likely to embrace mobile banking if they perceive it to provide greater advantages compared to other channels such as ATMs or non-mobile internet banking. This includes factors such as perceived cost savings and time efficiency.

a) Perceived Cost Savings:- refers in mobile banking involve the expenses associated with conducting banking transactions, such as airtime costs and bank charges. According to (Luarn & Lin, 2005) , perceived cost refers to an individual's perception of the financial implications of using mobile banking. This includes transactional fees levied by the bank, charges from the mobile network for communication traffic like SMS or data, as well as the cost of the mobile device itself.

b) Perceived Time Saving:- in the context of mobile banking refers to the perceived amount of time required to complete a transaction. (M.-C. Lee, 2009) conducted a study that revealed the significant role of time in the adoption of mobile banking services by users. It has been observed by researchers, such as (McCloskey 2006; (Rogers, 1995)as cited by (Alduaij, 2019) that users are more inclined to adopt a new technology when they perceive its relative advantage or usefulness over older alternatives. Therefore, the adoption of mobile banking is influenced by the benefits it offers, including immediacy, convenience, and affordability for customers, as highlighted by (H.-Y. Lin & Chang, 2011).

Compatibility

Compatibility refers to how well a service aligns with users' existing values, beliefs, habits, and past experiences (I.-L. Wu & Chen, 2005). It reflects the degree to which an innovation is perceived as consistent with the values, experiences, and needs of potential adopters. An innovation can be considered compatible or incompatible based on its alignment with socio-cultural values, previously introduced ideas, or client needs (Rogers, 1995) .The perceived compatibility of an innovation within a social system has a positive impact on its adoption rate.

The concept of compatibility is crucial in innovation as it determines how well an innovation integrates into users' lifestyles, thereby accelerating its adoption (Rogers, 1995). Studies focusing on compatibility have played a significant role in understanding customers' attitudes towards adopting electronic banking in Malaysia (Oly Ndubisi & Sinti, 2006). Additionally, compatibility has demonstrated influence in the adoption of virtual stores, mobile payment, and mobile banking (Koenig-Lewis et al., 2010; H.-Y. Lin & Chang, 2011). Furthermore, (Al-Gahtani, 2003) found a significant correlation between compatibility and the adoption and use of computers.

Complexity

The concept of complexity relates to how easily an innovation can be understood and utilized. If an innovation is perceived as complex or difficult to use, it is less likely to be adopted (Rogers, 1995). Customers tend to reject innovations that are overly complex and lack user-friendliness. Cooper and Zmud (1990) as cited by (Gallivan, 2001), highlight the significance of ease of use as one of the three key factors influencing customers' adoption of innovative products or services. For example, the ease of use of elements like domain names, navigation tools, and graph-

ical user interfaces greatly affects the user-friendliness of a web page design. Additionally, research by (Davis, 1989) has revealed that the perceived complexity of electronic technologies has an impact on their adoption.

Since mobile banking is still in its early stages of adoption in the Ethiopian banking industry, it is important to consider the complexity factor in relation to the perceived ease of use. Observability, as defined by (Rogers, 1995)), pertains to how visible and tangible the outcomes of an innovation are to others.(H.-Y. Lin & Chang, 2011) argue that the more easily an innovation can be described and observed, the stronger positive impact it will have on individuals, thereby encouraging its usage. Similarly,.(Cruz-Lemus et al., 2010) support this idea by stating that the probability of adopting an innovation increases when its benefits and usage can be readily observed.

2.10 REVIEW OF RELATED WORKS

The researcher has reviewed various related works on different African countries and also in Ethiopia studies related with factors influencing users' adoption of mobile banking apps.

Geogre and Gerald (2015) examined the determinants of mobile banking adoption among bank clients in Ghana with particular accentuation on Get to bank. In like manner, information were collected from 150 clients of get to bank in arrange to explore the determents to mobile banking appropriation within the Ghanaian banking industry .The result from the study uncovered that seen respectability and seen money-related fetched were the major misfortune concerning clients adoption of mobile banking services given by Get to bank . The discoveries moreover appeared that per-ceived respectability and seen monetary cost have a more grounded impact on shopper purposeful to receive and utilize of mobile banking services than seen convenience and seen ease of utilize. The reflect too appeared in spite of the fact that, seen respectability and seen financial cost have a more grounded impact on customer deliberate to receive and utilize mobile banking other components such as mindfulness, convenience ,straightforwardness , compatibility, self-efficacy have moreover an impact on the selection and utilization of mobile banking benefit.

Faisal I. (2013), in Ghana appeared that the most dismissal variables in utilizing M-banking innovation by clients were

M-banking requires information and learning, Destitute media transmission technology and M-banking draws in extra managing an account charges.

Rabiu, (2017), considered to recognize the convenience issues and the level of contrasts among the mobile banking clients on age, gender, capability and encounter. The study utilized the utilize of quantitative approach utilizing online survey with a add up to number of one hundred and fifty (150) respondent from three banks in Nigeria called Gtbank, Diamon and Skye bank.

The finding of the study indicates that all the three banks have ease of use issues on protection and unwavering quality of mobile banking application interface. This study moreover uncovers that the male clients have less ease of use issues than females, the more youthful and the center matured too have few ease of use issues than the ancient matured, for capability of the clients with lower capability, and they have more convenience issues than those who have higher capability. Whereas in a long time of involvement utilizing the portable, the result appears that there are not much usability issues for the entire category of a long time.

The consider examined the convenience issues of a few Nigerian banks and compared the mean differences between different age groups, genders, capabilities and encounter in terms of usability issues of mobile banking amid exchanges. The result of the think about appears that it is important for long run improvement of mobile banking application interface to consider more seasoned matured clients conjointly those with lower information foundation additionally the clients with less encounter in mobile banking application. Progressing the mobile banking application interface is to permit clients with distinctive age groups, genders, capabilities and involvement to utilize the application effectively since nowadays numerous clients are performing their exchanges utilizing mobile banking application.

Masinge (2010) examined the variables impacting the appropriation of mobile banking by the Foot of the pyramid (BOP), the destitute, in South African with a extraordinary center on believe, seen fetched and perceived risk counting the truths of seen dangers, execution chance, security or security, time hazard, social and financial hazard utilizing the first variables of extended technology acceptance show (TAM2) (venkatesh and Devis 2000.)

The investigate has found that clients within the BOP consider embracing mobile banking as long because it is seen to be valuable and seen to be facilitating to utilize. The investigate too shown that for individuals in the BOP, the foremost basic figure for the clients is fetched, the benefit ought to be affordable.(Korir G. (2012) uncovered that there were losses to clients of Kenya Commercial Bank (KCB), who utilize the M-Banking services, due to false get to of customers' accounts through hacking. Since an occurrence like this will have a ruinous affect on the

reputation of the bank there is need to utilize restrained, Garedachew (2010) conducted research on the opportunities and challenges of E-Banking in Ethiopia and found that lack of suitable legal and regulatory frame works for E- commerce and E- Payment, political stability in neighboring countries ,high rates of illiteracy and absence of financial networks that links different banks are the major challenges of E- Banking in Ethiopia.

Gemech (2014) conducted a research to examine factors affecting the adoption of E- Banking in Ethiopia and found security, lack of trust, lack of legal and regulatory formwork, lack of ICT infrastructure and absence of competition between local and foreign banks as barriers of adoption of E banking in Ethiopia banking industry.

Mulualem (2015) examined factors affecting adoption of mobile banking (on CBE A.A branches using Technology Acceptance Model (TAM) with additional variables name perceived risk. The research found that perceived usefulness and perceived ease of use have positive relationship with the adoption of mobile banking but perceived risk has negative relationship with the adoption of mobile banking

Haile (2015) also conducted on factors affecting the adoption of mobile Banking (in commercial Bank of Ethiopia) using the unified theory of acceptance and use of technology (UTAUT). The findings of the study showed that performance expectancy, perceived risk, perceived cost, Efforts expectancy and trust were the factors affecting the adoption of mobile banking but mobile service quality was found to be insignificant in the study.

Zekeke (2016) investigated opportunities and challenges in the adoptions of E- Banking services with respect to Dashen Bank SC. The study examined opportunities and challenges in light of technology acceptance model (TAM) and technology organization- Environment (TOE) and found that perceived usefulness, perceived risk and environmental factors were found to have significant influence in adoption of E- Banking services.

Research Gap

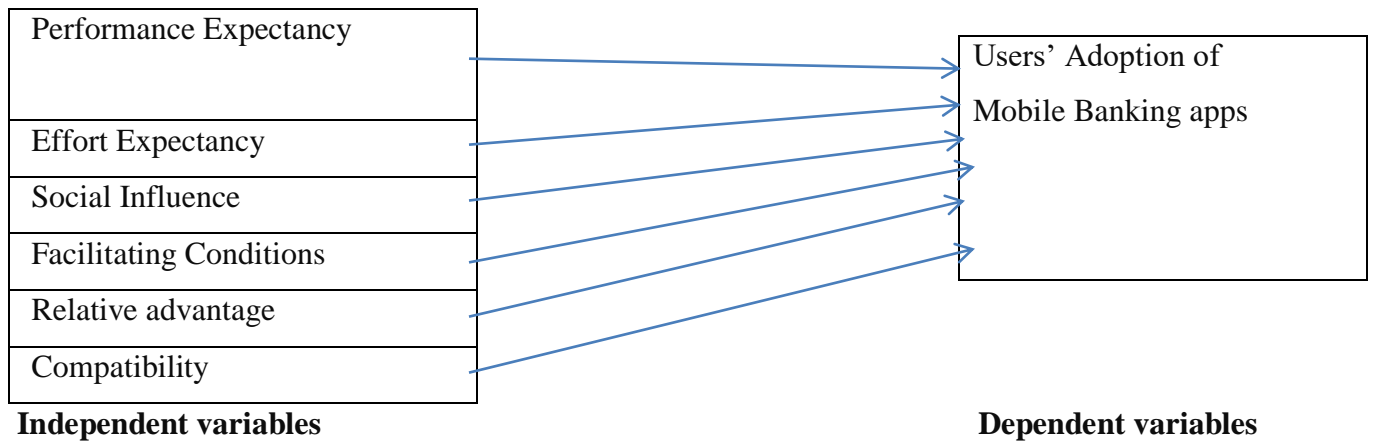
Being a recent technology to Ethiopian banking industry; many literatures are not available regarding the topic. The few are that available mainly focus on identifying factors affecting the adoption of E- Banking business. The very few literatures available on mobile banking adoption

basically have two draw backs. First, they are conducted only on very few CBE, Addis Ababa branches neglecting outline branch banks. Secondly, they are conducted only in Addis Ababa. Third, they don't focus on technical part. Fourth, they conducted only by using Technology Acceptance Model (TAM) and unified theory of acceptance and use of technology (UTAUT) not include Diffusion of Innovation Theory model. Hence, the outcome of the researches may not be representative. Therefore, carrying out this research is helping financial institutions in general and specially commercial bank of Ethiopia factors affecting the adoption of mobile banking apps. Hence, it fills the research gap.

2.11 Conceptual Framework

Based on the theories and concepts found in existing literature, the study developed a comprehensive research framework. This framework demonstrates how the independent variables interact with the dependent variable. The following figure describes the association.

Figure 1: Conceptual Framework



Source: - Model Adapted from UTAUT Venkatesh et al. (2003) and DIT model (Rogers, 2013)

2.12 Research Hypotheses

UTAUT is a relatively recent addition to technology acceptance theories (performance expectancy, effort expectancy, social influence, and facilitating conditions), its credibility and dependability have been proven in studies focusing on technology acceptance across different settings to Venkatesh et al., (2003). Additionally, as suggested by Gupta et al. (2008), UTAUT is a reliable framework for comprehending the acceptance and effective utilization of ICT in developing na-

tions. Relative advantage indicates how much an individual perceives an innovation as providing a benefit compared to traditional methods of accomplishing the same task Taylor and Tod, (1995). Compatibility refers to the extent to which an innovation is perceived to align with the current values held by users (Agarwal and Prasad, 1997). The conceptual model for the current study is depicted in Figure 3. The research hypotheses derived within this framework are outlined below.

Research findings suggest that the primary factor influencing the intention to adopt mobile banking apps is performance expectancy. Individuals are inclined to embrace these applications when they perceive that they can improve their banking interactions, save time, or provide convenience (Maulani & Handayani, 2023). By seeing these findings, we hypothesize as;

H1: Performance Expectancy has significant positive effect on users' adoption of mobile banking apps.

Effort Expectancy, a fundamental element within the Unified Theory of Acceptance and Use of Technology (UTAUT), pertains to users' evaluations of the simplicity or complexity associated with utilizing a specific technology. According to Davis (1989), the perceived ease of use plays a pivotal role in shaping user acceptance and adoption of information technology. When individuals perceive mobile banking apps as straightforward to navigate, comprehend, and operate, their inclination to adopt these applications increases. By seeing these findings, we hypothesize as;

H2: Effort Expectancy has significant positive effect on users' adoption of mobile banking apps.

Social influencers are vital in shaping the acceptance of mobile banking, with their credibility significantly influencing user engagement and adoption intentions. The interplay is further influenced by financial literacy, which enhances the impact of influencer messages (Arora et al., 2024). Users' propensity to adopt mobile banking apps may increase when they receive favorable endorsements from peers, family members, or influential figures. By seeing these findings, we hypothesize as;

H3: Social Influence has significant positive effect on users' adoption of mobile banking apps.

The availability of resources, support, and infrastructure (facilitating conditions) positively influences users' adoption of mobile banking apps. Users are more likely to adopt mobile banking

apps if they have access to necessary resources, such as smartphones, internet connectivity, and support services (Kumar et al., 2023).By seeing these findings, we hypothesize as;

H4: Facilitating Condition has significant positive effect on users' adoption of mobile banking apps.

The perceived benefits of mobile banking over traditional banking, known as relative advantage, have been demonstrated to have a positive impact on users' perceptions of mobile banking apps. (Wulandari & Keni, 2023) shown that the influence of relative advantage on customer attitudes directly correlates with increased adoption rates. By seeing these findings, we hypothesize as;

H5: Relative advantage has significant positive effect on users' adoption of mobile banking apps.

The degree of alignment between a mobile banking application and users' current banking habits, preferences, and technological competencies will enhance the app's compatibility, consequently boosting the probability of users adopting and utilizing the app consistently (I.-L. Wu & Chen, 2005). By seeing these findings, we hypothesize as;

H6: Compatibility has significant positive effect on users' adoption of mobile banking apps.

2.13 CHAPTER SUMMERY

To summarize the literatures the three know theories of models are IDT constructs- relative advantage, perceived risk and compatibility to explore the adoption of mobile banking. In addition to this the unified theory of acceptance and use of technology (UTAUT) factors are performance expectancy, efforts expectancy, social influence and facilitating conditions.

CHAPTER THREE

RESEARCH DESIGN AND METHODS

3.1. INTRODUCTION

In this chapter, the research design and methods used for data collection , sample size and analysis are explained. The chapter presents the research design, research technique, and validity and reliability of the study.

3.2. RESEARCH DESIGN

Research design is usually a plan or blueprint which specifies how data relating to a given problem should be collected and analyzed. According to Kothari (2004), research design is a plan, a roadmap and blueprint strategy of investigation conceived so as to obtain answers to research questions.

Research design is the conceptual structure within which research is conducted; it contains the mechanisms of data collection, variable measurement and analysis.

The researcher used explanatory (Causal) and descriptive research design method to find the facts in different ways.

3.3. RESEARCH APPROACH

The researcher is to use mixed or both quantitative and qualitative approach to conduct the study. Mixed methods” refers to an emergent methodology of research that advances the systematic integration, or “mixing,” of quantitative and qualitative approach within a single investigation or sustained program of inquiry.

The fundamental idea behind this methodology is that integrating quantitative and qualitative data collection and analysis allows for a more comprehensive and synergistic utilization of data, as opposed to conducting them separately (William Zikmund,2010).

3.4. RESEARCH STRATEGY

On research strategy part is used qualitative interviews, quantitative survey and practical observation on the impact of adoption at mobile banking and effectiveness of digital banking.

The observation that verifies in which side is gaps observed on the users perspective side or internal banks system interruption continuity.

3.5. STUDY SETTING

In this study, data are collected from grade 3 and grade 4 branch found on Addis Ababa and Bishoftu towns on physically. In addition to this the other data was collected from cbe internal portal and business Intelligence (BI) system.

3.6. STUDY TECHNIQUES

The researcher conducts by collecting data from primary and secondary data. The sampling technique that can be used for this research paper is probability sampling technique that is simple random sampling. The target populations of this study is CBE kaliti district grade 3 and grade 4 branch mobile banking user customers based on a semi structured or both closed and open ended questionnaires.

3.7. SAMPLE SIZE

The target populations of this study are 53,170 mobile banking user customers of CBE grade 3 and grade 4 branches at Kaliti district found at Addis Ababa and bishoftu town. A structured questionnaire gives respondents a number of alternative options from which they must choose the one that most closely approximates the view of the respondents (Polit and Hungler, 1991).

It is impossible to study a whole population; therefore, small portion of the population used as a sample. An optimum sample is one which fulfills the requirements of efficiency, representativeness and reliability. Hence, the formula to find out the sample size (n) of finite population is given as under;

$$n = z^2 \cdot p \cdot q \cdot N$$

$$e^2 (N-1) + z^2.p.q$$

Sources: Kothari, 2004

Where, N = population

n= sample size

z= the value of standard value at a given confidence level 95%=1.96

p= sample proportion P=0.5

q= 1-p

e = acceptable error = 5%

$$n = (1.96)^2(0.5) (0.5) 53,170$$

$$(0.05)^2 (53,170-1) + (1.96)^2 (0.5) (0.5)$$

$$n = 51,064.47$$

$$133.8829$$

$$n = \mathbf{381.41 \text{ or } 382}$$

Therefore, total of 382 self-administered questionnaires were distributed with a 95 percent response rate. Consequently, from the total 53,170 mobile banking user customers, 382 customers was considered.

Therefore, to achieve the study purpose, probability sampling procedure is applying in selecting a sample and to make the samples representative of the population, the samples are drawn from CBE grade 3 and grade 4 branches at Kaliti district found at Addis Ababa and Bishoftu town.

3.8. DATA COLLECTION

A pilot survey is conducted with 20 respondents before administering the questionnaire to the selected sample size. The purpose of the pilot survey is to assess the clarity, ease of understanding, and straightforwardness of the questionnaire. This ensures that respondents can answer the questions without any difficulty. The administered questionnaire is commented by the Advisor so as to refine the questions. After this, the researcher distributes the administered questionnaire to the selected customers. Primary data are collected from mobile banking user customers and secondary data are collected from cbe annual report and data system.

Finally, the data which are collect using the questionnaire are coding and process using the Statistical Package for Social Sciences (SPSS) application. The response format was used a 5-point

Likert scale of Like which include Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree and Strongly Agree.

3.9. DATA ANALYSIS

The participants of the study were Kaliti district mobile banking user customers. The process data is further transform to look possible patterns and relation among data sources. In identifying Factors Influencing Users Adoption of Mobile Banking Apps uses the main statistical tool Statistical Package for Social Sciences (SPSS) was undertake.

3.10 VALIDITY AND RELIABILITY

Reliability is a measure that has adequate internal consistency (reliability) with each scale measuring the constructs of relevance (Patterson et al., 2005).For this study, internal consistence reliability was determined by Cronbach's alpha.

Validity refers to the degree to which an instrument measures what it is intended to measure. Therefore, an instrument is considered "valid" if it measures what it is measuring. Validity is related to quantitative data collection and requires a variety of statistical methods and concepts to establish.

3.11 Methods of Data Analysis

The analysis method employed was descriptive statistics, a collection of concepts and techniques utilized to organize, tabulate, and describe datasets. Research that concentrates on describing the characteristics of a specific individual or group is termed descriptive research. Furthermore, inferential statistics, like correlation analysis, can be applied to ascertain the importance and direction of a correlation between two variables considered in this study , Adoption of Mobile Banking apps and Seven independent variables (i.e. Performance Expectancy, Effort Expectancy , Social Influence, Facilitating Conditions, Relative advantage and Compatibility) with Pearson correlation and liner multiple regression techniques.

3.11.1 Methods of Quantitative Data Analysis

To analyze the data collected via questionnaires, the researchers utilized tabulation to present the data numerically and analyzed it using SPSS version 20. Subsequently, the interpreted data was analyzed quantitatively.

3.11.2 Model Specification

Multiple regression models were employed to fulfill the aim of this research paper. The multiple regression equation in this study primarily focused on a one dependent variable (i.e. adoption of Mobile Banking apps) and six independent variables (i.e. Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Relative advantage and Compatibility) with Pearson correlation and linear multiple regression techniques. The basic objective of using the regression equation in this study was to make the study more effective at describing, understanding, and predicting the factors influencing adoption of Mobile Banking apps.

Therefore, the form of the model is given by:

$$Y = \beta + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \epsilon_i$$

Where Y is the dependent variable (adoption of Mobile Banking apps)

X₁, X₂, X₃, X₄, X₅ and X₆ are the independent variable (Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Relative advantage and Compatibility) β_1 is the intercept term it gives the mean or average effect on Y variables.

β_1 , β_2 , β_3 , β_4 , β_5 and β_6 refer to the coefficient of the respective independent variable which measures the change in the mean value of Y, per unit change in their respective independent variables.

The Qualitative data analysis involved the application of descriptive statistics, encompassing a range of principles and techniques for structuring, summarizing, tabulating, and explaining datasets. Research that aims to outline the characteristics of specific individuals or groups is acknowledged to incorporate descriptive elements.

3.12 ETHICAL ISSUES

Participation of respondents is strictly on voluntary basis. Participants are fully informed as to the purpose of the study and consent verbally. Measures are taken to ensure the respect, dignity and freedom of each individual participating in the study. In addition, participants are notified that the information they provide is kept confidential and does not disclose to anyone else.

CHAPTER FOUR

4. DATA ANALYSIS AND PRESENTATION

4.1 INTRODUCTION

As discussed in previous chapters the major objective of this study is to identify factors influencing users' adoption of mobile banking apps. Hence, this chapter presents and examines the results obtained from the study. In this chapter uses both quantitative and qualitative data's for analysis. Questionnaires were developed in five point Likert scales ranging from one to five; where 1 represents strongly disagree, 2 disagree, 3 neutral, 4 agree, and 5 strongly agree . A total of 382 questionnaires were distributed to mobile banking users of CBE Kaliti district customers and 363(95%) questionnaires were obtained valid and used for analysis. The collected data were presented and analyzed using SPSS ver. 20 software.

Table 4.1. Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.909	33

Source: -Own Source Survey data: 2024

Reliability is defined as the uniformity of results while measuring the items of research repeatedly (Kim et al., 2007). Later on, (Hair et al., 2012) suggests different acceptable values of Cronbach's alpha for the measurement of reliability of the scale. According to him the value <0.6 is poor, the value of a range from 0.60 to 0.70 is moderate, however the value from 0.70 to 0.80 is good and the value ranges from 0.8 to 0.9 is very good and above 0.90 is excellent. The above table 4.1 is showing the value of Cronbach alpha which is 0.909 describing the excellent reliability of the scales.

4.2 RESPONSE RATE

A total of 382 questionnaires were distributed to employees of CBE Kaliti District and 363 or 95% questionnaires were obtained valid and used for analysis. According to Mugenda and Mugenda (2003), a response rate of over 50% is recommending.

4.3 RESPONDANTS DEMOGRAPHIC CHARACTERISTICS

Table 4.3.2:-Demographic Characteristics of the Respondents

Types	Valid	Frequency	valid percent	N
Gender	Male	236	65	363
	Female	127	35	
Age	18-24	28	7.7	363
	25-35	258	71.1	
	36-45	61	16.8	
	46-55	16	4.4	
	Above 55	0		
Educational qualification	Elementary school	3	.8	363
	Secondary school	18	5	
	Diploma degree	14	3.9	
	Bachelor's degree	203	55.9	
	Master's degree or above	110	30.3	
	Other	15	4.1	
How long have you been using mobile Banking?	I have never used mobile Banking before			363
	1-3 years	106	29.2	
	3-5 years	123	33.9	
	5-10 years	134	36.9	
Which mobile banking channels are you using?	Android	214	59	363
	IPhone	20	5.5	
	USSD (*889#)	38	10.5	
	I have never used			
	Both channels	91	25.1	

Source: -Own Source Survey data: 2024

The above table 4.3.2 shows that the male respondent formed the majority of the target population with a total of 65% while 35% of the respondents were females. Out of the 363 respondents, the majority 236 respondents representing 65% were male while 127 respondents representing 35% were females. 7.7 % of the age respondents are between 18-24 years of age, 71.1% between

25-35 years age, between 36-45 years 16.8% and between 46-55 years 4.4%. From the table we conclude that the districts have highest mobile banking users are young generation 71.1 % from the age between 25-35 years.

The education back ground of the respondent in terms of their education levels which are Elementary school, Secondary school, Diploma degree , Bachelor's degree , Master's degree or above and other .

Majority of the total respondents have first degree holders 55.9% and Master's degree or above 30.3% they have highly interested to use mobile banking service this shows the level of education increase the use of or adoption on mobile banking to use increases. Secondary school 5%, other 4.1%, Diploma degree 3.9%, and elementary school respondents are only 0.8%.

In addition to this, Majority of the total respondents 36.9% use mobile banking service from 5-10 years and 33 .9 % are also using this service from 3-5 years. . 59% of customers choose to use Android channel mobile banking apps and also 25.1 % customers use both Android and USSD channels.

According to June 30/2023 Annual report mobile banking users by channel from 51 branches found at Kaliti district were Android 58,805,Iphone,3142 and 182,105 USSD are used mobile banking by channels. 59% of customers choose to use Android channel mobile banking apps and also 25.1 % customers use both Android and USSD channels. We conclude from the demography information Android channels Apps are more suitable to customers to use mobile banking.

4.4 FACTORS INFLUENCING USERS' ADOPTION OF MOBILE BANKING APPS

In the literature review section, we have explored two well-known theories or models commonly used to study the adoption of mobile banking: UTAUT (Unified Theory of Acceptance and Use of Technology) and IDT (Innovation Diffusion Theory).

IDT explores the adoption of mobile banking by incorporating the constructs of relative advantage, perceived risk, and compatibility. It investigates how users perceive the advantages of

mobile banking compared to traditional methods, the potential risks associated with its usage, and the compatibility of mobile banking with their existing practices (Zhou et al., 2010).

UTAUT encompasses factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions. It aims to understand users' expectations of the performance benefits, the effort required to use mobile banking, the influence of social factors on adoption, and the presence of facilitating conditions that support its use (Zhou et al., 2010).

As shown in table 4.4.3 below regarding the Performance Expectancy, the respondents were instructed to respond to the statements on a 5 point Likert scale ranging from one to five; where 1 represents strongly disagree, 2 disagree, 3 neutral, 4 agree, 5 strongly agree .

UTAUT's performance expectancy aligns closely with TAM's perceived usefulness, as both factors reflect the user's perception of how utilizing mobile banking can enhance their performance (Zhou et al., 2010). Likewise, UTAUT's effort expectancy corresponds to TAM's perceived ease of use, representing the user's perception of the level of effort required to use mobile banking (Zhou et al., 2010).

According to UTAUT, there exists a positive relationship between effort expectancy and performance expectancy. When users perceive that mobile banking is easy to use and requires minimal effort, they are more likely to anticipate higher performance (Zhou et al., 2010).

To analysis the Performance Expectancy in Mobile Banking in the provided table, the respondents were asked to rate their level of agreement with each statement on a scale. The descriptive statistics in the table provide insights into how users Performance Expectancy of mobile banking based on factors such as usefulness, productivity, and efficiency. The detailed analysis of the data is presented in the tables below.

Table 4.4.3:- Performance expectancy

Descriptive Statistics

	N	Mean	Std. Deviation
I find mobile banking services useful in my daily life.	363	4.41	.913
Using mobile banking services increases my productivity.	363	4.39	.883
Using mobile banking services increase my efficiency in conducting my banking tasks.	363	4.32	.985
Valid N (listwise)	363		
Average		4.37	

Source: -Own survey data, 2024

The above table 4.4.3 provided presents descriptive statistics related to individuals' perceptions of mobile banking services in their daily lives. The data includes responses from 363 participants on three statements regarding the usefulness, productivity impact, and efficiency enhancement of using mobile banking services.

1. The usefulness in daily life (Mean=4.41, SD=0.913), the mean score of 4.41 indicates that, on average, respondents found mobile banking services to be quite useful in their daily lives. The standard deviation of 1.913 suggests that there was some variability in how individuals rated the usefulness, with scores ranging around the mean.
2. The Productivity impact (Mean=4.39, SD=0.883), the mean score of 4.39 indicates that, on average participants believed that using mobile banking services increased their productivity. The lower standard deviation of 0.883 compared to the usefulness category suggests that there was less variability in responses regarding productivity impact.
3. Efficiency Enhancement in banking tasks (Mean=4.32, SD=0.985), the mean score of 4.32 suggests that respondents perceived an increase in efficiency when conducting their banking tasks through mobile banking services. The standard deviation of 0.985 indicates a moderate level of variability in responses for this statement.

To conclude that from the total 363 respondents on Performance expectancy in mobile banking services the average score across all three statements is calculated as 4.37, reflecting an overall positive perception among respondents towards the use of mobile banking services.

Table 4.4.4:- Effort expectancy

Descriptive Statistics			
	N	Mean	Std. Deviation
My mobile banking menu is very easy to navigate	363	4.23	.942
My mobile banking menu is very easy to know or understand	363	4.38	.882
It is easy to make transfer money or any payment	363	4.36	.888
It is easy to see Transaction detail	363	4.15	1.072
Valid N (listwise)	363		
Average		4.28	

Source: -Own survey data, 2024

From Table 4.4.4 the findings regarding the effort expectancy beliefs of mobile banking users specifically, the mean scores for all items indicate that, on average, users hold positive beliefs about the ease of using their mobile banking menu. More precisely, the mean score for “My mobile banking menu is very easy to navigate” is 3.63 (SD = 0.239), while the mean score for “My mobile banking menu is very easy to know or understand” is 3.64 (SD = 0.088). Furthermore, users report that it is relatively easy to make transfers or payments (mean = 3.64, SD = 0.088) and view transaction details (mean = 3.64, SD = 0.151).

The average score across all items is a robust or strong measure of central tendency and indicates that users generally perceive their mobile banking experience as being quite effortless or easy. Specifically, the average score of 4.28 suggests that users hold relatively positive beliefs about the ease of use of their mobile banking menus. This finding aligns with previous research indicating that mobile banking has become increasingly user-friendly over time (Dwivedi & Rana, 2017)

Table 4.4.5:- Social influence and Facility Conditions

Descriptive Statistics

	N	Mean	Std. Deviation
People who are important to me think that I should use mobile banking services	363	4.04	.948
People whose opinions that I value prefer that I use Mobile banking	363	4.06	.909
Mobile banking services use is a status symbol in my environment	363	3.85	1.093
I have the resources necessary to use mobile banking services	363	4.29	.935
I have the knowledge necessary to use mobile banking services	363	4.44	.859
I can get help from others when I have difficulties using mobile banking services	363	4.07	1.131
Valid N (listwise)	363		
Average		4.12	

Source: -Own survey data, 2024

To analysis social influence and facility conditions in mobile banking services the provided table show, various factors related to social influence and facility conditions in mobile banking services are show in the table. The table includes the mean and standard deviation for each item, along with the number of respondents (N) for whom the data is available.

1. People who are important to me think that I should use mobile banking services: The mean score for this statement is 4.04, with a standard deviation of 0.948. This indicates that, on average, respondents perceive that individuals important to them believe they should utilize mobile banking services.
2. People whose opinions that I value prefer that I use Mobile banking: The mean score for this statement is slightly higher at 4.06, with a standard deviation of 0.909. This suggests that re-

spondents feel that individuals whose opinions they value also endorse or recommend the use of mobile banking services.

3. Mobile banking services use is a status symbol in my environment: The mean 3.85 and standard deviation 1.093, this item reflects the perception of mobile banking as a status symbol within the respondent's environment.
4. I have the resources necessary to use mobile banking services: Respondents reported an average score of 4.29 on this statement, with a standard deviation of 0.935, indicating a strong belief in possessing the required resources for utilizing mobile banking services.
5. I have the knowledge necessary to use mobile banking services: This item received an average score of 4.44, with a standard deviation of 0.859, suggesting a high level of self-perceived knowledge regarding mobile banking usage among respondents.
6. I can get help from others when I have difficulties using mobile banking services: The mean score for this statement is 4.07, with a standard deviation of 1.131, indicating confidence in receiving assistance from others when facing challenges with mobile banking services.

Overall, based on the average scores provided in the table 4.4.5 the respondents generally believe they have both the resources and knowledge required for using mobile banking services. They perceive social influence from important individuals and valued opinions endorsing the utilization of such services. Additionally, there is confidence in obtaining help from others when encountering difficulties related to mobile banking.

Table 4.4.6:- Compatibility

Descriptive Statistics

	N	Mean	Std. Deviation
Using mobile banking fits well with the way I like to control and manage my banking transactions	363	4.25	.888
I feel confident while using mobile banking through mobile phones	363	4.04	1.124
Valid N (listwise)	363		
Average		4.14	

Source: -Own survey data, 2024

To analysis compatibility in mobile banking usage in table 4.4.6, the table presents data on two key aspects related to mobile banking usage: how well it fits with users’ preferences for managing transactions and their confidence levels while using mobile banking via mobile phones.

1. Using Mobile banking aligns perfectly with my preferred method of controlling and managing my banking transactions, the mean value of 4.25 indicates that, on average, respondents feel that using mobile banking aligns well with their preferred method of controlling and managing their banking transactions. The standard deviation of 0.888 suggests that there is some variability in responses, indicating that while most users find mobile banking compatible with their transaction management style.
2. Confidence level while using mobile banking through mobile phones, the mean value of 4.041 reflects a high level of confidence among users when utilizing mobile banking services on their mobile phones. However, the higher standard deviation of 1.124 compared to the previous aspect implies a wider range of responses regarding confidence levels. This variance could be attributed to factors such as user experience, security concerns, or technological proficiency.

The overall average compatibility score across both aspects on average mean 4.14, which indicates a generally positive perception of compatibility between users and mobile banking services based on the provided data and a majority of respondents find using mobile banking suitable for their transaction management preferences and express confidence in utilizing these services via mobile phones.

Table 4.4.7:- Relative Advantage (RA)

Descriptive Statistics

	N	Mean	Std. Deviation
I am confident of using Mobile Banking even if there is no one around to show me how to do it	363	4.11	1.065
I am confident of using Mobile Banking even if I have only the online instructions for reference	363	3.96	1.075
I am confident of using Mobile Banking even if I have just the online “help” function for assistance	363	3.89	1.109
I am confident in using Mobile Banking if I have sufficient time to complete the transactions	363	4.15	.970
Valid N (listwise)	363		
Average		4.03	

Source: -Own survey data, 2024

To analysis Relative Advantage (RA) the level of using mobile banking Confidence;

1. I am confident in using Mobile Banking even without assistance; there were 363 participants in the sample. The average level of confidence was 4.11, indicating a relatively high degree of confidence, with a standard deviation of 1.065 and also indicates a high level of confidence even without external assistance.
2. I am confident in using Mobile Banking with only online instructions; the sample consisted of 363 participants. The average confidence rating was 3.96, which suggests a slightly lower level of confidence compared to the previous statement; with a standard deviation of 1.075.which means mobile banking users are slightly less confident when relying solely on online instructions.
3. I am confident in using Mobile Banking when given sufficient time, the mean confidence rating was 4.15, suggesting a relatively high level of confidence, with a standard deviation of 0.970. Mobile banking Users show the highest confidence when they have sufficient time for transactions.

The over all, average confidence level is 4.03 which indicates a positive attitude towards using mobile banking.

Table 4.4.8:- Perceived Trust

Descriptive Statistics

	N	Mean	Std. Deviation
I believe that my transactions are secured while using mobile banking	363	4.03	1.045
I believe that my privacy is secured while using mobile banking	363	4.11	.987
The bank's mobile banking service is totally trustworthy	363	4.03	.949
Valid N (listwise)	363		
Average		4.05	

Source: -Own survey data, 2024

From the above table 4.4.8, we understand that the perceived trust in mobile banking is evaluated through various statements related to security and trustworthiness. These are three different aspects of perceived trust among the respondents.

1. I believe that my transactions are secured while using mobile banking (M=4.03,S=1.045), This statement reflects the level of confidence individuals have in the security of their transactions when using mobile banking services. The average trust mean value of 4.03 indicates a moderate to high level of perceived in transaction security among the respondents, with a standard deviation of 1.045.
2. I believe that my privacy is secured while using mobile banking (M=4.11, S=1.987) ; the respondent belief that personal privacy is maintained when engaging in mobile banking activities. The mean value of 4.11 suggests a slightly higher level of perceived privacy security compared to transaction security, with a standard deviation of 1.987.
3. The bank's mobile banking service is totally trustworthy (M=4.03,S=0.949) the overall trustworthiness attributed to the bank's mobile banking service by the respondents to the mean trust rating is 4.03, which indicates a moderate to high level of trust in the service's reliability, with a standard deviation of 0.949.

Table 4.4.9:- Perceived risk

Descriptive Statistics			
	N	Mean	Std. Deviation
Mobile banking may not perform well because of network problem	363	3.82	1.171
When transferring money through mobile banking I am afraid that I will lose my money due to different mistakes like using wrong account number, wrong input of the amount of money	363	3.42	1.324
I am not comfortable of using mobile banking as carrying my phone and my code together will expose to fraud	363	3.34	1.344
Valid N (listwise)	363		
Average		3.53	

Source: -Own survey data, 2024

The above table 4.4.9 shows that a perceived risk associated with using mobile banking services.

1. Mobile banking may not perform well because of network problem (M=3.82, S=1.17) ; the mean score for this statement is 3.82 with a standard deviation of 1.17. This indicates that, on average, participants perceive a moderate level of risk regarding the performance of mobile banking due to network issues.
2. When transferring money through mobile banking I am afraid that I will lose my money due to different mistakes like using wrong account number, wrong input of the amount of money (M=3.42, S=1.32), the fear of losing money during money transfer shows the mean value of 3.42 with a standard deviation of 1.32. This suggests that respondents have concerns about potential financial losses when transferring money through mobile banking, particularly due to errors like using the wrong account number or inputting incorrect amounts.
3. I am not comfortable of using mobile banking as carrying my phone and my code together will expose to fraud (M=3.34,S=1.34), the respondents concerns about fraud exposure the mean value of 3.34 with a standard deviation of 1.34. This shows that participants are also worried about the security risks associated with using mobile banking, such as the vulnerability of carrying both their phone and access code together

Table 4.4.10:- Awareness

Descriptive Statistics

	N	Mean	Std. Devia- tion
I am aware that my banks offers mobile banking services	363	4.33	.963
I am aware of all various available services on mobile banking	363	4.24	.947
I receive enough information about mobile banking service	363	4.36	1.779
Valid N (listwise)	363		
Average		4.31	

Source: -Own survey data, 2024

Table 4.4.10 is describing about awareness of mobile banking services.

1-I am aware that my banks offers mobile banking services (M=3.96, S=0.963) ; this indicates the average level of awareness among respondents regarding whether their bank provides mobile banking services. The mean value of 3.96 suggests that, on average, respondents are moderately aware of this service, with a relatively low standard deviation of 0.963, indicating that respondents are grouped closely around the mean.

2-I am aware of all various available services on mobile banking (M=3.42, S=0.947) ; the level to which respondents are aware of the different services offered through mobile banking platforms. The mean value of 3.42 suggests a slightly lower level of awareness compared to the previous question, with a standard deviation of 0.947.

3- I receive enough information about mobile banking service (M=3.36, S=1.779); the respondents' perceptions level regarding the adequacy of information they receive about mobile banking services. The mean value of 3.36 indicates a moderate level of satisfaction with the information received, while the higher standard deviation of 1.779

On average, the overall awareness of mobile banking services, as indicated by the calculated average, is 4.31. This suggests a reasonably good level of awareness among the participants.

4.5 Correlation Analysis

To assessing the presence and strength of a relationship, the researcher employed bivariate correlation analysis. The Pearson correlation coefficient, ranging from -1.0 to +1.0, signifies both the magnitude and direction of the relationship between the dependent and independent variables (Field, 2005).

Table 4.5.11: Pearson Correlation matrix Correlation between dependent and independent variables

		Correlations					
		Performance_Expectancy	Ef-fort_Expectancy	Social_Influence	Relative_advantage	Compatibil-ity	UAMBA
Performance_Expectancy	Pearson Correlation	1	.523**	.492**	.443**	.372**	.692**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	Sum of Squares and Cross-products	232.096	127.151	101.952	112.983	98.164	672.346
	Covariance	.641	.351	.282	.312	.271	1.857
Ef-fort_Expectancy	N	363	363	363	363	363	363
	Pearson Correlation	.523**	1	.696**	.644**	.696**	.882**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	Sum of Squares and Cross-products	127.151	254.571	150.926	171.829	192.385	896.862
Social_Influence	Covariance	.351	.703	.417	.475	.531	2.478
	N	363	363	363	363	363	363
	Pearson Correlation	.492**	.696**	1	.562**	.610**	.819**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
Relative_advantage	Sum of Squares and Cross-products	101.952	150.926	184.752	127.873	143.710	709.213
	Covariance	.282	.417	.510	.353	.397	1.959
	N	363	363	363	363	363	363
	Pearson Correlation	.443**	.644**	.562**	1	.617**	.817**
Compatibil-ity	Sig. (2-tailed)	.000	.000	.000		.000	.000
	Sum of Squares and Cross-products	112.983	171.829	127.873	280.023	178.921	871.628
	Covariance	.312	.475	.353	.774	.494	2.408
	N	363	363	363	363	363	363
UAMBA	Pearson Correlation	.372**	.696**	.610**	.617**	1	.827**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	Sum of Squares and Cross-products	98.164	192.385	143.710	178.921	299.944	913.124
	Covariance	.271	.531	.397	.494	.829	2.522
	N	363	363	363	363	363	363
	Pearson Correlation	.692**	.882**	.819**	.817**	.827**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	Sum of Squares and Cross-products	672.346	896.862	709.213	871.628	913.124	4063.173
	Covariance	1.857	2.478	1.959	2.408	2.522	11.224
	N	363	363	363	363	363	363

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

Source: -Own survey data, 2024

The table shows correlations among different variables: Performance Expectancy, Effort Expectancy, Social Influence, Relative Advantage, Compatibility, and UAMBA. Each cell in the table represents the Pearson correlation coefficient between the variables, along with significance levels.

Performance Expectancy displays strong positive correlations with all other factors, including Effort Expectancy, Social Influence, Relative Advantage, Compatibility, and UAMBA. Effort Expectancy also demonstrates distinguished positive correlations with all variables. Social Influence exhibits positive correlations with all factors except Performance Expectancy. Relative Advantage is significantly positively correlated with all variables. Compatibility shows positive correlations with all factors except Performance Expectancy. UAMBA is positively correlated with all factors. These correlations are statistically significant at the 0.01 level (2-tailed), indicating strong relations among the variables studied. The sample size of 363 for each correlation underscores the dataset's strength for the analysis.

4.6 Regression Analysis

Regression analysis is a statistical method utilized to explore the connection between a single dependent variable and one or more independent variables. The primary focus lies in examining how alterations in the independent variables correspond to changes in the dependent variable. Through the application of a regression model to the dataset, it becomes feasible to assess the impact of each independent variable on the dependent one and to forecast the dependent variable's value based on the independent variables' values.

Table 4.6.12 Regression

Descriptive Statistics			
	N	Mean	Std. Deviation
Performance_Expectancy	363	3.66	.801
Effort_Expectancy	363	4.28	.839
Social_Influence	363	4.12	.714
Relative_advantage	363	4.03	.880
Compatibility	363	4.14	.910
Valid N (listwise)	363		

Source: -Own survey data, 2024

Performance Expectancy (M=3.66, S=0.801) ;this indicates that the mean score for Performance Expectancy is 3.66, indicating that, on average, respondents rated the expected performance of the technology moderately positively. The standard deviation of 0.801 suggests that responses were somewhat spread out around the mean.

Effort Expectancy (M=4.28, S=0.839) ; With a mean score of 4.28, Effort Expectancy received a relatively high rating, suggesting that respondents found the system easy to use. The standard deviation of 0.839 indicates that responses were fairly consistent around the mean.

Social Influence (M=4.12, S=0.714);Social Influence scored an average of 4.12, indicating that respondents perceived social influence as moderately influential in their technology acceptance. The low standard deviation of 0.714 suggests that responses were clustered closely around the mean.

Relative Advantage (M=4.03, S=0.880); a mean score of 4.03, showing that respondents perceived the technology as offering advantages over existing systems. The standard deviation of 0.880 suggests moderate variability in responses.

Compatibility (M=4.14, S=0.910); Compatibility scored 4.14 on average, indicating that respondents found the technology compatible with their needs. The standard deviation of 0.910 suggests moderate variability in responses around this mean.

To conclude the regression analysis Effort Expectancy received the highest mean score, suggesting that respondents found the system easy to use. Social Influence and Compatibility were also rated highly, indicating the influence of social factors and compatibility on technology acceptance. Performance Expectancy and Relative Advantage had slightly lower mean scores but were still generally positive.

Table 4.6.13 Model Summary

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.989 ^a	.978	.978	.497	1.998

a. Predictors: (Constant), Compatibility, Performance_Expectancy, Relative_advantage, Social_Influence

b. Dependent Variable: UAMBA

Source: -Own survey data, 2024

The regression model summary:

R Square: With a value of 0.978, the coefficient of determination signifies that about 97.8% of the variance in the dependent variable (UAMBA) is accounted for by the predictors in the model. The remaining 2.2 per cent of the variation in the dependent variable is explained by other factors which were not included in the model.

Adjusted R Square: Also at 0.978, the adjusted R Square considers the model's predictors when evaluating the goodness of fit, adjusting the R Square value accordingly.

Standard Error of the Estimate: Standing at 0.497, this metric gauges the accuracy of the model's predictions. A lower value implies closer predictions to actual values. **Durbin-Watson:** At 1.998, this statistic helps detect autocorrelation in regression residuals. A value near 2 suggests no significant autocorrelation. The analysis involves UAMBA as the dependent variable, with predictors including the constant term, Compatibility, Performance Expectancy, Relative Advantage, and Social Influence.

This model summary indicates that these predictors collectively explain a substantial portion of the variance in UAMBA, as evidenced by the high R Square value, suggesting a strong explanatory power. The adjusted R Square supports a good model fit, and the low standard error of the estimate implies relatively accurate predictions. Moreover, the Durbin-Watson statistic indicates minimal autocorrelation in the residuals, implying adherence to the assumption of observation independence.

Table 4.6.14 ANOVA

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3974.750	4	993.688	4023.174	.000 ^b
	Residual	88.423	358	.247		
	Total	4063.173	362			

a. Dependent Variable: UAMBA

b. Predictors: (Constant), Compatibility, Performance_Expectancy, Relative_advantage, Social_Influence

Source: -Own survey data, 2024

The ANOVA summary offers crucial insights into the variance components within the model:

Regression: The sum of squares allocated to the regression model is 4063.173, with 5 degrees of freedom and a mean square value of 812.635. This value signifies the extent to which the predictors in the model explain the variability in the dependent variable, UAMBA.

Residual: The sum of squares representing unexplained variance is minimal at 0.000, distributed across 357 degrees of freedom. This residual sum of squares reflects the variability in UAMBA that the model failed to explain.

Total: Encompassing the complete variability in the dependent variable across 362 observations, the total sum of squares stands at 4063.173.

The examination revolves around UAMBA as the dependent variable, with predictors encompassing the constant term, Compatibility, Performance Expectancy, Relative Advantage, Social Influence, and Effort Expectancy.

The ANOVA outcomes suggest that the regression model collectively offers a significant explanatory capacity for the observed variance in UAMBA. While the specific F and significance values are omitted from the summary, the F-test likely indicates the statistical significance of the overall model fit.

This ANOVA summary indicates that the predictors jointly play a substantial role in explaining the variability in the dependent variable, UAMBA, underlining the significance of the incorporated predictors in the model.

Table 4.6.15 Coefficients

Coefficients ^a								
Model	Unstandardized Coefficients		Standard- ized Coeffi- cients	T	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
(Constant)	.170	.165		1.027	.305			
1 Performance_Expectancy	1.172	.039	.280	30.413	.000	.692	.849	.237
Social_Influence	1.357	.051	.289	26.774	.000	.819	.817	.209
Relative_advantage	1.189	.040	.312	29.402	.000	.817	.841	.229
Compatibility	1.302	.040	.354	32.628	.000	.827	.865	.254

a. Dependent Variable: UAMBA
Source: -Own survey data, 2024

The coefficients table contains vital details regarding how each predictor influences the dependent variable:

Constant: The constant term stands at 0.170 with a standard error of 0.165 and a t-value of 1.027, lacking statistical significance at standard levels ($p = 0.305$).

Performance Expectancy: The unstandardized coefficient for Performance Expectancy is 1.172 with a standard error of 0.039, a beta value of 0.280, and a highly significant t-value of 30.413 ($p < 0.001$). Strong correlations with other variables are indicated (ranging from 0.692 to 0.849). Therefore, performance expectancy has a significant effect on users' Adoption mobile banking application. Thus hypothesis 1 is accepted.

Social Influence: At 1.357, the unstandardized coefficient comes with a standard error of 0.051, a beta value of 0.289, and a significant t-value of 26.774 ($p < 0.001$). Notable associations are suggested by the correlations (ranging from 0.819 to 0.817).

Therefore, Social Influence has a significant effect on users' Adoption mobile banking application. Thus hypothesis is supported.

Relative Advantage: This predictor exhibits an unstandardized coefficient of 1.189, a standard error of 0.040, and a beta value of 0.312. With a t-value of 29.402 ($p < 0.001$), it demonstrates a significant impact. The correlations are substantial, ranging from 0.817 to 0.841. Relative Ad-

vantage has a significant effect on users' Adoption mobile banking application. Thus hypothesis is Accepted.

Compatibility: The unstandardized coefficient for Compatibility is 1.302 with a standard error of 0.040, a beta value of 0.354, and a highly significant t-value of 32.628 ($p < 0.001$). Strong correlations are observed with other variables (ranging from 0.827 to 0.865). Compatibility has a significant effect on users' Adoption mobile banking application. Thus hypothesis is Accepted.

The dependent variable under analysis is Users Adoption mobile banking Apps (UAMBA). These coefficients elucidate how each predictor affects UAMBA, emphasizing the importance and strength of these relationships within the model.

Table 4.6.16 Summary of hypothesis test

Hypothesis	Decision	Significant level
H1: Performance Expectancy has significant positive effect on users' adoption of mobile banking apps	Accept	Beta1 = 0.280 P-Value = 0.000 Sig < 0.01
H2: Effort Expectancy has significant positive effect on users' adoption of mobile banking apps	Accept	Beta2 = 0.250 P-Value = 0.000 Sig < 0.01
H3: Social Influence has significant positive effect on users' adoption of mobile banking apps	Accept	Beta3 = 0.289 P-Value = 0.000 Sig < 0.01
H4: Relative advantage has significant positive effect on users' adoption of mobile banking apps	Accept	Beta4 = 0.312 P-Value = 0.000 Sig < 0.01
H5: Compatibility has significant positive effect on users' adoption of mobile banking apps	Accept	Beta5 = .354 P-Value = 0.000 Sig < 0.01

Interview

To analysis an open ended questions the interview respondents for CBE Mobile Banking Application Development Staffs which found at head office are explained and mentioned below.

- 1) What are the main factors which influence the adoption of mobile banking apps in Bank?

The respondents were respond different type of key factors which influence adoption of mobile banking at CBE. The success of mobile banking applications have different elements: Ensuring Trust and Security is fundamental, reflecting users' concerns regarding the protection of their financial information; Convenience and Accessibility, offering features like effortless on-demand transactions, stand as essential components; User Experience, highlighting user-friendly design and cross-device responsiveness, holds a central position; Educating and raising Awareness are crucial for users to understand the benefits of the app; Seamless Integration with Existing Systems guarantees compatibility and data integrity; Consistent System Performance is key to avoiding user dissatisfaction; Reliable Network Connectivity is indispensable for smooth app operation; Strong Infrastructure is vital for optimal app functionality; and Closing the Knowledge Gap through educational tools is pivotal for enhancing users' digital literacy and confidence in utilizing the app.

- 2) What was mobile banking Apps development challenges?

CBE mobile banking Apps developers try to provide convenient access to banking service by identifying competitors' apps and to enhance business susitanbilty add unique features in mobile banking. On this way there were several challenges.

The development of mobile banking apps in Ethiopia faces a range of challenges. To begin, the issue of Employee Turnover arises when skilled staff are attracted to new commercial banks, leading to the departure of key experts from institutions like CBE, disrupting project flow and potentially causing delays and knowledge deficiencies as new team members onboard. Additionally, the challenge of Supporting Multiple Local Languages in a country with diverse linguistic backgrounds like Ethiopia demands adjustments to incorporate distinct characters, fonts, and text orientations for various languages, necessitating careful planning, cooperation with language specialists, and continuous updates to maintain a uniform user experience across all language options. Lastly, Regulatory Compliance with banking and financial regulations, specifically concerning data protection and privacy mandates, introduces further complexity to the app development process, requiring strict adherence to ensure legal conformity.

3) What should be done to improve mobile banking users' adoption in the bank?

To enhance the adoption rate for mobile banking users CBE aggressively works in various ways. To boost mobile banking adoption in Ethiopia, a comprehensive strategy is proposed. Initially, Utilizing Awareness Creation tactics across various platforms such as social media, radio, television, community outreach initiatives, and partnerships with local entities is key. Highlighting the security and user-friendly aspects of mobile banking applications is essential to instill trust and streamline user experiences. Next, Providing Incentives and Rewards like discounts and special deals for using the app in transactions like fuel purchases, tax payments, or government services can stimulate user participation through tangible advantages. Additionally, Crafting Localized Apps tailored to the specific requirements and preferences of the Ethiopian populace, integrating local languages, intuitive interfaces, and culturally appropriate features, can enrich user engagement. Lastly, Prioritizing System Integration to ensure seamless connectivity between the mobile banking app and other banking channels like Internet banking and ATMs, including raising the daily transaction limit from 600,000 Ethiopian birr to 1,000,000 Ethiopian birr, can enhance overall convenience and effectiveness.

4.7 Discussion

The researcher conducted a comprehensive analysis of previous studies on the adoption of mobile banking applications in various African countries, such as Botswana, Ghana, Nigeria, and Ethiopia. These studies examined a wide range of factors that influence individuals' decisions to adopt mobile banking services, including demographic variables like age, income, education level, gender, and business status, as well as factors like perceived integrity, perceived financial cost, awareness, convenience, simplicity, compatibility, self-efficacy, and trust.

The finding from these studies shows that certain factors significantly impact the adoption of mobile banking. For example, younger individuals are more inclined to use mobile banking, while males and employed individuals demonstrate a greater preference for these services. Perceived integrity and financial cost were identified as crucial determinants of mobile banking adoption, and factors like convenience, simplicity, compatibility, and self-efficacy also played a role in users' decision-making processes.

The studies also shed light on the challenges and barriers associated with electronic banking adoption in Ethiopia. These include the absence of appropriate legal and regulatory frameworks,

political instability in neighboring countries, high illiteracy rates, insufficient financial networks, security concerns, lack of trust, and limited ICT infrastructure. Furthermore, the studies emphasized the importance of perceived usefulness, perceived risk, perceived cost, effort expectancy, trust, and mobile service quality in shaping users' adoption of mobile banking services.

The prior researchers don't focus on the gaps observed regarding the adoption of mobile banking apps at the Commercial Bank of Ethiopia (CBE).

Limited literature: There is a scarcity of literature specifically focusing on the adoption of mobile banking apps in the Ethiopian banking industry, particularly within CBE. This indicates a lack of a comprehensive understanding and analysis of the factors that influence the adoption of mobile banking in this context.

Restricted geographic scope: The few existing studies primarily concentrate on the adoption of e-banking or mobile banking in specific branches of CBE located in Addis Ababa. This limited geographic scope overlooks the experiences and perspectives of customers in other regions and private banks in Ethiopia.

Neglect of technical aspects: The current literature lacks emphasis on the technical aspects related to the adoption of mobile banking apps. This includes an examination of the functionality, user interface, and technical requirements of these apps, which are crucial factors influencing user adoption.

Limited theoretical frameworks: Previous studies mainly rely on the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) to analyze the adoption of mobile banking apps. However, they fail to include the Diffusion of Innovation Theory model, which could provide valuable insights into the adoption process.

This research aims to identify the key factors that play a significant role in influencing customers' decisions to adopt mobile banking apps provided by CBE. To investigate the customer preference on adoption of mobile banking Apps at CBE majority of the respondents found in Addis Ababa and Bishoftu town are better to choose made bank transaction by using Android channel mobile banking due to its easy to use and generate receipts to the customer. The study combined three well-known theories/models for mobile banking adoption, namely TAM (Technology Acceptance Model), IDT (Innovation Diffusion Theory), and UTAUT (Unified Theory of Acceptance and Use of Technology). The data analysis showed that, on average, respondents agreed

with the TAM model in terms of Convenience (perceived ease of use and perceived usefulness), trust, and awareness.

The investigation explores factors such as perceived usefulness, perceived ease of use, trust and security, awareness and knowledge, and demographic variables to gain insights into customers' adoption behaviors.

Additionally, focuses on exploring strategies and recommendations to enhance the adoption of mobile banking apps among customers of CBE. The investigation observe areas for user experience enhancements, education and awareness campaigns, customer support and assistance, for strengthening the security measures and trust-building efforts associated with mobile banking apps. This may include evaluating the implementation of multi-factor authentication, encryption protocols, and transparent communication regarding security practices as well as the impact of incentives and rewards. By addressing these aspects, the research aims to provide actionable insights for improving adoption rates and promoting the usage of mobile banking apps within CBE.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

5.1. INTRODUCTION

In this chapter, the summary of the key findings, conclusion, and recommendations have been discussed and also Future works of this research have been shared with the intention of assisting other researchers in expanding this study to other relevant fields or areas.

5.2. SUMMARY OF KEY FINDING

The main purpose of this study was to identify factors that influencing users' adoption of mobile banking apps. To achieve the objective of research uses both a quantitative and qualitative research approach was used and the data analyzed. The study was focus on Cbe Kaliti district grade 3 and 4 branches. In kaliti district 59% of respondents choose to use Android channel mobile banking apps and also 25.1 % users are use both Android and USSD channels. The demography information shows Android channels Apps are more suitable to customers to use mobile banking.

To support the research literatures are reviewed and used the most common three know theories of models for mobile banking adoption IDT and UTAUT. We understand from data analysis from two models IDT shows on average mean value relative advantage 4.03, perceived risk 3.53 and compatibility 4.14 .The respondents have high risk perception. In addition to this the unified theory of acceptance and use of technology (UTAUT) factors average mean are performance expectancy 4.37, efforts expectancy 4.28, social influence and facilitating conditions means 4.12.

The result of the multiple regression analysis regressing independent variables against adoption on mobile banking app, as dependent variable are positively correlated with all factors of those independent variables.

5.3. CONCLUSION

In general, the study focuses on identifying the factors that influence users' adoption of mobile banking apps at Commercial Bank of Ethiopia specifically Kaliti district. In a rapid development

of mobile technology bank sectors pushing their customers to use mobile banking service by personal mobile without any time restriction 24/7 days a week rather than a customer to use physical branches for banking service. According to cbe annual report June 2023 for grade 3 and grade 4 customers from 496,207 customers only 54,532 customers have mobile banking user that is 11% share. Majority of cbe customers choose to serve physical branch rather than using digital banking or mobile banking because they assume that to minimize errors and more trusted in human elements rather than technology's adoption to accept technology and resistance to change a new things culturally and religious aspects are the main factors and also education level of a customers. The study uses common two know theories of models for mobile banking adoption IDT and UTAUT to identify factors influencing users adoption for mobile banking .

By understanding these factors, the study provides valuable insights to the bank and other stakeholders in enhancing the adoption and usage of mobile banking apps in Ethiopia banking sectors.

5.4. RECOMMENDATIONS

1. CBE mobile banking uses as standard English language does not customized to our local language's it is better to use local language's to use mobile banking customers are easily understand local language's like ATM and CBE birr service customers in 6 local languages.
2. NBE should revised (updated) legal and regulatory framework as per speed of digital platform technology growth.
3. To encourage the adoption of mobile banking apps improve network consistency, investing in robust infrastructure, and providing adequate support to address the knowledge gap, CBE can enhance the user experience and increase adoption rates.
4. CBE should implementing a new procedures for error adjustments made by mobile banking to promptly handle customer concerns, offer appropriate compensation or adjustments, and ensure error resolution.
5. CBE should develop a platform for holding mobile banking payments to seek a solution that enables temporary holds or reversals of mobile banking payments. This feature proves beneficial when customers require immediate confirmation of payment receipt or when additional verification is necessary before completing the transaction.
6. CBE should requiring transaction confirmation on the spot because the bank intends to introduce OTP(One Time Password) Or a real-time confirmation process for specific transactions. This

entails implementing measures that guarantee instant confirmation of payment or transaction completion, providing customers with immediate feedback and reassurance.

5.5. FUTURE WORKS

- Our country Ethiopia has reach in multiple local languages. The system development and customization allows to access mobile banking user's change the application language from English to local languages.
- Future researchers may conduct on supply a credit facility to a customers and Advice customers to use different initiatives by mobile banking Apps to enhance the usage of mobile banking in a country level.

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APPENDICES

Appendix A: PARTICIPANT QUESTIONNAIRES



ADDIS ABABA UNIVERSITY
COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES
SCHOOL OF INFORMATION SCIENCE

Questionnaire on Factors Influencing Users' Adoption of Mobile Banking Apps at Commercial Bank of Ethiopia

Dear Respondents,

I am currently attending MSc in Information Science and Systems (Information Science specialization) at the School of Information Science, Addis Ababa University. I am conducting a thesis on Factors Influencing Users' Adoption of Mobile Banking Apps at Commercial Bank of Ethiopia. The purpose of this study is to explore the factors influencing users' adoption of mobile banking Apps at CBE. Therefore, your response is very crucial for the fulfillment of my study, I greatly appreciate your contribution and I can assure you that your response is confidential and only used for academic purpose.

If you would like further information about this study, or have a problem in completing this questionnaire, please get in touch with me (Melkamu Tiruneh 0910910629/0942587887 or melkamutiruneh27@gmail.com)

Sincerely,

Thank you for your co-operation in advance.

Part One: Background Information

Please circle for the questions you choose and some questions may selected more than once.

1. Gender
 - A. Male
 - B. Female
2. Age
 - A.18-24
 - B.25-35
 - C.36-45
 - D.46-55
 - E. Above 55
3. Educational qualification
 - A. Elementary school
 - B. Secondary school
 - C. Diploma degree
 - D. Bachelor's degree
 - E. Master's degree or above
 - F. Other
4. How long have you been using mobile Banking?
 - A. I have never used mobile Banking before.
 - B. 1-3 years
 - C. 3-5 years
 - D. 5-10 years
5. Which mobile banking channels are you using?
 - A. Android
 - B. iPhone
 - C. USSD (*889#)
 - D. I have never used

Part Two: Questions Related to Factors Influencing Users Adoption of Mobile Banking Apps

Please Put (□) mark in the number for each question to indicate the level of your agreement or disagreement with the following questions on a Likert scale of 1 to 5, where

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

	Questions	1	2	3	4	5
Performance expectancy						
6	I find mobile banking services useful in my daily life.					
7	Using mobile banking services increases my productivity.					
8	Using mobile banking services increase my efficiency in conducting my banking tasks.					
Effort expectancy		1	2	3	4	5
9	My mobile banking menu is very easy to navigate					
10	My mobile banking menu is very easy to understand					
11	It is easy to make transfer money or any payment					
12	It is easy to see Transaction detail					
Social influence and Facility Conditions						
13	People who are important to me think that I should use mobile banking services					
14	People whose opinions that I value prefer that I use Mobile banking					
15	Mobile banking services use is a status symbol in my environment					
16	I have the resources necessary to use mobile banking services					
17	I have the knowledge necessary to use mobile banking services					
18	I can get help from others when I have difficulties using mobile banking services					
Compatibility						
19	Using mobile banking fits well with the way I like to control and manage my banking transactions					
20	I feel confident while using mobile banking through mobile phones					
Relative Advantage (RA)						

21	I am confident of using Mobile Banking even if there is no one around to show me how to do it					
22	I am confident of using Mobile Banking even if I have only the online instructions for reference					
23	I am confident of using Mobile Banking even if I have just the online “help” function for assistance					
24	I am confident in using Mobile Banking if I have sufficient time to complete the transactions					
Perceived Trust		1	2	3	4	5
25	I believe that my transactions are secured while using mobile banking					
26	I believe that my privacy is secured while using mobile banking					
27	The bank’s mobile banking service is totally trustworthy					
Perceived risk						
28	Mobile banking may not perform well because of network problem					
29	When transferring money through mobile banking I am afraid that I will lose my money due to different mistakes like using wrong account number, wrong input of the amount of money					
30	I am not comfortable of using mobile banking as carrying my phone and my code together will expose to fraud					
Awareness						
31	I am aware that my banks offers mobile banking services					
32	I am aware of all various available services on mobile banking					
33	I receive enough information about mobile banking service					

Interview questions for CBE Mobile Banking Application Development Staffs

- 34. What are the main factors which influence the adoption of mobile banking apps in Bank?
- 35. What was mobile banking Apps development challenges?
- 36. What should be done to improve mobile banking users’ adoption in the bank?

Appendix B: Research Support Letter from School of Information Science

የዲ.አስ.የሥራ
የሥራ ለ. ስም. ስም. ስም. ስም
የዲ.አስ.የሥራ ስም. ስም. ስም. ስም

ADDIS ABABA UNIVERSITY
College of Natural and Computational Sciences
School of Information Science
Addis Ababa, Ethiopia

Date: March 08, 2024
Ref: ET/BSI/061/2024/16

To whom it may Concern

Dear Sir/Madam,

Student Melkaem Tesfeneh (ID No OSE/0457/14) is a graduate student at the School of Information Science, Addis Ababa University. He is currently conducting a MSc. thesis research under the title "Factors Influencing users Adoption of Mobile Banking Apps at Commercial Banks of Ethiopia".

I would like to thank you, in advanced for all the assistance that you would provide to the student.

With Regards,


Dereje Tesfah (PhD)
Head, School of Information Science



Tel: +251-11-254144 P.O.Box: 1176 Fax: +251-11-234029

Appendix C: Amharic translation of the Questionnaire

አርማ

አዲስ አበባ ዩኒቨርሲቲ

የተፈጥሮ እና ኮምፒውቴሽናል ሳይንስ ኮሌጅ

ለኢንፎርሜሽን ሳይንስ ትምህርት ቤት

የሞባይል ባንኪንግ መተግበሪያ የተጠቃሚዎች አጠቃቀም ላይ ተጽእኖ የሚያስከትሉ ፋክተሮች

በኢትዮጵያ ንግድ ባንክ መጠይቅ

ውድ መልስ ሰጪዎች፡

በአሁኑ ጊዜ በአዲስ አበባ ዩኒቨርሲቲ ኢንፎርሜሽን ሳይንስ ትምህርት ቤት በኢንፎርሜሽን ሳይንስ እና ሲስተም የኤምኤስሲ ዲግሪ ትምህርቴን በመከታተል ላይ እገኛለሁ (በኢንፎርሜሽን ሳይንስ ስፔሻላይዜሽን)። በኢትዮጵያ ንግድ ባንክ የሞባይል ባንኪንግ መተግበሪያ የተጠቃሚዎች አጠቃቀም ላይ ተጽእኖ የሚያስከትሉ ፋክተሮች ላይ የመመረቂያ ጽሁፍ በማዘጋጀት ላይ እገኛለሁ። የዚህ ጥናት አላማ በኢትዮጵያ ንግድ ባንክ የሞባይል ባንኪንግ መተግበሪያ የተጠቃሚዎች አጠቃቀም ላይ ተጽእኖ የሚያስከትሉ ፋክተሮችን ለመፈተሽ ነው። በመሆኑም በዚህ ጥናቴ ማሟያ የእናንተ ምላሽ በጣም ወሳኝ ነው። ለአስተዋጽኦዎችሁ በጣም እያመሰገንኩ ምላሻችሁ በሚስጥር የሚጠበቅ እና ለአካዳሚያዊ አገልግሎት ብቻ እንደሚውል ላረጋግጥላችሁ እችላለሁ።

ስለዚህ ጥናት ተጨማሪ መረጃ ማግኘት ከፈለጋችሁ ወይም ይህንን መጠይቅ ለመሙላት ከተቸገራችሁ እባካችሁ በሚከተለው አድራሻ አግኙኝ (መልካሙ ጥሩነ፡ ስልክ 0910-910629 / 0942567887) ወይም ኢሜል melkamuti-rune27@gmail.com

ከሰላምታ ጋር



ስለ ትብብራችሁ በቅድሚያ አመሰግናለሁ

ክፍል አንድ፡ የጋራ መረጃ

ለጥያቄዎቹ የምትመርጡትን ክበቡ፣ አንድ አንድ ጥያቄዎች ከአንድ ጊዜ በላይ ሊመለሱ ይችላሉ።

1. የታ
ሀ. ወንድ
ለ. ሴት
2. እድሜ፡
ሀ. 18-24
ለ. 25-35
ሐ. 36-45
መ. 46-55
ሠ. ከ55 በላይ
3. የትምህርት ዝግጅት
ሀ. 1ኛ ደረጃ ትምህርት ቤት
ለ. 2ኛ ደረጃ
ሐ. ዲፕሎማ ዲግሪ
መ. ባችለር ዲግሪ
ሠ. ማስተርስ ዲግሪ እና ከዛ በላይ
ረ. ሌላ
4. ሞባይል ባንኪንግን ለምን ያህል ጊዜ ሲጠቀሙ ቆይተዋል?
ሀ. ሞባይል ባንኪንግ ቀደም ሲል ፈጽሞ ተጠቅሜ አላውቅም
ለ. ከ1-3 ዓመት
ሐ. ከ3-5 ዓመት
መ. ከ5-10 ዓመት
5. የትኞቹን የሞባይል ባንኪን ቻናሎች ነው የሚጠቀሙት?
ሀ. አንድሮይድ
ለ. አይፎን
ሐ. ዩኤስኤስዲ (*889#)
መ. ፈጽሞ ተጠቅሜ አላውቅም

ክፍል ሁለት፡ በሞባይል ባንኪንግ መተግበሪያዎች የተጠቃሚዎች አጠቃቀም ላይ ተጽእኖ የሚያስከትሉ ፋክተሮች የተያያዙ ጥያቄዎች

ለእያንዳንዱ ጥያቄ የሚስማሙበትን ወይም የማይስማሙበትን ደረጃ ለማመልከት ከ1-5ኛ ደረጃ ለሚያሳዩ ለሚከተሉት ጥያቄዎች በቁጥሩ የ(✓) ምልክት ያድርጉ፡፡

1=በጣም አልስማማም 2=አልስማማም 3=ገለልተኛ 4= እስማማለሁ 5=በጣም እስማማለሁ

ጥያቄዎች		1	2	3	4	5
የሚጠበቅ አፈፃፀም						
6	የሞባይል ባንኪንግ አገልግሎት በአለት ተአለት ህይወቴ ጠቃሚ ሆኖ አግኝቼዋለሁ፡፡					
7	የሞባይል ባንኪንግ አገልግሎት መጠቀም ምርታማነቴን ይጨምራል፡፡					
8	የሞባይል ባንኪንግ አገልግሎት መጠቀም በማከናወናቸው የባንክ ተግባራት ቅልጥፍናዬን ይጨምራል፡፡					
የሚጠበቅ ጥረት						
9	የሞባይል ባንኪንግ ሜኑዬ ናቪጌት ለማድረግ በጣም ቀላል ነው፡፡					
10	የሞባይል ባንኪንግ ሜኑዬ ለመረዳት በጣም ቀላል ነው፡፡					
11	ገንዘብ ለማስተላለፍ ወይም ማንኛውንም ክፍያ ለመፈፀም በጣም ቀላል ነው፡፡					
12	የትራንዛክሽን ዝርዝር ለማየት ቀላል ነው፡፡					
ማህበራዊ ተጽእኖ እና የአገልግሎት ሁኔታዎች						
13	ለእኔ ዋነኛ የሆኑ ሰዎች የሞባይል ባንኪንግ አገልግሎት መጠቀም እንዳለብኝ ያስባሉ፡፡					
14	ለአስተያየታቸው ዋጋ የምሰጣቸው ሰዎች ሞባይል ባንኪንግን እንድጠቀም ይመርጣሉ፡፡					
15	የሞባይል ባንኪንግ አገልግሎትን መጠቀም በስራ ከባቢዬ የደረጃ ምልክት ነው፡፡					
16	የሞባይል ባንኪንግ አገልግሎትን ለመጠቀም የሚያስፈልገው ሀብት አለኝ፡፡					

17	የሞባይል ባንኪንግ አገልግሎትን ለመጠቀም የሚያስፈልገው እውቀት አለኝ።					
18	የሞባይል ባንኪንግ አገልግሎትን በምጠቀምበት ጊዜ ችግር ሲያጋጥመኝ የሌሎችን እገዛ ማግኘት አቸላለሁ።					
ተስማሚነት						
19	የሞባይል ባንኪንግን መጠቀም መቆጣጠር እና ማስተዳደር ለምፈልገው ትራንዛክሽን በደንብ የሚያስማማ ነው።					
20	በሞባይል ስልክ አማካኝነት ሞባይል ባንኪንግ በምጠቀምበት ጊዜ በራስ መተማመን ይሰማኛል።					
ተነፃፃሪ ጥቅም (አርኬ)						
21	እንዴት እንደማደርግ የሚያሳዩኝ ሰው በሌለበት ቦታ እንኳን ሞባይል ባንኪንግ በመጠቀም በራስ መተማመን ይሰማኛል።					

22	ለማጣቀሻ ያለኝ ኦንላይን መመሪያ ብቻ ቢሆንም የሞባይል ባንኪንግ በመጠቀም በራሴ እተማመናለሁ።					
23	ለእገዛ ያለኝ ኦንላይን «እገዛ» ቢሆንም እንኳን የሞባይል ባንኪንግ በመጠቀም በራስ መተማመን ይሰማኛል።					
24	ትራንዛክሽን ለማጠናቀቅ በቂ ጊዜ ካለኝ የሞባይል ባንኪንግን በመጠቀም በራሴ እተማመናለሁ።					
የአመኔታ አመለካከት						
25	ሞባይል ባንኪንግ በምጠቀምበት ጊዜ የማደርገው ትራንዛክሽን ደህንነቱ የተጠበቀ መሆኑን አምናለሁ።					
26	የሞባይል ባንኪንግ በምጠቀምበት ጊዜ የግል መረጃዬ እንደሚጠበቅ አምናለሁ።					
27	የሞባይል ባንኪንግ አገልግሎት በአጠቃላይ ተግባራዊ ነው።					

