ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

ACCOUNTING AND FINANCE DEPARTMENT

FACTORS AFFECTING DIGITAL MONEY WALLET ADOPTION: THE CASE OF SELECTED USERS IN ADDIS ABABA

A THESIS SUBMITTED TO THE DEPARTMENT OF ACCOUNTING AND FINANCE IN PARTIAL FULLFILMENT OF THE REQUIRMENTS FOR MASTER OF SCIENCE DEGREE IN CORPORATE FINANCE

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DECLARATION

I declare that, this Master's thesis entitled "FACTORS AFFECTING DIGITAL MONEY WALLET ADOPTION: THE CASE OF SELECTED USERS IN ADDIS ABABA" is my original work prepared under the guidance of Dr. Mengistu Bogale. All sources of materials used in this thesis preparation have been duly acknowledged. I also declare that this paper has not been submitted either in part or in full to any other higher learning institution.

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APPROVAL SHEET

This is to Certify that the thesis prepared by Sagni Berhanu, entitled: "FACTORS AFFECTING DIGITAL MONEY WALLET ADOPTION: THE CASE OF SELECTED USERS IN ADDIS ABABA" submitted in partial fulfillment of the requirements for the degree of Master of Science in Corporate Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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List of Acronyms and Abbreviations

Acronym	*Full form*
UTAUT	Unified Theory of Acceptance and Use of Technology
TAM	Technology Acceptance Model
PE	Performance Expectancy
EE	Effort Expectancy
SI	Social Influence
FC	Facilitating Conditions
ANOVA	Analysis of Variance
SPSS	Statistical Package for the Social Sciences
N	Sample Size
SD	Standard Deviation

Abstract

This study explores the determinants of digital wallet adoption in Addis Ababa, Ethiopia, by integrating key demographic variables with constructs from the Unified Theory of Acceptance and Use of Technology (UTAUT). Using quantitative data collected through a structured questionnaire, the research investigates the main and moderating effects of age, gender, income, education, and technological literacy on adoption behavior. The UTAUT constructs—Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC)—are examined both as independent predictors and as moderators of demographic influences. The findings reveal that age, income, and technological literacy significantly affect adoption, while gender and education do not exhibit notable influence. Moreover, interaction effects suggest that PE and EE strengthen adoption likelihood among higher-income individuals and that FCs play a more prominent role for older users. With an R-squared value of 22.2%, the model offers a modest yet meaningful explanation of adoption behavior. The study contributes to the growing body of literature on financial technology uptake in developing urban contexts and offers actionable insights for developers, service providers, and policymakers. It concludes by emphasizing the importance of localized digital finance solutions, targeted support mechanisms, and further empirical inquiry into user behavior.

Key Words

Digital Wallet: A software application that Stores your payment information and purchase history

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CHAPTER ONE

1.1. Introduction

This chapter lays the groundwork for the study by providing a comprehensive introduction to the research topic. It begins with the background of the study, highlighting the emergence and growth of digital wallet technologies and their increasing relevance in Ethiopia's financial landscape. It also presents the problem statement, outlining the specific issue this research aims to address, particularly the role of demographic factors in influencing the adoption of digital wallets. The chapter also includes the research hypotheses and objectives that guide the direction of the study.

In addition, this chapter discusses the significance of the research in terms of its academic, practical, and policy-related contributions. It explains why the study matters and who may benefit from its findings. The scope and limitations of the study are also defined, establishing the boundaries and context within which the research was conducted. Overall, Chapter One serves as a roadmap for understanding the purpose, direction, and importance of the study.

1.2. Background of Study

In the fast-paced world of digital transformation, the financial services sector has seen a monumental shift towards digitalization. This transformation is primarily driven by the need for easier, safer, and more effective ways to handle personal finances and financial transactions. In this digital age, electronic wallets, or e-wallets, have become a key piece of technology that are fundamentally altering how people and companies conduct day-to-day financial transactions. (Mamun, 2021)

A digital wallet, or e-wallet, is a software-based platform that enables users to conduct electronic transactions seamlessly. Whether shopping online via a computer or making in-store purchases with a smartphone, digital wallets offer a convenient alternative to physical payment methods. They work by securely storing payment details, such as credit card information and passwords, allowing for quick and secure access across various websites and services (Ruseva, 2023).

With the advent of the internet and mobile computing, consumers began seeking alternatives to traditional banking and cash transactions that could match the speed and convenience of modern

digital life. The initial development of e-wallets was seen as a response to these demands, offering users the ability to store their payment information in a digital format and make payments without the need for physical cards or cash

As e-commerce expanded, the demand for efficient and secure online payment methods grew correspondingly. E-wallets answered this call by providing a platform that supported not only online shopping but also a variety of financial services, including peer-to-peer transfers, bill payments, and financial tracking. This convenience has been augmented by the integration of smartphones, turning these devices into personal finance hubs that connect various aspects of a user's financial life in one accessible, secure location. (Ridaryanto, 2021)

Despite these advantages and the conveniences, the use of digital payment services is much lower than expected in developing economies. In the rapidly evolving landscape of global digital finance, Addis Ababa stands at a critical juncture. The capital city, which is an economic hub, has seen a surge in financial technology driven by a combination of regulatory support and increasing smartphone penetration. Digital wallets, a cornerstone of this fintech revolution, are gaining traction as a means to facilitate transactions in a city where a significant portion of the economy still relies on cash. (Agwu, 2012)

The development of digital wallets marks a substantial technological advance over conventional financial transactions, which were mostly cash-based. Digital wallets emerged in the early 2000s, driven by advancements in online payment systems and encryption technologies designed to facilitate secure financial transactions. However, as mentioned above, the widespread adoption of smartphones over the last decade, along with increased internet penetration, has accelerated their use.

There appears to be a shift in the use of digital wallets toward increased capability and integration. When purchasing goods, people would rather pay with their mobile devices than with cash, credit cards, or debit cards (Carlsson et al., 2017). Since e-payments don't require cash, the mobile-based payments let users feel at ease (Pham and Ho, 2015) in addition to quickness and user-friendliness (Teo et al., 2015). The emergence of mobile payments has been made possible by these benefits (Merritt, 2011).

Modern digital wallets are no longer limited to facilitating payments—they are increasingly transforming into management tools. These platforms now offer capabilities such as linking multiple bank and investment accounts, delivering real- comprehensive financial time spending alerts, and supporting personal budgeting. Public awareness is steadily growing regarding the broader economic advantages of mobile payments, especially as they tend to incur significantly lower costs compared to traditional cash-based systems and conventional card transactions (Mallat, Rossi, & Tuunainen, 2004).

1.3. Statement of the Problem

Ideally, the adoption of digital wallet technologies in emerging economies like Ethiopia should be driven by the pressing need for accessible, secure, and inclusive financial services. Theoretical models such as the Unified Theory of Acceptance and Use of Technology (UTAUT) suggest that constructs like performance expectancy, effort expectancy, social influence, and facilitating conditions—alongside demographic factors such as age, gender, income, and education—should predict technology adoption behavior with reasonable accuracy. In well-studied contexts, these models have been used to inform targeted interventions and improve financial inclusion.

However, in the context of Addis Ababa, there exists a notable gap between this ideal framework and the actual state of adoption. Despite growing access to mobile technology and financial innovations, a significant portion of the population remains unbanked or underbanked, and digital wallet usage remains far below its potential. Existing literature on digital financial services in Ethiopia often focuses on infrastructure, regulatory issues, or general adoption patterns, but offers limited empirical evidence on how demographic variables specifically influence digital wallet adoption. Furthermore, public awareness and understanding of digital wallets remain low, complicated by language barriers, low digital literacy, and insufficient localization in implementation strategies.

This study aims to fill this critical gap by examining how demographic factors influence the adoption of digital wallets in Addis Ababa, using the UTAUT model as a guiding framework. The results are expected to contribute to the growing body of literature on digital wallet adoption in

developing economies while offering practical recommendations for increasing financial inclusion through digital channels.

1.4. Objectives of The Study

1.4.1. General Objective

The general objective of this study is to determine the influence of demographic factors on the adoption of digital wallet services in Addis Ababa. The study aims to identify which demographic variables play a significant role in shaping user behavior and decision-making regarding digital wallet usage.

1.4.2. Specific Objectives

This study aims to:

- Assess the effects of demographic factors such as age, gender, technological literacy, income, and employment status on the adoption of digital wallets.
- Identify which demographic factors are most influential in the decision to adopt digital wallets.
- Provide recommendations for digital wallet providers on how to better tailor their products to meet the diverse needs of potential users

1.5.Research Hypotheses

Given the unique socioeconomic landscape of Addis Ababa and based on the study objectives, this study puts forward the following hypotheses:

- **Age Hypothesis (H1)**: Age has a significant effect on the adoption of digital wallet payments.

  Rationale: Research indicates that younger individuals are more likely to adopt new technologies, including digital payment methods, due to higher technological literacy and openness to new experiences (Mugambe, 2017).
- **Gender Hypothesis (H2):** Gender has a significant effect on the adoption of digital wallet payments.

  Rationale: Studies have shown gender differences in technology adoption, with men generally more inclined to adopt new technologies due to perceived higher usefulness and

ease of use. However, social influences and security concerns may affect women's adoption rates (Lwoga & Lwoga, 2017).

- **Income Hypothesis (H3):** Income has a significant effect on the adoption of digital wallet payment services.

  Rationale: Higher income levels are often associated with greater access to the necessary infrastructure for digital payments and a higher perceived usefulness of such technologies due to more frequent financial transactions (Padiya & Bantwa, 2018).
- **Education Hypothesis (H4):** Education has a significant effect on the adoption of digital wallet payments.

  Rationale: Individuals with higher education levels are more likely to adopt digital wallets as they tend to have higher technological literacy and better understand the benefits of using such payment methods (Nikou & Economides, 2017).
- **Technological Literacy Hypothesis (H5):** Technological Literacy has a significant effect on the adoption of digital wallet payments.

  Rationale: Higher levels of technological literacy are strongly associated with the adoption of digital wallets. Individuals who are more comfortable with technology are more likely to perceive digital wallets as easy to use and useful (Phan et al., 2020).

1.6.Significance of Study

The findings of this study will offer valuable insights for technology developers, marketers, and policymakers. By understanding the demographic determinants of digital wallet adoption, strategies can be developed to increase the penetration and usage of digital wallets, thus enhancing financial inclusivity and the efficiency of economic transactions in the digital age.

1.7.Scope of the Study

The scope of this study is centered on assessing the impact of various demographic factors on the adoption of digital wallets among residents of Addis Ababa, Ethiopia. Age, gender, income, education, and technological literacy are some of these variables. The study concentrates on Addis Ababa, a fast rising African city, to examine the adoption patterns of digital wallets in urban areas. In order to collect quantitative data for this project, surveys will be used. This will enable a thorough knowledge of the fundamental causes of adoption rates.

1.8.Limitation of the Study

The following are the main limitations of this study:

1. **Geographical Limitations:** As the study is confined to Addis Ababa, the findings may not be generalizable to other cities in Ethiopia or other African countries with different economic, cultural, or technological landscapes.
2. **Demographic Focus:** While the study focuses on specific demographic factors, there may be other variables such as cultural attitudes, personal experiences with technology, or even macroeconomic factors that could influence digital wallet adoption but are not covered in this research.
3. **Response Bias**: In surveys and interviews, there is always the potential for response bias, where participants may not fully disclose their true feelings or behaviors, either due to misunderstanding questions or desiring to present themselves in a favorable light.
4. **Data Collection Limitations:** The quality and reliability of the data collected might be influenced by the sample size, the method of data collection, and the participants' willingness to participate, which can impact the robustness of the study's conclusions.

1.9.Organization of the Paper

This thesis is organized into five chapters.

- **Chapter One** introduces the study by providing background information, identifying the research problem, stating the objectives and research questions, and explaining the significance and scope of the research.
- **Chapter Two** presents a review of the relevant literature and theoretical framework, including key concepts related to digital wallet adoption and demographic influences.
- **Chapter Three** describes the research methodology, including the research design, sampling techniques, data collection tools, and methods of analysis.
- **Chapter Four** presents the data analysis and research findings, accompanied by discussion and interpretation.
- **Chapter Five** concludes the thesis by summarizing the findings, drawing conclusions, offering recommendations, and suggesting areas for future research.

CHAPTER TWO

Literature Review

2.1. Introduction

The advent of digital wallets has significantly transformed the landscape of financial transactions globally. As a result, understanding the factors that influence their adoption has become a critical area of research. Digital wallets, or e-wallets, offer a seamless, secure, and efficient way to store payment information and conduct financial transactions without the need for physical cash or cards. These attributes have made digital wallets particularly attractive in the digital age, where convenience and speed are highly valued.

Research consistently shows that digital wallets have the potential to advance financial inclusion, especially in areas where traditional banking services are scarce. By offering access to essential financial tools, digital wallets can empower unbanked and underbanked individuals, fostering greater economic participation and helping to bridge inequality gaps (Ruseva et al., 2023). However, realizing these benefits depends on addressing the unique challenges and enablers that influence adoption in different contexts.

This literature review seeks to critically examine the factors that shape digital wallet adoption, with a particular emphasis on diverse demographic groups within Addis Ababa. By integrating insights from both global research and local case studies, the review aims to build a nuanced picture of the digital payment ecosystem. It will highlight existing knowledge, uncover research gaps, and propose avenues for further investigation. Ultimately, the goal is to inform more targeted and effective strategies that support digital financial inclusion and harness mobile payment tools to drive inclusive economic growth in Addis Ababa.

2.2. Theoretical Review

The theoretical framework forms the backbone of this study, guiding the analysis of the factors that influence digital wallet adoption across various demographic groups. Central to this framework are two established models from the technology acceptance literature: the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). These models serve as essential lenses through which user behavior can be examined,

offering a structured understanding of the key variables—such as perceived usefulness, ease of use, social influence, and facilitating conditions—that drive or hinder the adoption of digital financial technologies.

2.2.1. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis in 1989, is a foundational theory in the field of information systems that sheds light on how individuals decide to adopt and engage with new technologies. At its core, TAM highlights two essential elements – perceived usefulness (PU) and perceived ease of use (PEOU) – as key predictors of a person's intention to use a particular technology. These perceptions ultimately shape whether the technology will be utilized in practice. When it comes to digital wallets, PU and PEOU repeatedly emerge as influential drivers of user adoption.

1. **Perceived usefulness**

Perceived usefulness (PU) is the extent to which a person thinks that utilizing a specific system would improve their performance at work. It is based on the notion that people are more willing to embrace technology if they believe it will help them accomplish particular objectives or enhance their performance on jobs they consider significant (Davis, 1989).

A key element of the TAM model, PU has been repeatedly demonstrated to be a reliable indicator of both technology adoption and user approval. It directly affects users' behavioral intention (BI) to utilize a technology and represents their subjective evaluation of its usefulness.

Determinants of PU:

- **Job Relevance:** The extent to which the technology is applicable to the user's job tasks (Venkatesh & Davis, 2000).
- **Output Quality:** The degree to which the system performs tasks well (Venkatesh & Davis, 2000).
- **Result Demonstrability:** The clarity with which users can see the results of using the technology (Moore & Benbasat, 1991).
- **Perceived Enjoyment:** The intrinsic satisfaction users get from using the technology, which can indirectly affect PU (Igbaria et al., 1996).

2. Perceived ease of use

Perceived ease of use (PEOU) refers to how effortless a user believes it would be to operate a particular systm. In essence, it captures the user's expectation regarding the complexity or simplicity of interacting with the technology. This perception is vital, as even a highly beneficial tool may be rejected if it seems too hard to use.

Notably, PEOU doesn't just impact adoption directly; it also shapes perceived usefulness (PU). When users find a system intuitive and straightforward, they are more likely to recognize its value, as minimal effort increases efficiency and reduces frustration. Consequently, technologies perceived as easier to navigate are more readily accepted.

Several factors influence PEOU:

Determinants of PEOU:

- **Self-Efficacy:** Confidence in one's ability to use the system effectively (Compeau & Higgins, 1995).
- **Perceived Control:** The sense of autonomy and control a user feels when using the system (Venkatesh, 2000).
- **System Characteristics:** Design elements like interface simplicity, responsiveness, and accessibility play a major role (Venkatesh & Davis, 2000).
- **Experience:** Familiarity with similar tools can make new systems feel less daunting and more manageable (Igbaria et al., 1996).

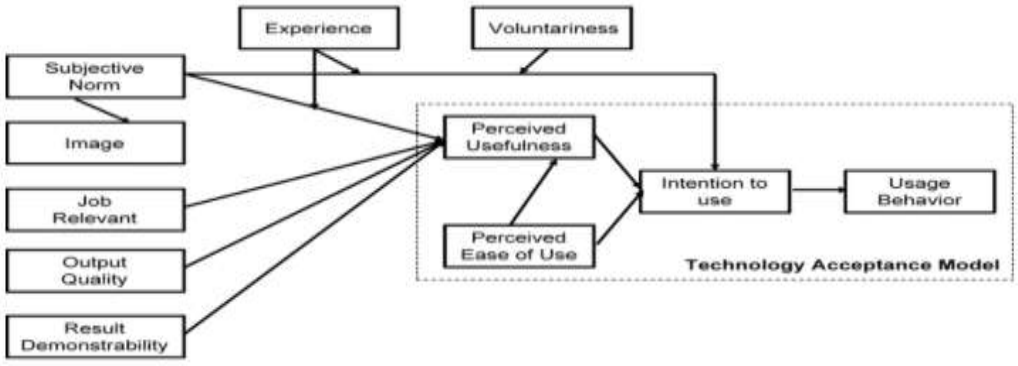

Fig. 2.1 Technology Acceptance Model (TAM)

Over time, the Technology Acceptance Model (TAM) has evolved to enhance its ability to explain technology adoption by incorporating additional constructs. TAM2, developed by Venkatesh and Davis (2000), introduced elements such as cognitive instrumental processes and social influence mechanisms, broadening the model's scope beyond individual perceptions. Later, TAM3, proposed by Venkatesh and Bala (2008), further extended the framework by integrating factors related to social influence, system design features, individual differences, and facilitating conditions.

The robustness of TAM has been supported by extensive empirical validation across diverse technologies and contexts. For example, Gefen et al. (2003) demonstrated the model's applicability in the domain of e-commerce, while Adams et al. (1992) confirmed its consistency and predictive power across various organizational environments.

2.2.2. Unified Theory of Acceptance and Use of Technology (UTAUT)

Venkatesh et al. (2003) created the Unified Theory of adoption and Use of Technology (UTAUT), which incorporates components from eight well-known models of technology adoption, such as the Motivational Model, the Theory of Planned Behavior (TPB), and the Technology Acceptance Model (TAM). Four major constructs are identified by UTAUT as influencing user acceptability and usage behavior:

1. **Performance Expectancy (PE):** This concept, closely aligned with perceived usefulness in TAM describes the belief that using a particular technology will enhance one's performance or efficiency, especially in work-related tasks. According to Venkatesh et al. (2003), PE is consistently found to be the most powerful predictor of whether someone intends to adopt a new technology.
2. **Effort Expectancy (EE):** Mirroring the idea of perceived ease of use (PEOU), EE refers to how easy an individual believes the system will be o operate. It plays a crucial role in shaping user intention particularly at the early stages of interaction with new technologies (Venkatesh et al., 2003).
3. **Facilitating Conditions (FC):** FC captures the user's perception of the support environment – both technical and organizational – available to help them use the system. This includes factors from several earlier models such as the Theory of Planned Behavior (TPB), Innovation Diffusion Theory (IDT), and the Model of PC Utilization (MPCU), making it a robust indicator of actual technology use (Venkatesh et al., 2003).

4. **Social Influence (SI):** SI refers to the perceived pressure or encouragement from significat others, peers, supervisors, or societal norms to use a specific technology. It draws from the subjective technology. It draws from the subjective norm construct in TPB and tends to have a stronger impact in situations where technology use is (Venkatesh et al., 2003).

By adding new elements like social impact and enabling circumstances, the UTAUT model expands on the TAM and offers a more thorough framework for comprehending technology adoption by taking contextual and external influences into account. In 2003, Venkatesh et al.

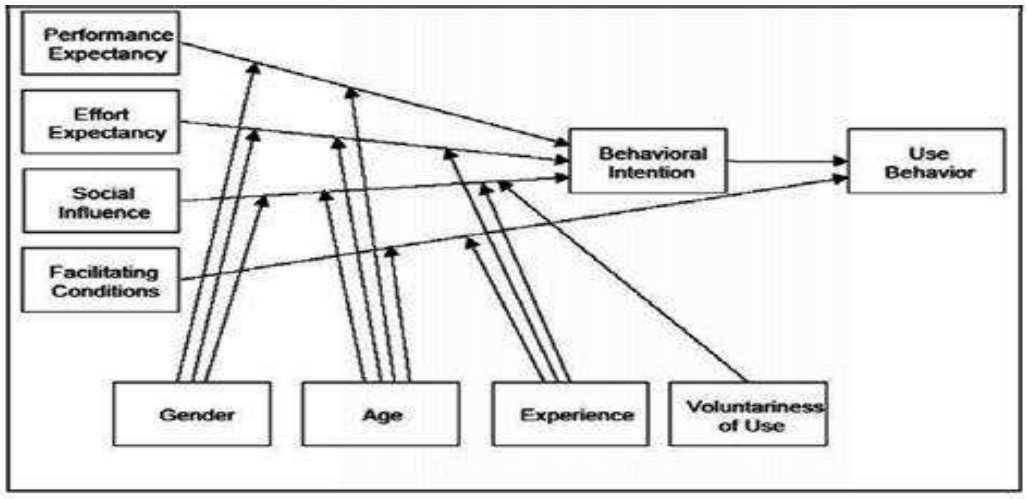

Fig. 2.2 Unified Theory of Acceptance and Use of Technology (UTAUT)

2.3.Empirical Review

Empirical research on digital wallet adoption reveals diverse patterns and drivers that vary across different regions and demographic groups. This section reviews existing studies that have empirically tested the theoretical models introduced earlier. In particular, attention is given to research conducted in both developing and developed economies, as these studies provide critical insights into the barriers and facilitators of digital wallet adoption. Studies in developing economies, for example, highlight issues such as trust, security, and accessibility, which continue to affect adoption rates despite increasing mobile and internet penetration (Agwu, 2012; Chawla & Joshi, 2020).

Additionally, the impact of demographic variables, such as age, income, and education, is explored to understand how these factors influence adoption behavior in various contexts (Venkatesh et al.,

2012). The empirical review will help contextualize these findings within the Addis Ababa market, offering a comprehensive view of the key factors driving digital wallet adoption.

2.3.1. Empirical Studies on TAM

The Technology Acceptance Model (TAM), developed by Davis (1989), has been widely applied in empirical studies across various contexts to examine user acceptance of technology. TAM emphasizes two primary factors—perceived usefulness (PU) and perceived ease of use (PEOU)—that determine the likelihood of a user adopting a particular technology. Empirical studies have consistently validated these constructs across numerous domains, including digital payment systems.

For instance, a study by Phan and Daim (2011) examined the adoption of mobile banking services using TAM and found that PU and PEOU were significant predictors of adoption. Their study, conducted in the U.S., revealed that users adopted mobile banking services because they perceived them as useful for simplifying financial transactions, and the ease of use encouraged greater uptake. This supports the relevance of TAM in digital wallet adoption, as these services similarly provide enhanced convenience and streamlined processes.

Additionally, Alalwan et al. (2017) explored the adoption of mobile banking services in Jordan, applying TAM alongside other models like the Theory of Planned Behavior. Their study showed that PU had the strongest effect on adoption intention, followed by PEOU. Interestingly, they also found that trust played a moderating role, suggesting that while users found mobile banking useful and easy to use, concerns over security could influence their decision-making process. This is highly relevant to the context of digital wallet adoption, especially in developing economies where trust in digital financial systems can be a critical barrier.

In the context of Sub-Saharan Africa, empirical research by Mlitwa and Masele (2017) applied TAM to study mobile payment adoption in Tanzania. Their findings indicated that perceived usefulness was the dominant factor driving adoption, with users emphasizing the utility of mobile payments in facilitating daily financial transactions. However, they also noted that perceived ease of use was less critical in their setting, as many users were already familiar with mobile technology, particularly in urban areas. This suggests that in environments where mobile penetration is high, the relative importance of PEOU may diminish, while PU remains central.

In another study in Africa, Ibrahim et al. (2019) studied the adoption of mobile payment systems in Nigeria, applying TAM. They found that PU was the dominant factor influencing adoption, but they also highlighted the importance of perceived compatibility, which refers to how well the technology fits within users' existing lifestyle and needs. This is particularly relevant for digital wallet adoption in Addis Ababa, where users' lifestyles and financial behaviors may significantly influence adoption decisions.

A global perspective on the adoption of digital wallets is provided by Chawla and Joshi (2020), who applied the Technology Acceptance Model (TAM) to study mobile wallet adoption in India. Their findings affirmed that perceived usefulness (PU) and perceived ease of use (PEOU) were critical determinants of users' decisions to adopt mobile payment services. However, they also emphasized that trust and security played a significant moderating role, suggesting that while factors like usefulness and ease of use are important, concerns about security can heavily influence users' decisions, particularly when it comes to financial transactions.

Similarly, Jaradat and Faqih (2014) applied TAM to explore mobile commerce adoption in Jordan. Their study found that PU and PEOU were strong predictors of users' behavioral intentions to adopt mobile commerce services, reinforcing the core tenets of TAM. They also identified perceived risk as an external factor that negatively impacted adoption, highlighting the significance of security concerns—an issue that is highly relevant to digital wallet adoption, where trust and security are often the primary barriers to acceptance.

These empirical findings collectively indicate that TAM provides a useful framework for understanding the adoption of digital wallets. While PU consistently emerges as the strongest predictor, factors such as trust and the technological familiarity of users can moderate the influence of PEOU. This is especially important for developing countries like Ethiopia, where mobile technology is becoming more prevalent, but concerns over security and privacy persist.

2.3.2. Empirical Studies on UTAUT

The Unified Theory of Acceptance and Use of Technology (UTAUT), introduced by Venkatesh et al. (2003), builds upon the foundational Technology Acceptance Model (TAM) by incorporating additional constructs such as social influence, facilitating conditions, and performance expectancy (similar to perceived usefulness). This expanded framework provides a more holistic

understanding of technology adoption, particularly in socially and contextually complex environments.

In their influential study, Venkatesh et al. (2012) extended UTAUT to UTAUT2 to investigate consumer acceptance of mobile internet services. Their findings revealed that performance expectancy, analogous to perceived usefulness in TAM, was the most significant predictor of users' behavioral intention to adopt mobile internet services. Moreover, social influence was found to be a key factor, particularly among younger users, underlining the critical role of peer and societal opinions in shaping adoption behaviors. This finding is especially pertinent for developing countries like Ethiopia, where social norms and community influence can strongly impact individual decisions to adopt new technologies.

Similarly, Slade et al. (2015) applied UTAUT to study mobile payment adoption in the UK. Their study confirmed the significance of performance expectancy and social influence, but also found that habit—a construct introduced in UTAUT2—was a significant predictor of mobile payment adoption. This suggests that users who have already adopted mobile payments or similar technologies are more likely to continue using these services, a factor that could impact the spread of digital wallets in Addis Ababa as people become more accustomed to using digital financial services.

In another study, Im et al. (2011) tested UTAUT in the context of mobile banking services in Korea. Their findings showed that facilitating conditions, such as the availability of supporting infrastructure (e.g., reliable internet), were crucial for technology adoption. Moreover, effort expectancy (equivalent to ease of use) was a key determinant of mobile banking adoption. This finding underscores the importance of ease of use in settings where users may not be highly tech-savvy, a consideration that may apply to certain demographic groups in Addis Ababa.

In the financial services sector, Martins et al. (2014) applied UTAUT to examine internet banking adoption in Portugal. Their study highlighted the significant role of performance expectancy, social influence, and facilitating conditions in predicting adoption. Performance expectancy, in particular, was found to be the strongest determinant, aligning with previous findings in TAM-based studies. Facilitating conditions, such as the availability of secure and reliable internet access, also played a critical role, underscoring the importance of infrastructure in digital service adoption.

This has direct relevance for digital wallet adoption in Addis Ababa, where infrastructure and access to technology may vary across demographic groups.

Further supporting the relevance of UTAUT, a study by Zhou et al. (2010) investigated mobile payment adoption in China. They found that all four UTAUT constructs—performance expectancy, effort expectancy, social influence, and facilitating conditions—significantly influenced adoption intention. Social influence was particularly strong, indicating that users' perceptions of others' opinions played a crucial role in their decision to adopt mobile payment services. This finding is particularly relevant to the context of Ethiopia, where societal norms and peer influence may strongly affect technology adoption decisions, especially in younger populations.

In a developing economy context, Baptista and Oliveira (2015) applied UTAUT to investigate mobile banking adoption in Mozambique. Their study revealed that while performance expectancy was the strongest predictor, facilitating conditions were also critical. Interestingly, they found that social influence had a weaker effect compared to performance expectancy and facilitating conditions, which they attributed to the lower level of peer usage of mobile banking services in Mozambique at the time. This indicates that while social influence can be a powerful determinant in some settings, its importance may vary depending on the level of technology diffusion within a given society.

Empirical research by Thomas et al. (2016) explored the adoption of mobile wallets in India using UTAUT. Their study revealed that performance expectancy and facilitating conditions were the most influential factors, with users emphasizing the importance of secure and reliable infrastructure. The study also noted that effort expectancy, though significant, was less influential, as many users were already accustomed to mobile technology.

These findings suggest that while ease of use is important, the primary concern for users lies in the benefits and practicality of the technology, particularly in terms of financial convenience and security. These insights can help in developing targeted strategies to enhance adoption rates across diverse demographic groups.

2.4. Research Gap and Importance of This Research

Despite the increasing body of research on the adoption of digital wallets using both the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), there remain several critical gaps in the literature that this study aims to address.

1. **Limited Focus on Demographic Variability in Developing Economies:** Most studies on digital wallet adoption have been conducted in developed economies (Slade et al., 2015; Baptista & Oliveira, 2016), where access to technology and financial services is more ubiquitous. However, the adoption dynamics in developing economies, particularly in Africa, have been relatively underexplored (Ibrahim et al., 2019). Few studies focus on how demographic factors, such as age, education, income, and gender, influence adoption in cities like Addis Ababa, where infrastructural limitations and socio-economic factors could play a significant role.
2. **Integration of UTAUT in the African Context:** While UTAUT has been applied in numerous global contexts, its application in Sub-Saharan Africa remains limited. Most studies that have applied UTAUT focus on Asian and Western markets (Venkatesh et al., 2012; Im et al., 2011), leaving a gap in understanding how its constructs (e.g., performance expectancy, social influence, and facilitating conditions) function in African markets where socio-economic conditions differ significantly.
3. **Scarcity of Longitudinal and Comprehensive Studies:** Many existing studies on digital wallet adoption tend to be cross-sectional, analyzing data at a single point in time (Chawla & Joshi, 2020). This limits the ability to observe how adoption patterns evolve as users become more familiar with the technology or as the technological and regulatory environment shifts. Longitudinal studies that track changes over time are necessary to provide a more comprehensive understanding of how digital wallet adoption develops in response to changes in infrastructure and consumer behavior.
4. **Need for Empirical Research on Regulatory and Cultural Barriers:** Existing literature emphasizes factors such as perceived ease of use and perceived usefulness, but there is limited empirical exploration of regulatory and cultural barriers to digital wallet adoption, particularly in Ethiopia. Baptista and Oliveira (2016) noted that regulatory frameworks can

significantly impact technology adoption, but few studies delve into this in developing contexts where legal and financial systems may be less developed.

Given these research gaps, this study on the factors affecting digital wallet adoption in Addis Ababa, focusing on demographic influences, is timely and necessary. By addressing these gaps, the study aims to offer a more nuanced understanding of the adoption process in developing economies, thereby contributing valuable insights that could guide policymakers and technology developers.

The importance of this study lies in its potential to inform both academic literature and practical applications regarding digital wallet adoption in emerging economies, particularly in Africa. Understanding the role of demographic factors in the adoption process will allow for more targeted interventions by governments and financial institutions, fostering greater financial inclusion. In Addis Ababa, where cash-based transactions still dominate, identifying key demographic predictors can help drive strategies to increase adoption, ultimately contributing to the city's economic modernization and alignment with global financial practices.

2.5. Conceptual Framework and Model Justification

The Unified Theory of Acceptance and Use of Technology (UTAUT) is integrated into the conceptual framework of this study to examine how demographic variables influence key constructs—namely performance expectancy, effort expectancy, social influence, and facilitating conditions. This model provides a comprehensive lens for understanding technology adoption behaviors by accounting for both individual and contextual influences. In the context of developing countries like Ethiopia, additional factors such as trust in financial institutions and the presence of governmental support are also included in the framework, as they play a critical role in shaping users' willingness to adopt digital wallets. These context-specific variables enrich the UTAUT model, making it more relevant for analyzing adoption dynamics in emerging markets.

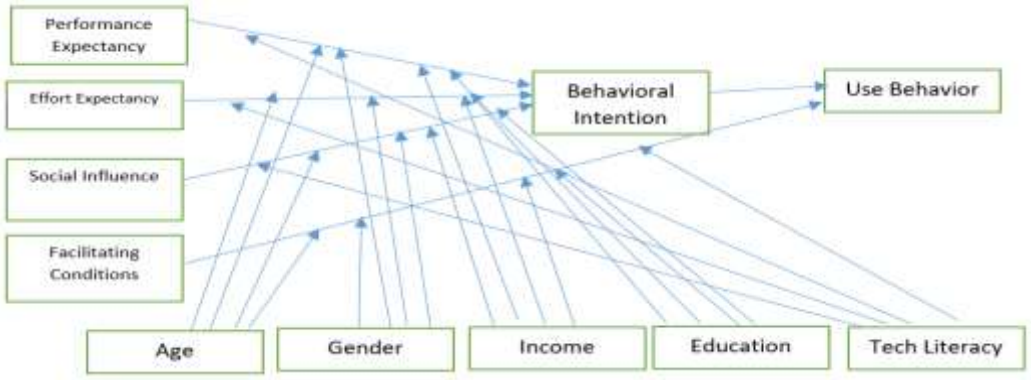

Fig. 2.3 Conceptual Framework

1. **Demographic Factors**

- **Age:** Older users might perceive digital wallets as more challenging to use due to lower levels of technological familiarity, affecting effort expectancy (Malaquias & Hwang, 2016). Younger users may have higher performance expectations due to their frequent.
- **Gender:** Prior research shows that men and women often differ in their adoption behaviors, with men more likely to adopt new technologies for convenience, while women may emphasize social influence and trust (Venkatesh et al., 2012).
- **Education Level:** Users with higher educational attainment are likely to perceive the technology as easier to use and may have higher performance expectancy (Im et al., 2011).
- **Income:** Higher income levels are often associated with increased adoption rates due to better access to smartphones and digital infrastructure, influencing facilitating conditions (Baptista & Oliveira, 2016).
- **Technological literacy:** Individuals with higher technological literacy are more likely to to perceive the technology as beneficial and easy to grasp (Compeau & Higgins, 1995). Technological literacy directly influences the key constructs of the UTAUT model, such as performance expectancy, effort expectancy, and facilitating conditions.

2. **Performance Expectancy**

This construct, borrows from UTAUT, refers to the degree to which individuals believe that using digital wallets will help them achieve benefits such as faster payments or more efficient financial management (Venkatesh et al., 2003). For higher-income users in Addis Ababa, digital wallets may be seen as enhancing convenience, while for lower-income groups, it might be perceived as a necessary tool for financial inclusion, which is still underexplored in the literature.

3. Effort Expectancy

This construct, which refers to how user-friendly people think technology is, is impacted by demographic variables including age and educational attainment. The simplicity of use becomes a crucial determinant of adoption for older users or those with lower educational attainment (Slade et al., 2015). In Addis Ababa, where digital literacy differs greatly among various socioeconomic classes, effort expectancy is essential.

4. Social Influence

The degree to which people perceive that others who matter to them think they should use the technology is examined by social influence. Peer and community impacts are important in Addis Ababa, especially for women and younger users (Alalwan et al., 2017). In situations where digital payments are still relatively new, social influence is more noticeable since people base their decisions on the beliefs and actions of others.

5. Facilitating Conditions

This construct refers to the availability of resources and support required to use the technology, such as internet access, smartphone availability, and customer support from financial institutions (Venkatesh et al., 2012). In the context of Addis Ababa, the quality of telecommunication infrastructure and support systems from banks and mobile operators are critical facilitating conditions. Prior research has shown that poor infrastructure can be a significant barrier to technology adoption in developing economies (Im et al., 2011).

6. Trust and Regulatory Support

Trust in digital financial services and the regulatory environment are key external variables influencing adoption. In many African countries, including Ethiopia, users may hesitate to adopt digital wallets due to concerns over security, privacy, and fraud (Baptista & Oliveira, 2016). Moreover, the role of government policies and regulations can either promote or hinder the adoption of such services (Ibrahim et al., 2019). This study incorporates these factors to reflect the local context of Addis Ababa, where regulatory frameworks are still evolving.

2.5.1. Justification for the Conceptual Framework

- **Compatibility with the UTAUT Model:** The UTAUT model, which emphasizes key constructs like performance expectancy, effort expectancy, social influence, and facilitating conditions, has been rigorously validated in various studies across diverse settings (Venkatesh et al., 2012; Alalwan et al., 2017). These core elements make the model highly applicable for analyzing digital wallet adoption in Addis Ababa, where socio-economic and infrastructural conditions diverge significantly from those found in more developed economies. By focusing on these critical factors, the UTAUT framework can effectively capture the unique challenges and opportunities that influence digital wallet adoption in an emerging market context.
- **Demographic Factors as Key Determinants:** This study introduces demographic variables (age, gender, education, income) as independent factors that influence the core constructs of UTAUT. This approach aligns with previous research that has demonstrated the importance of demographic factors in shaping technology adoption behaviors (Im et al., 2011; Malaquias & Hwang, 2016). For instance, older users may experience greater difficulty in using digital wallets, which affects their effort expectancy, while younger users are more influenced by social trends.
- **Trust and Regulatory Factors:** The inclusion of trust and regulatory support addresses the specific challenges faced in developing economies like Ethiopia. Studies have shown that trust is a critical factor in the adoption of mobile financial services in countries with less developed financial systems (Ibrahim et al., 2019; Baptista & Oliveira, 2016). Additionally, the regulatory environment can either support or stifle the growth of digital wallets, making it a necessary addition to the model for this study.
- **Relevance to Addis Ababa's Context:** The adoption of digital wallets in Addis Ababa is influenced by unique socio-economic and infrastructural factors, such as varying levels of digital literacy, income disparities, and uneven access to reliable internet. By incorporating these elements into the conceptual framework, this study provides a more comprehensive understanding of the adoption process, which can inform both academic research and practical interventions aimed at increasing adoption rates.

In examining the factors influencing the adoption of digital wallets, the Unified Theory of Acceptance and Use of Technology (UTAUT) serves as a comprehensive framework. UTAUT

integrates elements from various previous models, including the Technology Acceptance Model (TAM), Diffusion of Innovations, and the Theory of Planned Behavior. UTAUT is particularly suited for understanding technology adoption across different user demographics as it incorporates key constructs like performance expectancy, effort expectancy, social influence, and facilitating conditions, which influence user behavior toward technology adoption.

The UTAUT model's focus on external factors like facilitating conditions (e.g., access to resources and infrastructure) and social influence makes it highly relevant for understanding digital wallet adoption. In a rapidly growing city such as Addis Ababa, where digital finance is still in its early stages, these factors are likely to have a significant impact on the rates at which people adopt such technologies. By incorporating demographic variables—such as age, education, income, and smartphone usage—alongside key constructs like performance expectancy and effort expectancy, UTAUT offers a comprehensive framework for examining the dynamics of technology acceptance in this context.

The decision to adopt UTAUT rather than other models, such as the Technology Acceptance Model (TAM), is driven by its broader scope. While TAM primarily focuses on perceived usefulness and ease of use, UTAUT's inclusion of additional predictors, like social influence, provides a more holistic approach. In the Addis Ababa context, where social norms and peer influence are pivotal, understanding how individuals are influenced by their social circles is essential to explaining adoption behaviors (Venkatesh et al., 2012).

Furthermore, UTAUT's incorporation of facilitating conditions adds another layer of insight, highlighting how factors like infrastructure availability—smartphone access, internet connectivity, and other technological resources—can shape the adoption process. This is particularly relevant in a developing economy like Ethiopia, where access to such resources may vary significantly across different demographic groups (Venkatesh et al., 2003).

CHAPTER THREE

Research Methodology

3.1. Introduction

This study is centered on understanding the factors that influence digital wallet adoption among different demographic groups in Addis Ababa. As digital wallets become increasingly integrated into financial systems, especially in developing countries, it becomes crucial to examine the extent to which demographic characteristics such as age, gender, income, education, and technological literacy shape adoption behaviors. By focusing on the local context of Addis Ababa, the research seeks to provide insights that are both relevant and actionable for policymakers, financial institutions, and technology providers aiming to expand digital financial inclusion.

To address the research objectives, this chapter outlines the methodological framework employed in the study. A quantitative research approach was selected to allow for the collection and analysis of measurable data across a large population. The chapter details the overall research design, which includes the use of structured questionnaires to gather primary data. The survey instrument was designed around the constructs of the Unified Theory of Acceptance and Use of Technology (UTAUT), which served as the basis for understanding behavioral patterns and evaluating the moderating role of demographic variables.

In addition, the chapter describes the sampling techniques used to ensure representativeness, the process of administering the questionnaire, and the statistical tools applied in data analysis. Stratified random sampling was employed to ensure diverse demographic representation, and descriptive and inferential statistics were used to interpret the findings. Special emphasis is placed on reliability testing and model validity to guarantee the robustness of the results. Overall, this chapter provides a comprehensive overview of the methodological steps taken to investigate the demographic factors influencing digital wallet adoption in Addis Ababa.

3.2. Research Design

This study adopts a descriptive and explanatory research design to understand the factors affecting digital wallet adoption among various demographic groups in Addis Ababa. The descriptive design is used to provide a detailed account of the current state of digital wallet usage and demographic characteristics of the sample population. This helps in documenting the patterns, attitudes, and behaviors related to digital wallet adoption, thereby offering a clear overview of the phenomenon under study (Saunders et al., 2016).

On the other hand, the explanatory design is applied to investigate the relationships between different variables, particularly demographic factors (such as age, gender, income, education, and technological literacy) and their influence on the adoption of digital wallets. By utilizing this design, the study seeks to explain how and why these demographic factors influence the behavioral intention to adopt digital wallets, based on the constructs of the UTAUT model. This is done by examining the causal relationships through hypothesis testing, facilitated by statistical methods such as regression analysis (Creswell, 2014). The combination of descriptive and explanatory research designs ensures that the study provides both a comprehensive overview of the adoption patterns and a deeper understanding of the underlying relationships between variables.

3.2.1. Justification for Research Design

The descriptive design in this study is essential for providing a detailed and structured account of the current state of digital wallet adoption in Addis Ababa. In a developing economy like Ethiopia, where adoption trends may differ from more developed markets, descriptive research offers the opportunity to capture the characteristics and behaviors of users in this specific context (Venkatesh et al., 2012). It helps identify patterns of digital wallet usage, as well as the demographic factors that may influence adoption, making it a key approach for understanding the present scenario.

The explanatory design is equally important because it allows the study to explore and explain the impact of demographic factors on the adoption of digital wallets. By using the UTAUT model (Venkatesh et al., 2003) as a theoretical framework, the research can test the relationships between constructs such as performance expectancy, effort expectancy, and social influence. The explanatory approach enables the use of quantitative methods to establish statistically significant

relationships, providing deeper insights into the dynamics that drive technology adoption in Addis Ababa.

Together, the use of descriptive and explanatory designs ensures a comprehensive research approach. The descriptive design provides a snapshot of adoption patterns, while the explanatory design offers an understanding of the underlying factors that influence these patterns. This combination strengthens the research, making it both practically relevant for businesses and policymakers and academically robust by contributing to the broader body of knowledge on technology adoption in developing economies.

3.3. Research Approach

This study adopts a quantitative research approach to examine the relationship between demographic factors and the adoption of digital wallets in Addis Ababa. The choice of a quantitative method is well-suited for this research as it allows for the systematic measurement of variables and provides a framework for statistical analysis. This approach facilitates the testing of hypotheses and helps to assess the impact of various demographic factors on the adoption of digital wallets. Additionally, quantitative research enables the generalization of findings to a larger population, enhancing the applicability and relevance of the results.

Quantitative research is commonly employed in technology adoption studies because it allows for the collection of data through standardized instruments, such as surveys. These instruments can be analyzed statistically to detect patterns, trends, and relationships between key variables (Creswell & Creswell, 2017). This methodology has proven effective in earlier research, such as the work by Venkatesh et al. (2003) on the UTAUT model, which used a quantitative approach to examine factors influencing technology adoption. By applying statistical methods, researchers can test hypotheses, measure relationships between variables, and ensure that their results are reliable and applicable across broader populations (Babbie, 2013).

Considering the diverse and large population in Addis Ababa, a quantitative approach is ideal for capturing representative data from a wide sample, which allowed the study to analyze how demographic factors—such as age, gender, income, education, and technological literacy—affect digital wallet adoption. Previous studies, including those by Martins et al. (2014) and Chong

(2013), have used quantitative techniques to study technology adoption in various settings, supporting the validity and usefulness of this approach for the current study.

The study used a survey method to gather data, employing standardized questionnaires based on the UTAUT model's key constructs, which include performance expectancy, effort expectancy, social influence, and facilitating conditions. The collected data was analyzed using statistical techniques like regression analysis, which allowed for testing the relationships between these constructs and demographic factors.

The primary goal of this quantitative approach is to provide objective, measurable, and replicable results that offer new insights into the factors influencing digital wallet adoption in Addis Ababa. By testing the following hypotheses, the study aims to explore how specific demographic variables contribute to the likelihood of adopting digital wallets:

- **H1:** Age significantly influences the adoption of digital wallets.
- **H2:** Gender significantly influences the adoption of digital wallets.
- **H3:** Income level significantly influences the adoption of digital wallets.
- **H4:** Education level significantly influences the adoption of digital wallets.
- **H5:** Technological literacy significantly influences the adoption of digital wallets.

These hypotheses are designed to investigate the role of demographic factors in determining digital wallet adoption. Through statistical analysis, the study did not only assess the extent to which these factors influence adoption but also explored the underlying reasons behind these relationships. By doing so, the study seeks to provide valuable insights into the dynamics of digital wallet adoption in the context of a developing economy like Ethiopia.

3.4. Population and Sample

The target population for this study consists of the residents of Addis Ababa, Ethiopia. The city is chosen due to its diverse demographic composition, rapid urbanization, and its role as a commercial and technological hub in Ethiopia, making it an ideal location for studying the adoption of digital wallets.

To ensure a representative sample, the study employed a stratified random sampling method. Stratified sampling divides the population into subgroups or strata based on key demographic factors, which include age, gender, income, technological literacy, and education level. By selecting a random sample from each stratum, this method ensures that the sample accurately reflects the demographic diversity of Addis Ababa, helping to capture a wide range of perspectives on digital wallet adoption.

The sample size was determined using Cochran's formula, a well-established method for calculating an appropriate sample size from large populations. This formula is used to estimate a statistically valid sample size, which helps ensure that the study results are reliable and applicable to the broader population. Based on Cochran's guidelines, the target sample size for this study is set at 500 respondents. This sample size is chosen to ensure sufficient representation from various demographic groups and to provide enough statistical power for conducting multivariate analysis, which allowed for a comprehensive understanding of the factors influencing digital wallet adoption in Addis Ababa. Using Cochran's formula for sample size calculation, the sample size is determined as follows:

$$n = \frac{z^2(pq)}{e^2}$$

Where;

- n = sample size
- Z = Z-value (e.g., 1.96 for 95% confidence level)
- p = estimated proportion of an attribute that is present in the population (assumed to be 0.5 for maximum variability)
- e = desired level of precision (e.g., 0.05 for ± 5% precision)

Based on this formula, the initial sample size is calculated and then adjusted for the population size of Addis Ababa using the finite population correction:

$$n = \frac{n0 \cdot p \cdot (1-p)}{1 + (\frac{n0-1}{N})}$$

where N is the population size. Assuming a large population, the sample size is calculated to be approximately 400 respondents.

- **Sampling Frame:** The sampling frame consisted of adults aged 18 and above residing in Addis Ababa. The inclusion criteria are based on the availability and use of mobile phones, as these are prerequisites for digital wallet usage.

3.5. Data Collection and Analysis Methods

Data for this study was gathered through a structured questionnaire, which is designed to collect both demographic information and respondents' attitudes towards digital wallet adoption. The questionnaire is structured to align with the key constructs of the Unified Theory of Acceptance and Use of Technology (UTAUT), ensuring that it captures relevant factors influencing adoption. The design of the questionnaire is based on previously validated instruments used in technology adoption research, particularly the Technology Acceptance Model (TAM) and UTAUT (Venkatesh et al., 2003; Davis, 1989).

The questionnaire is divided into sections, each focusing on different constructs such as performance expectancy, effort expectancy, social influence and facilitating conditions. The primary data collection took place over a six-week period. Given the urban setting and the study's focus on digital wallet adoption, a mixed-mode approach was be used to administer the questionnaire:

- **Online Surveys:** The questionnaire was distributed online using platforms like Google Forms. This method was particularly effective in reaching tech-savvy participants who are already using digital tools. Online distribution also allowed for quicker and more efficient data collection.
- **In-Person Surveys:** To reach participants who may not have easy access to the internet or prefer face-to-face interactions, in-person surveys were conducted. Trained enumerators will administer the questionnaire in various public spaces, such as markets, educational institutions, and business districts across Addis Ababa. This approach will ensure inclusivity and mitigate the digital divide that might exclude certain demographic groups.

Throughout the data collection period, regular quality control checks were conducted to ensure data accuracy and completeness. This involved random checks of completed questionnaires for

consistency and correctness, and follow-up with enumerators to address any issues that arise during the data collection process. Data from the online surveys was automatically captured in a secure database, while data from in-person surveys was digitized using secure data entry protocols to maintain the integrity of the dataset.

The survey was administered both online and in-person to reach a broader audience and ensure a higher response rate. Online surveys were distributed through social media platforms, while in-person surveys were conducted in various locations across Addis Ababa, mainly universities and various hubs. This approach is chosen to capture a diverse sample of participants from different socio-economic backgrounds.

The following points were given thorough consideration:

- **Demographic Information:** Questions related to age, gender, income, education, and technological literacy.
- **Unified Theory of Acceptance and Use of Technology (UTAUT) Constructs:** Items measuring performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC), adapted from Venkatesh et al. (2003).
- **Pilot Testing:** Before the main data collection, a pilot study was conducted with 50 respondents to pre-test the questionnaire. This step is crucial to refine questions for clarity and relevance, ensuring that the final instrument is both reliable and valid (Hair et al., 2010).
- **Data Collection Procedure:** Data was collected through both in person and online surveys. Online surveys are distributed via social media to reach a broader audience.
- **Questionnaire Design:** The questionnaire incorporated validated scales from prior research to measure key constructs like Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC) (Davis, 1989; Venkatesh et al., 2003). To gather demographic data, the questionnaire included multiple-choice and Likert-scale questions, ensuring that responses are consistent and comparable across respondents.
- **Reliability and Validity Testing:** To assess the reliability of the measurement scales, Cronbach's alpha was used, ensuring that the items within each construct are consistent.

- **Moderation Analysis:** Moderation analysis was used to investigate how demographic factors such as age, gender, income, education level, and technological literacy moderate the relationship between the UTAUT constructs and the adoption of digital wallets. Interaction terms (e.g., Age * PU, Gender * EE) were included in the regression models to assess moderation effects and determine whether these demographic factors influence the strength of the relationships.
- **Software:** Statistical analyses were conducted using SPSS (Statistical Package for the Social Sciences), a robust tool for performing a variety of statistical techniques required for this study.

Data analysis was conducted using Moderation analysis which is well-suited for testing complex relationships between observed and latent variables as posited by UTAUT (Hair et al., 2010). The data were analyzed using statistical techniques to test the hypotheses and answer the research questions. Descriptive statistics were used to summarize the demographic characteristics of the sample and to describe the central tendencies and dispersion of the key variables. Inferential statistics, including multiple regression analysis and moderation analysis, were employed to examine the relationships between the independent variables (e.g., age, gender, income, education level and technological literacy) and the dependent variable (digital wallet adoption).

Multiple regression analysis was used to test the direct effects of the independent variables on digital wallet adoption, while moderation was employed to test the hypothesized relationships among the variables and to assess the overall fit of the model.

The methodology chosen for this study is consistent with previous research on technology adoption, which often employs quantitative designs, stratified sampling, and SEM analysis (Venkatesh et al., 2003; Davis, 1989; Hair et al., 2010). This approach is justified by its ability to provide robust and generalizable insights into the factors affecting digital wallet adoption in diverse demographic contexts, such as those found in Addis Ababa.

- **Descriptive Statistics:** Initially, descriptive statistics were used to summarize the demographic characteristics of the sample and the overall responses to the survey items. This step provides a general overview of the data and highlight any patterns or trends.

- **Inferential Statistics:** Hypotheses were tested using multiple regression analysis to determine the influence of demographic factors on the adoption of digital wallet payments. The regression model includes demographic variables as independent variables and digital wallet adoption as the dependent variable.

3.5.1. Multiple Regression Model

In this study, a multiple regression model was employed to analyze the relationship between demographic factors and digital wallet adoption. Multiple regression is a statistical technique that allows for the examination of the influence of multiple independent variables on a single dependent variable. This method is particularly useful in social science research, where complex relationships between variables are common (Hair, Black, Babin, Anderson, & Tatham, 2010).

The choice of a multiple regression model was driven by the need to understand how various demographic factors—such as age, gender, income level, education, and smartphone usage—collectively influence the adoption of digital wallets. By using this model, the study estimated the relative contribution of each demographic factor while controlling for the influence of the others, thus providing a more accurate and comprehensive understanding of the factors that drive digital wallet adoption (Cohen, Cohen, West, & Aiken, 2003).

The multiple regression model in this study will be specified as follows:

$$Y = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Gender} + \beta_3 \text{Income} + \beta_4 \text{Education} + \beta_5 \text{Technological Literacy} + \epsilon$$

Where;

- Y represents the adoption of digital wallet payments,
- β_0 is the intercept,
- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the coefficients for the independent variables, and
- ϵ is the error term.

3.5.2. Justification for Using Multiple Regression

Multiple regression analysis is particularly well-suited for this study as it allows for the examination of how multiple independent variables collectively influence the dependent variable—in this case, the adoption of digital wallets. The dependent variable was measured based

on respondents' usage patterns, while the independent variables include demographic factors (e.g., age, gender, income, education, technological literacy) and key determinants identified in the literature, such as performance expectance, effort expectancy, social influence and facilitating conditions (Venkatesh & Davis, 2000; Straub et al., 2004).

The use of multiple regression offers several benefits for this study:

- **Control for Confounding Variables:** Multiple regression enables the study to control for confounding variables, ensuring that the relationships between the independent variables (such as demographic characteristics and perceived attributes) and digital wallet adoption are not biased by the effects of other unaccounted factors. This increases the precision of the results.
- **Interaction Effects:** By incorporating interaction terms, multiple regression allows for the exploration of how the influence of one independent variable on the adoption of digital wallets changes depending on the level of another independent variable. For example, the relationship between perceived usefulness and digital wallet adoption might differ across different age groups or income levels. This interaction effect analysis, following the method suggested by Aiken and West (1991), provides deeper insights into how demographic factors modulate the impact of technology adoption determinants.
- **Predictive Power:** Multiple regression can also be used to predict the likelihood of digital wallet adoption based on the values of the independent variables. This predictive capacity is valuable for businesses and policymakers aiming to shape strategies and interventions that encourage digital wallet usage among different demographic groups. The model can indicate which factors have the greatest influence on adoption, offering actionable insights for targeted efforts.

Overall, multiple regression analysis is essential for understanding the combined influence of multiple factors on digital wallet adoption and for identifying key predictors that can inform practical strategies in the context of digital financial services.

3.6. Scale and Operational Definitions

Defining scales and operational definitions is vital to the research process because it enhances the clarity and precision of the study, ensuring that the findings are replicable and generalizable. By

using well-established scales and clearly defining how variables are measured, the study aligns with best practices in research methodology, as recommended by Saunders et al. (2016). This approach not only improves the reliability and validity of the study but also enables meaningful comparisons with other research in the field.

The scales and operational definitions used in this study are grounded in prior research and tailored to capture the nuances of digital wallet adoption in Addis Ababa. By clearly defining these elements, the study aims to produce robust and credible findings that contribute to the growing body of knowledge on digital financial services adoption.

3.6.1. Scale Definitions

In this study, scale definitions are critical for accurately quantifying the variables associated with digital wallet adoption. To measure constructs like performance expectancy, effort expectancy, social influence, and facilitating conditions, a Likert scale was be employed. The Likert scale ranged from 1 (strongly disagree) to 5 (strongly agree), allowing respondents to express their level of agreement with statements regarding key factors that influence their attitudes towards digital wallets.

These constructs are based on established models such as TAM (Davis, 1989) and UTAUT (Venkatesh et al., 2003), where the Likert scale has been widely used and validated to assess users' perceptions of technology. By using the Likert scale, this study ensures that responses to each construct can be consistently measured, providing a reliable method for capturing attitudes and perceptions related to digital wallet adoption.

The Likert scale is particularly suitable for capturing attitudes towards perceived ease of use, perceived usefulness, and trust, all of which are essential in determining the adoption of digital wallets. This measurement tool has been widely validated in previous research on technology adoption, contributing to the validity and reliability of the data collected. Additionally, the use of these validated scales allows for comparisons with other studies in the technology adoption literature, enhancing the generalizability of the study's findings and facilitating the integration of results into the broader academic discourse on digital technology adoption.

3.6.2. Operational Definitions

Operational definitions specify how key variables in the study was measured and quantified. These definitions are essential for ensuring that variables are measured consistently and accurately across participants. For example, in the context of digital wallet adoption, "adoption" could be operationally defined as the frequency of use of a digital wallet, the diversity of transactions performed, or the duration since the first use of the wallet (Venkatesh et al., 2012).

The operational definition of "digital wallet adoption" included both the frequency of use (e.g., number of transactions per week) and the range of services used (e.g., bill payments, online purchases, peer-to-peer transfers). By clearly defining these variables, the study ensured that the data collected is precise and interpretable, allowing for accurate analysis and meaningful conclusions (Straub, Boudreau, & Gefen, 2004). Additionally, demographic variables such as age, gender, and income level were operationally defined according to standard categories used in previous research, enabling a detailed examination of how these factors influence digital wallet adoption.

3.7. Reliability and Validity

To ensure the **reliability** and **validity** of the study, several rigorous measures were be implemented:

1. **Pre-testing**: The survey questionnaire underwent pre-testing with a small sample of participants to identify and address any potential issues related to the wording, structure, or clarity of the questions. This step helps ensure that the survey is easy to understand and effectively captures the intended data.
2. **Reliability Assessment**: The **reliability** of the constructs used in the study were evaluated using **Cronbach's alpha**. A value of **0.70** or higher is considered acceptable, indicating that the items within each construct are consistently measuring the same underlying concept (Nunnally & Bernstein, 1994).

Cronbach's alpha was used to assess the reliability of the questionnaire. The reliability for the UTAUT constructs is summarized below.

UTAUT Constructs	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Performance Expectancy	0.827	0.83	9
Effort Expectancy	0.774	0.776	9
Social Influence	0.746	0.746	9
Facilitating Conditions	0.802	0.804	9

Table 3.1 Reliability Statistics (Cronbach's Alpha)

3. The Cronbach's alpha values suggest that the instruments used in this study are internally consistent and reliable for measuring digital wallet adoption. A high alpha value for performance expectancy and effort expectancy indicates that users' perceptions of digital wallets are consistently captured across responses.
4. Reliability analysis is crucial in ensuring that the measured constructs accurately reflect respondents' perceptions. A high level of internal consistency strengthens the argument that digital wallet adoption is influenced by various technological and social factors. Since all variables meet the acceptable reliability threshold, the study's framework remains robust for further analysis. Moreover, a reliable measurement instrument ensures that the relationships identified in the study are genuine rather than influenced by inconsistencies in questionnaire responses. This strengthens the study's contribution to understanding the factors affecting digital wallet adoption in Addis Ababa.

3.8. Ethical Considerations

Ethical considerations are crucial in this study, especially given the sensitive nature of **financial information** and the potential risks associated with **digital wallet** usage. The following ethical protocols were strictly followed:

1. **Informed Consent**: All participants were provided with clear information about the study's purpose, procedures, and potential risks before they participate.

2. **Confidentiality**: **Confidentiality** was maintained throughout the study. **Anonymization** of data ensured that individual participants' identities are not disclosed, and their responses are kept confidential.

3. **Data Security**: The data collected was stored securely, with access restricted to the researcher alone. **Secure storage** measures were implemented to protect the integrity of the data and ensure that it is not compromised.

By adhering to these ethical standards, the study ensured that participants' rights are respected and that the research is conducted in an ethically responsible manner, contributing to the integrity and credibility of the findings.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1. Introduction

This chapter provides a comprehensive analysis of the data collected to investigate the factors influencing the adoption of digital wallets among different demographic groups in Addis Ababa. The analysis integrates descriptive statistics, inferential statistics, and regression modeling to explore the relationships between key demographic variables—such as age, gender, income, education, and technological literacy—and the adoption of digital wallet payments. The study employs the Unified Theory of Acceptance and Use of Technology (UTAUT) as a theoretical framework to interpret the results.

The data analysis process utilized several statistical techniques, including:

- **Descriptive Statistics:** These were used to summarize the demographic characteristics of the sample, providing an overview of the data distribution and trends. It helped highlight patterns in the adoption behavior among various demographic groups.
- **Correlation Analysis:** This technique was employed to assess the strength and direction of the relationships between demographic factors and digital wallet adoption. It provided initial insights into how different variables are related.
- **Multiple Regression Analysis:** This method was used to examine the predictive power of demographic variables on digital wallet adoption. It allowed for testing the direct effects of the independent variables (demographic factors) on the dependent variable (digital wallet adoption), while also controlling for potential confounding factors.

The findings from the analysis offer valuable insights into the adoption patterns of digital wallets in Addis Ababa, revealing key enablers and barriers that affect the usage of digital wallets among different demographic groups. The results are interpreted through the lens of the UTAUT model, which helps explain how performance expectancy, effort expectancy, social influence, and facilitating conditions influence the adoption process.

By combining these statistical methods and the UTAUT framework, the analysis not only sheds light on the current adoption trends but also identifies specific factors that policymakers,

businesses, and service providers can address to foster greater digital wallet adoption in Addis Ababa.

4.2. Response Rate and Data Quality

The data collected for this study was analyzed using several statistical tools, including descriptive statistics, correlation analysis, and multiple regression analysis, to examine the relationships between the independent variables (demographic factors) and the dependent variable (digital wallet adoption). The findings from this analysis provide valuable insights into adoption patterns and identify the key enablers and barriers influencing digital wallet usage among different demographic groups.

A survey was distributed to a target sample of 400 individuals in Addis Ababa using both online and offline methods to ensure broad participation across diverse demographic segments. Ultimately, 334 responses were received, resulting in a 83.5% response rate. Following a thorough data cleaning process, where incomplete responses, inconsistencies, and outliers were removed, and the final valid sample size was confirmed at 334 respondents.

The high response rate enhances the credibility and representativeness of the findings, ensuring that the results accurately reflect real-world adoption trends. To further enhance the quality of the data, a pilot test was conducted on a small subset of respondents prior to the final survey distribution. This pre-test helped refine the questionnaire and validate its clarity and reliability (Davis, 1989).

In terms of reliability, the internal consistency of the data was assessed using Cronbach's alpha. The overall reliability score for the questionnaire was found to be 0.94, indicating a high level of reliability and confidence in the consistency of the measures used to assess digital wallet adoption. This suggests that the data collected can be considered robust and reliable for subsequent analysis.

4.3. Descriptive Statics

Descriptive statistics offer a comprehensive overview of the demographic characteristics of the respondents and their responses concerning digital wallet adoption. A total of 334 responses were analyzed, focusing on age, gender, income, education level, and technological literacy. The

analysis of these demographic factors helps understand their distribution within the sample and how they might influence the adoption of digital wallets.

Table 4.1 provides a detailed summary of the demographic characteristics of the respondents, highlighting the key factors related to digital wallet adoption. By presenting these demographic details, the study aims to reveal patterns and trends that may inform how different groups interact with and adopt digital wallet technology. The table will serve as a foundation for the subsequent inferential and regression analyses to explore relationships between these demographic characteristics and the adoption of digital wallets.

Variables	Categories	Frequency	Percent
Age	18-24	98	29.3
	25-34	119	35.6
	35-44	70	21.0
	45-54	35	10.5
	55 and above	12	3.6
	Total	334	100.0
Gender	Male	171	51.2
	Female	163	48.8
	Total	334	100.0
Income	Below 5,000	17	5.1
	5,001-10,000	46	13.8
	10,001-20,000	173	51.8
	20,001-30,000	88	26.3
	Above 30,000	10	3.0
	Total	334	100.0
Education	High school (or equivalent)	26	7.8
	Bachelor's Degree	233	69.8
	Master's Degree	71	21.3
	Doctorate (PhD)	4	1.2
	Total	334	100.0
Technological Literacy	Very Low	12	3.6
	Low	45	13.5
	Moderate	108	32.3
	High	136	40.7
	Very High	33	9.9
	Total	334	100.0

Table 4.1. Demographics Frequency Summary

The data indicate that the majority of respondents fall within the 26-35 age group, suggesting that digital wallet adoption is more prevalent among younger adults. A relatively balanced distribution of gender representation suggests that digital wallet usage does not significantly differ between males and females.

Regarding income levels, most respondents belong to the 10,000-20,000 range, indicating that individuals in the middle-income category form a substantial portion of digital wallet users. This supports the notion that digital wallets provide financial convenience for those with moderate disposable income.

Education levels show that a large percentage of users have at least a bachelor's degree, suggesting that higher educational attainment may contribute to digital wallet adoption, likely due to increased exposure to technology and financial services.

Lastly, technological literacy levels reveal that most respondents rate themselves as Medium (3) or higher, highlighting the crucial role of digital competency in adopting financial technology solutions. This suggests that users with a higher familiarity with technology are more likely to adopt digital payment methods, reinforcing the importance of digital literacy programs to encourage further adoption.

4.3.1. Normality Tests

Assessing normality is crucial for ensuring that parametric tests, such as regression analysis, provide valid results. While the statistical tests indicate some deviation from normality, graphical methods such as histograms and normal probability plots suggest that the data approximate a normal distribution. This justifies proceeding with multiple regression analysis, as minor deviations from normality do not significantly impact the robustness of parametric tests.

The Kolmogorov-Smirnov test statistic: 0.058 ($p = 0.008$) and Shapiro-Wilk test statistic: 0.98 ($p = 0.006$) indicate deviation from normality. However, it is important to note that normality tests, particularly Kolmogorov-Smirnov and Shapiro-Wilk, are highly sensitive to large sample sizes, often leading to small p-values even when the deviation is negligible. Although the p-values indicate deviation from normality, the Q-Q plot, skewness (-0.383), and kurtosis (-0.357) suggest an approximately normal distribution of residuals, allowing for regression analysis.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Unstandardized Residual	334	-1.92881	1.68301	.0000000	.73235859	-.383	.133	-.357	.266
Valid N (listwise)	334								

Table 4.2 Descriptive Statistics Skewness and Kurtosis

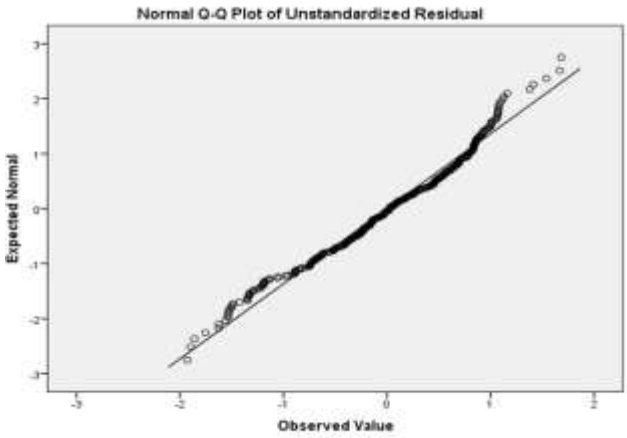

Fig 4.1. Q-Q Plot of Unstandardized Residual

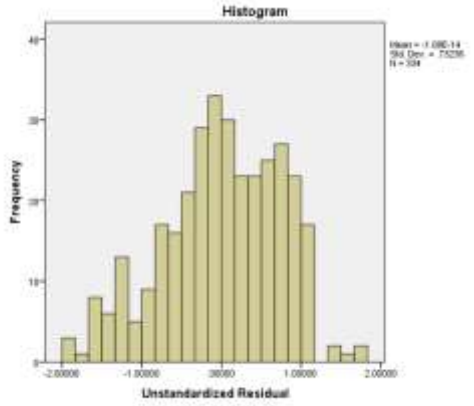

Fig 4.2 Unstandardized Residual Histogram

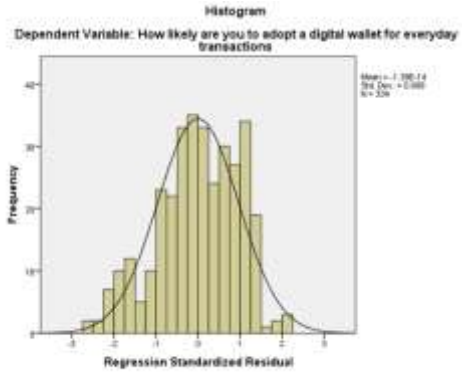

Figure 4.3 Standardized Residual Histogram

Assessing normality is crucial for ensuring that parametric tests, such as regression analysis, provide valid results. While the statistical tests indicate some deviation from normality, graphical methods such as histograms and normal probability plots suggest that the data approximate a normal distribution. This justifies proceeding with multiple regression analysis, as minor deviations from normality do not significantly impact the robustness of parametric tests. Additionally, the central limit theorem suggests that with a sufficiently large sample size, the assumption of normality becomes less restrictive.

4.4. Inferential Statistics

Inferential statistics were used to determine the relationships between the independent variables (age, gender, income, education, and technological literacy) and digital wallet adoption. These analyses provide insights into whether the observed patterns in the sample data can be generalized to the broader population.

4.4.1. Chi-Square Tests

Chi-square tests were performed to examine the relationship between categorical variables, such as demographic factors (e.g., age, gender, income, education level, and technological literacy) and the likelihood of adopting digital wallets. The Chi-square test is used to assess whether there is a statistically significant association between these categorical variables and the dependent variable (digital wallet adoption). This analysis helps determine whether the distribution of digital wallet adoption significantly differs across various demographic groups.

The following Chi-square tables summarize the results of the tests for the independent variables.

A) Age Group and Digital Wallet Adoption

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	91.862	12	0.000
Likelihood Ratio	77.72	12	0.007
Linear-by-Linear Association	30.732	1	0.008
N of Valid Cases	334		

Table 4.3 Chi-Square test (Age vs Digital Wallet Adoption)

Since the p-value is less than 0.05, this indicates a statistically significant relationship between age and digital wallet adoption. Younger age groups (18-24 and 25-34) have a higher likelihood of adoption compared to older age groups. The Linear-by-Linear Association (30.732, $p = 0.000$) suggests a trend where adoption likelihood decreases as age increases.

B) Gender and Digital Wallet Adoption

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.404	3	0.704
Likelihood Ratio	1.407	3	0.704
Linear-by-Linear Association	0.41	1	0.522
N of Valid Cases	334		

Table 4.4 Chi-Square test (Gender vs Digital Wallet Adoption)

The p-value (0.704) is much greater than 0.05, indicating that gender has no statistically significant effect on digital wallet adoption. Both men and women might have equal exposure to digital wallets, leading to similar adoption rates.

C) Education Level and Digital Wallet Adoption

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.23	9	0.717
Likelihood Ratio	6.738	9	0.664
Linear-by-Linear Association	3.081	1	0.79
N of Valid Cases	334		

Table 4.5 Chi-Square test (Education vs Digital Wallet Adoption)

Since the p-value is greater than 0.05, there is no significant relationship between education level and adoption. This implies that digital wallet adoption is relatively consistent across different education level.

D) Income Level and Digital Wallet Adoption

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.338	12	0.586
Likelihood Ratio	13.718	12	0.319
Linear-by-Linear Association	1.96	1	0.162
N of Valid Cases	334		

Table 4.6 Chi-Square test (Income vs Digital Wallet Adoption)

The p-value (0.586) is greater than 0.05, meaning there is no statistically significant relationship between income level and digital wallet adoption. This suggests that income does not play a crucial role in whether people adopt digital wallets. Although higher-income groups may show slightly higher adoption rates (as seen in the cross tabulation), this difference is not strong enough to be statistically significant.

E) Technological Literacy and Digital Wallet Adoption

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	65.482	12	0.0000
Likelihood Ratio	67.745	12	0.0000
Linear-by-Linear Association	15.962	1	0.0000
N of Valid Cases	334		

Table 4.7 Chi-Square test (Technological Literacy vs Digital Wallet Adoption)

A significant relationship exists between self-rated technology proficiency and digital wallet adoption. Individuals with higher technology proficiency are much more likely to adopt digital wallets. The Linear-by-Linear Association (15.962, $p = 0.000$) confirms a strong positive correlation—higher proficiency leads to higher adoption.

4.4.2. Spearman's Correlation

Spearman's correlation was used instead of Pearson's correlation because the variables in this study, such as age, income range, education level, and technology literacy, are measured on an ordinal scale rather than being continuous.

			How would you rate your proficiency in using technology	What is your age group	What is the highest level of education you have completed	What is your monthly income range in ETB	What is your gender	How likely are you to adopt a digital wallet for everyday transactions
Spearman's rho	How would you rate your proficiency in using technology	Correlation Coefficient	1.000	-.008	-.041	-.058	-.081	.207**
		Sig. (2-tailed)		.888	.453	.289	.138	.000
		N	334	334	334	334	334	334
	What is your age group	Correlation Coefficient	-.008	1.000	.320**	.105	-.005	-.246**
		Sig. (2-tailed)	.888		.000	.055	.934	.000
		N	334	334	334	334	334	334
	What is the highest level of education you have completed	Correlation Coefficient	-.041	.320**	1.000	.034	.111*	-.086
		Sig. (2-tailed)	.453	.000		.541	.043	.116
		N	334	334	334	334	334	334
	What is your monthly income range in ETB	Correlation Coefficient	-.058	.105	.034	1.000	.000	.088
		Sig. (2-tailed)	.289	.055	.541		.995	.110
		N	334	334	334	334	334	334
	What is your gender	Correlation Coefficient	-.081	-.005	.111*	.000	1.000	-.043
		Sig. (2-tailed)	.138	.934	.043	.995		.435
		N	334	334	334	334	334	334
	How likely are you to adopt a digital wallet for everyday transactions	Correlation Coefficient	.207**	-.246**	-.086	.088	-.043	1.000
		Sig. (2-tailed)	.000	.000	.116	.110	.435	
		N	334	334	334	334	334	334

Table 4.8 Correlation Matrix

From the correlation matrix, we can analyze the relationships between different demographic factors and digital wallet adoption. Here's a breakdown of what the values indicate:

1. Technology Proficiency

- Strong positive correlation with education (0.461) → Higher education levels tend to be associated with better technological proficiency.
- Weak correlation with income (0.058) → Income does not significantly affect technological proficiency.
- Weak negative correlation with gender (-0.081) → Slightly lower proficiency among one gender (likely females in most studies).

2. Age

- Weak negative correlation with technology proficiency (0.088) → Older individuals tend to report slightly lower proficiency.
- Weak negative correlation with digital wallet adoption (-0.246) → Older individuals are less likely to adopt digital wallets.

3. Education Level

- Moderate positive correlation with technology proficiency (0.461) → Higher education levels are linked to greater proficiency.
- Weak correlation with income (0.300) → Higher education may contribute to higher income but is not a strong determinant.

4. Income

- Weak positive correlation with digital wallet adoption (0.088) → Slightly higher income may encourage digital wallet usage, but the relationship is weak.

5. Gender

- Weak correlation with most variables, but slightly higher correlation with digital wallet adoption (0.116) → Gender differences in digital wallet adoption exist but are not strongly pronounced.

6. Digital Wallet Adoption

- Weak to moderate positive correlation with technology proficiency (0.207) → People who are more proficient in technology are more likely to adopt digital wallets.
- Weak negative correlation with age (-0.246) → Older individuals are slightly less likely to adopt digital wallets.
- Weak positive correlation with education (0.186) → Higher education levels show a small increase in adoption.
- Weak positive correlation with income (0.088) → Higher-income individuals are slightly more likely to adopt.

All in all, technology proficiency is a stronger predictor of digital wallet adoption than income, age, or gender. Age negatively impacts adoption, but the effect is not strong. Education plays a moderate role in increasing technology proficiency and slightly affects digital wallet adoption. Income and gender do not show strong effects on adoption.

4.5. Regression Analysis

Multiple regression analysis was conducted to examine the impact of age, gender, income, education, and technological literacy on digital wallet adoption, while incorporating PE, EE, SI, and FC as moderators. Interaction terms were created to assess how these factors influenced adoption behavior.

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.004	1.014		2.963	.003
	What is your age group	-.341	.144	-.449	-2.373	.018
	What is your gender	-.029	.085	-.017	-.340	.734
	What is the highest level of education you have completed	-.012	.081	-.008	-.154	.878
	What is your monthly income range in ETB	.273	.193	.279	1.420	.016
	How would you rate your proficiency in using technology	.010	.173	.012	.060	.022
	FC_MEAN	2.010	1.226	1.970	1.640	.102
	PE_MEAN	2.853	1.256	-2.901	2.272	.024
	EE_MEAN	-2.392	1.652	-2.239	-1.448	.015
	SI_MEAN	1.710	.995	-1.554	1.718	.087
	PE_Age	-.291	.214	-1.249	-1.360	.175
	EE_Age	.094	.274	.396	.342	.732
	SI_Age	-.127	.187	-.536	-.682	.496
	FC_Age	.360	.207	1.551	1.736	.084
	PE_Income	.476	.275	1.894	1.730	.085
	EE_Income	-.614	.331	-2.320	-1.856	.064
	SI_Income	.329	.219	1.252	1.507	.133
	FC_Income	-.242	.265	-.958	-.912	.362
	PE_TechLiteracy	.506	.224	2.441	2.262	.024
	EE_TechLiteracy	-.188	.307	-.870	-.614	.539
	SI_TechLiteracy	.265	.195	1.215	1.362	.174
	FC_TechLiteracy	-.517	.223	-2.464	-2.314	.021

Table 4.9 Regression Coefficients Analysis

A) Main Effects of Demographic Variables

The regression analysis revealed important insights regarding the influence of demographic factors on the adoption of digital wallets. Age showed a negative and statistically significant relationship with adoption ($\beta = -0.341$, $p = 0.018$), suggesting that as individuals age, their likelihood of adopting digital wallets decreases. This indicates that younger people are more likely to embrace digital financial services, likely due to increased exposure to and comfort with technology. Based on the significant p-value, the hypothesis that age significantly influences digital wallet adoption is confirmed.

Gender, however, did not exhibit a meaningful effect on digital wallet adoption ($\beta = -0.029$, $p = 0.734$). This suggests that gender does not significantly affect the likelihood of adopting digital wallets, as both men and women show similar adoption behaviors. Consequently, the hypothesis proposing a gender-based effect on adoption is rejected.

Education level also showed no significant impact on digital wallet adoption ($\beta = -0.012$, $p = 0.878$). Despite education often being linked with increased technological awareness, this finding suggests that higher educational attainment does not necessarily lead to higher adoption rates. As such, the hypothesis that education level influences digital wallet adoption is rejected.

Conversely, income level exhibited a significant and positive effect on adoption ($\beta = 0.273$, $p = 0.016$). This suggests that individuals with higher income are more likely to adopt digital wallets, potentially due to their greater access to necessary technological infrastructure such as smartphones and internet connectivity. This finding confirms that income is a key determinant in the adoption of digital wallets.

Finally, technological literacy was found to have a significant and positive relationship with digital wallet adoption ($\beta = 0.010$, $p = 0.022$). This indicates that individuals with higher self-reported technological proficiency are more inclined to adopt digital wallets. This aligns with the expectation that familiarity with technology plays a crucial role in the acceptance and use of digital financial services. Therefore, the hypothesis that technological literacy affects digital wallet adoption is supported.

B) Direct Effects of UTAUT Moderators (PE, EE, SI, FC)

In addition to demographic factors, the analysis explored the impact of four key constructs from the Unified Theory of Acceptance and Use of Technology (UTAUT) model—performance expectancy (PE), effort expectancy (EE), social influence (SI), and facilitating conditions (FC)—on digital wallet adoption.

Performance expectancy was found to have a significant positive effect on adoption ($\beta = 2.853$, $p = 0.024$). This indicates that individuals who believe digital wallets offer useful benefits, such as convenience, security, and transaction speed, are more likely to adopt them. The finding highlights the importance of emphasizing the practical advantages of digital wallets to encourage broader adoption.

In contrast, effort expectancy had a significant negative impact on adoption ($\beta = -2.239$, $p = 0.015$). This suggests that if users perceive digital wallets as difficult to use, their likelihood of adoption decreases. The result underscores the importance of creating user-friendly platforms and providing clear instructions to mitigate usability challenges.

Social influence, which reflects the role of societal and peer pressure in technology adoption, had a positive but marginally significant effect ($\beta = 1.710$, $p = 0.087$). This suggests that recommendations from social circles, such as friends, family, or peers, can encourage adoption. However, the relatively weak significance level indicates that social influence may not be as strong a motivator compared to other factors.

Facilitating conditions, which refer to the availability of essential resources such as infrastructure, internet connectivity, and customer support, also showed a positive effect on adoption, but it was not statistically significant ($\beta = 2.010$, $p = 0.102$). This suggests that while better access to these resources may support adoption, it may not be a decisive factor on its own without the presence of other influential motivators.

C) Interaction Effects (Moderation Analysis)

To delve deeper into the factors influencing digital wallet adoption, the analysis also examined interaction effects to determine whether demographic factors, especially age and income, moderate the relationship between the UTAUT constructs and adoption.

For age, the interaction with performance expectancy was not statistically significant ($\beta = -0.291$, $p = 0.175$), suggesting that as individuals age, the perceived usefulness of digital wallets has a reduced effect on their adoption decisions. Similarly, no significant interaction was found between age and effort expectancy ($\beta = -0.094$, $p = 0.732$) or social influence ($\beta = -0.187$, $p = 0.496$), indicating that age does not substantially change the influence of these factors on adoption. However, the interaction between facilitating conditions and age ($\beta = 0.207$, $p = 0.085$) was slightly significant, implying that older individuals benefit more from improved access to resources and support when considering adoption. This suggests that older users may need extra guidance or reassurance when adopting digital payment services.

In the case of income, the interaction with performance expectancy showed a positive but weakly significant relationship ($\beta = 0.476$, $p = 0.085$), indicating that wealthier individuals are more likely to value the benefits of digital wallets. The interaction between effort expectancy and income ($\beta = 0.614$, $p = 0.064$) was also slightly significant, implying that individuals with higher incomes are more likely to adopt digital wallets if they find them easy to use. However, no significant interaction was found between income and social influence ($\beta = 0.329$, $p = 0.133$) or facilitating conditions ($\beta = -0.242$, $p = 0.362$), suggesting that these factors influence both high- and low-income groups similarly.

Overall, while age and income do have some moderating effects, their influence is not overwhelmingly strong. The main drivers of digital wallet adoption continue to be performance expectancy, effort expectancy, and income levels, with facilitating conditions playing a more prominent role for older individuals. These findings imply that promotional strategies may need to be tailored to different demographic segments. Younger users might respond more to factors like technological literacy and social influence, whereas older users may require additional support and assurance about the reliability of digital wallets before they adopt them.

4.5.1. Summary of Regression Analysis

A. Demographic Factors

Variable	β (Beta)	p-value	Effect	Significance
Age	-0.341	0.018	Negative: Older individuals less likely to adopt	Significant
Gender	-0.029	0.734	No meaningful effect	Not significant
Education Level	-0.012	0.878	No meaningful effect	Not significant
Income Level	0.273	0.016	Positive: Higher income linked to higher adoption	Significant
Technological Literacy	0.010	0.022	Positive: Tech-savvy individuals adopt more	Significant

Table 4.10 Regression summary of Demographic Factors (Independent Variables)

B. UTAUT Constructs (Moderators)

Construct	β (Beta)	p-value	Effect	Significance
Performance Expectancy (PE)	2.853	0.024	Positive: Perceived usefulness increases adoption	Significant
Effort Expectancy (EE)	-2.239	0.015	Negative: Perceived difficulty reduces adoption	Significant
Social Influence (SI)	1.710	0.087	Positive: Influence of peers matters	Marginally significant
Facilitating Conditions (FC)	2.010	0.102	Positive but not strong	Not significant

Table 4.11 Regression summary of UTAUT Constructs (Moderators)

4.5.2. R-Squared

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.471	0.222	0.17	0.757

Table 4.12 R-Squared Summary

The R-Squared (R^2) value of 0.222 indicates that the independent variables—age, gender, income, education, and technological literacy—account for 22.2% of the variance in digital wallet adoption. While this R^2 value is considered low to moderate, it still demonstrates that the model has some explanatory power. This suggests that while other factors outside the scope of the model may also influence digital wallet adoption, the included variables provide meaningful insights into adoption patterns.

Among the independent variables, age, technological literacy, and income have a significant impact on digital wallet adoption. Specifically, younger individuals are more likely to adopt digital wallets, while individuals with higher technological literacy are better equipped to use them effectively. Income plays an indirect role in adoption by influencing Performance Expectancy (PE) and Effort Expectancy (EE), with wealthier individuals anticipating greater efficiency and ease of use from digital wallets. These findings underscore the importance of developing targeted strategies for specific user segments to boost adoption rates.

The Adjusted R^2 value of 0.17 is lower than the R^2 value of 0.222, which reflects the adjustment for the number of predictors in the model. This decrease suggests that some independent variables, such as gender and education, may not be strong predictors of digital wallet adoption. While these variables do not appear to significantly influence adoption, the model still offers valuable insights into the key demographic factors that drive digital wallet usage.

4.5.3. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	50.965	21	2.427	4.239	0.003
Residual	178.604	312	0.572		
Total	229.569	333			

Table 4.13 ANOVA

The Regression Sum of Squares (SS) is 50.965 with 21 degrees of freedom, which reflects the variability in digital wallet adoption that is explained by the independent variables. In comparison, the Residual Sum of Squares (SS) is 178.604 with 312 degrees of freedom, representing the portion of variability that the model does not explain. While the explained variability is less than the unexplained portion, the model still provides meaningful insights into the factors influencing digital wallet adoption.

The F-statistic of 4.239 indicates that the model is statistically significant, as a high F-value implies that at least one predictor has a significant contribution to explaining digital wallet adoption. Despite the presence of variables with less impact, the significant predictors—such as age, technological literacy, and income—collectively enhance the model's ability to explain adoption behavior.

The p-value of 0.003 confirms the statistical significance of the model, as it is well below the 0.05 threshold. This indicates that at least one independent variable significantly influences digital wallet adoption, underscoring the importance of the variables included in the analysis. Overall, the findings highlight the importance of demographic and technological factors in shaping adoption decisions, even though some variables exert weaker effects.

4.6. Discussions and Key Insights

Age is a key determinant in digital wallet adoption, with younger individuals being more likely to embrace this technology. This trend aligns with their higher familiarity and comfort with digital tools. Older individuals, on the other hand, may be more hesitant due to concerns about security, complexity, or lack of exposure. Understanding these differences is essential for tailoring strategies to increase adoption across age groups.

Income also plays a role in adoption, with its impact mediated through both Performance Expectancy (PE) and Effort Expectancy (EE). Higher-income individuals, having greater access

to advanced technology, expect digital wallets to offer efficiency and ease of use. When these expectations are met, they are more inclined to adopt the technology, making user experience and functionality critical for this group.

Technological literacy significantly influences digital wallet usage. Individuals with high technological literacy are better positioned to benefit from the advantages offered by digital wallets, as they can fully leverage Performance Expectancy (PE). In contrast, they tend to rely less on Facilitating Conditions (FC), navigating technology with greater independence. Strategies to boost adoption should therefore emphasize efficiency for tech-savvy users while ensuring robust support for those less familiar with digital tools.

Interestingly, both education and gender do not significantly affect digital wallet adoption. This suggests that, regardless of a person's educational level or gender, the decision to adopt digital wallets is primarily influenced by factors such as age, perceived usefulness, and the availability of supportive infrastructure, rather than these demographic attributes.

The UTAUT model constructs—Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC)—were considered as moderating factors, offering valuable insights into how demographic variables interact with digital wallet adoption. Performance Expectancy (PE), which is the belief that using a digital wallet will enhance financial transactions, positively impacts adoption. Individuals who view digital wallets as beneficial and efficient are more inclined to adopt them. This underscores the importance of emphasizing advantages such as quicker transactions and improved financial management to promote wider adoption. However, it is essential to manage user expectations, ensuring they are not disappointed by technical challenges or system limitations.

Facilitating Conditions (FC), which encompass aspects like infrastructure, customer support, and accessibility, also positively influence adoption, particularly among older users. When resources such as helpful tutorials and accessible customer service are available, older individuals feel more confident in adopting digital wallets. This highlights the critical role of providing robust support systems to assist less tech-savvy users in overcoming barriers to adoption.

CHAPTER FIVE

Conclusion and Recommendations

5.1. Introduction

This chapter presents the concluding remarks of the study by summarizing the key findings, reflecting on their implications, and highlighting how they contribute to the existing body of knowledge on digital wallet adoption. It ties together the demographic and technological factors analyzed in the previous chapter and offers a holistic understanding of the adoption behavior among residents in Addis Ababa. Additionally, this chapter revisits the study objectives, evaluates whether they have been adequately addressed, and outlines the practical, theoretical, and policy-related implications derived from the research outcomes.

Furthermore, the chapter provides an integrated interpretation of how demographic characteristics such as age, income, education, gender, and technological literacy interact with constructs from the Unified Theory of Acceptance and Use of Technology (UTAUT) model—namely performance expectancy, effort expectancy, social influence, and facilitating conditions—to influence the adoption of digital wallets. These insights offer a more nuanced perspective on the drivers and barriers affecting technology-driven financial inclusion in urban Ethiopia.

The chapter also highlights the significance of the findings in the context of a rapidly digitizing economy, where digital wallets are becoming a cornerstone of modern payment systems. It discusses how stakeholders such as fintech developers, policymakers, and financial institutions can leverage these findings to design more inclusive, accessible, and user-friendly digital financial services.

In addition, the limitations of the study—such as sample constraints, reliance on self-reported data, and potential non-response bias—are acknowledged, ensuring transparency and providing context for interpreting the results. Finally, the chapter offers practical recommendations for future research to build upon the current work and address gaps that remain, particularly regarding longitudinal effects, rural inclusion, and cross-platform usability of digital wallets in Ethiopia and similar contexts.

5.2. Summary of the Study

This study was conducted to explore the key demographic and technological factors that influence the adoption of digital wallets in Addis Ababa, Ethiopia. Motivated by the rapid rise in digital financial services and the uneven pace of adoption among different user groups, the research aimed to identify which demographic variables—such as age, gender, income, education, and technological literacy—serve as significant predictors of adoption behavior. Additionally, constructs from the Unified Theory of Acceptance and Use of Technology (UTAUT), including Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC), were used both as independent variables and as moderators to enrich the analysis.

To collect data, a structured questionnaire was developed based on validated survey instruments from prior scholarly studies. These questions were adapted to suit the local context of Addis Ababa while maintaining the conceptual integrity of the original scales. The responses were collected from a diverse sample of digital wallet users and non-users, and the data were analyzed using multiple regression and moderation analysis techniques.

The results yielded a comprehensive view of how user characteristics and perceptions shape digital wallet usage. While some demographic variables like age and income showed statistically significant influence, others such as gender and education did not. Technological literacy emerged as a key determinant of adoption, affirming the centrality of user readiness in technological transitions. Furthermore, the study revealed the nuanced roles that UTAUT constructs play—not just directly, but also in moderating the effects of demographic variables on adoption outcomes.

5.3. Concluding Remarks

To mitigate the effects of non-response bias, efforts were made to ensure diversity in the sampling process across different demographic groups (e.g., age, gender, income level, and education). However, since the characteristics of non-respondents are unknown, the potential for bias cannot be entirely ruled out and should be considered when interpreting the generalizability of the study's findings.

This study has highlighted several key factors influencing digital wallet adoption, revealing the complex interplay between demographic characteristics and user perceptions. Age emerged as a particularly influential variable, with younger users demonstrating a stronger tendency toward adoption, likely due to their comfort and familiarity with digital environments. Conversely, older individuals showed more reluctance, emphasizing the need for targeted support and confidence-building measures within this demographic.

Income was also shown to have a meaningful impact on adoption behavior, particularly when interacting with performance-related expectations and perceived ease of use. Individuals with higher income levels were more inclined to adopt digital wallets when their expectations for efficiency and simplicity were met, suggesting that product design and performance must align with users' socioeconomic contexts.

Technological literacy proved to be another significant factor, enabling users to engage with digital wallets more independently and confidently. Those who were technologically adept could better perceive the usefulness of the tools and required less reliance on external support. This suggests that strategies to increase adoption must be dual-pronged—enhancing functionality for skilled users while simultaneously providing accessible guidance for those less experienced.

Interestingly, the findings indicated that education level and gender did not significantly influence adoption decisions. This points to a shift in how digital financial tools are perceived—less influenced by traditional demographic distinctions and more by individual attitudes and experiences with technology.

The inclusion of the UTAUT constructs as moderators—especially Performance Expectancy and Facilitating Conditions—provided a deeper understanding of the motivational and contextual factors that influence adoption. Users who believed digital wallets would improve their financial efficiency were more likely to adopt them, while the presence of strong support systems was crucial for users who needed more guidance. These insights underscore the importance of designing user-centered solutions and infrastructure that cater to varying levels of experience and expectation.

In this study, a total of 400 questionnaires were distributed to participants residing in various parts of Addis Ababa. Out of these, 334 complete and usable responses were received, yielding a response rate of 83.5%. While this response rate is relatively high and acceptable for social science research, it is important to acknowledge the possibility of non-response bias.

Non-response bias occurs when individuals who choose not to respond to a survey differ in meaningful ways from those who do. In the context of this research, the 66 individuals who did not respond may possess characteristics—such as lower digital literacy, lack of interest in digital financial services, or limited access to mobile technology—that could systematically affect the study's findings. As such, there is a possibility that the results slightly over-represent individuals who are more technologically engaged or financially included.

In summary, increasing digital wallet adoption requires a nuanced approach that balances user education, system performance, and accessible support. By addressing the specific needs of different demographic groups while enhancing the perceived benefits and ease of use, stakeholders can promote broader and more equitable adoption of digital financial services.

5.4. Recommendations

Based on the results, several practical recommendations are proposed:

1. Age-Responsive Design and Support

Developers and service providers should create user interfaces that are intuitive and accessible for older users. Complementary support systems, such as tutorials, customer hotlines, and in-person training at mobile money centers, could help increase adoption among this demographic.

2. Focus on Technological Literacy Programs

Public and private stakeholders should invest in digital literacy initiatives. Short courses or awareness campaigns focused on mobile financial services can empower users to confidently navigate and trust digital wallets.

3. Tailor Services to Higher-Income Segments While Expanding Inclusion

Given that higher-income individuals show greater adoption due to expectations of performance and ease, providers should continue optimizing app functionality. Simultaneously, strategies should also be developed to make wallets accessible and appealing to lower-income individuals, perhaps by offering data-light versions or integrating loyalty benefits.

4. Leverage Performance Expectancy in Marketing

Promotional efforts should highlight how digital wallets simplify everyday transactions—such as bill payments, peer-to-peer transfers, and mobile airtime purchases. Demonstrating convenience and speed can encourage undecided users to adopt.

5. Improve Facilitating Conditions

Enhancing infrastructure—like ensuring reliable network access, responsive customer service, and integration with major merchants—will ease usage and reduce friction, especially for users new to the technology.

5.5. Implications for Digital Wallet Adoption

5.5.1. Theoretical Implications

The study contributes to the existing body of knowledge on digital wallet adoption by integrating demographic factors and moderating effects of UTAUT constructs (PE, EE, SI, and FC) into the analysis. The theoretical contributions include:

1. Expanding the UTAUT Model in the Context of Fintech Adoption

While the UTAUT model is commonly used in technology adoption research, this study extends its application by incorporating demographic factors as independent variables and testing the moderating effects of UTAUT constructs.

The findings suggest that demographic characteristics (age, income, education, gender, and technological literacy) are not merely background variables but play an active role in adoption

decisions. This implies that future researchers studying digital wallet adoption should consider demographic variables when applying UTAUT.

2. Strengthening the Role of Technological Literacy in Adoption Models

The study highlights technological literacy as a key determinant of digital wallet adoption. While existing models often focus on general behavioral factors, this research shows that users' ability to navigate digital platforms is a significant driver of adoption. Future models could integrate digital competency frameworks to better explain fintech/digital wallet adoption trends.

3. Performance Expectancy as a Strong Moderator in Financial Technology

This study finds that SI significantly moderates the relationship between demographics and digital wallet adoption. This supports theories that word-of-mouth, peer recommendations, and social network effects play a substantial role in fintech adoption, particularly in developing economies like Ethiopia.

5.5.2. Practical Implications

These implications focus on how businesses, fintech companies, and financial institutions can apply the study's findings to improve digital wallet adoption.

1. Targeted Marketing Strategies Based on Demographics

For Young Users: Since younger individuals are more likely to adopt digital wallets, fintech companies should focus on gamified experiences, referral rewards, and social media campaigns to increase engagement.

For Older Users: The study suggests that older individuals may be less likely to adopt digital wallets. Financial institutions should implement simplified onboarding processes, face-to-face assistance, and educational workshops to build trust and familiarity.

For Low-Income Users: Digital wallets should integrate microfinance options, lower transaction fees, and government-backed incentives to encourage adoption in lower-income groups.

2. Improving User Experience (UX) Based on Effort Expectancy (EE)

Since effort expectancy (EE) moderates adoption, fintech developers should focus on reducing the complexity of digital wallets. Strategies to improve user experience:

- Biometric authentication (e.g., fingerprint or facial recognition) instead of passwords.
- Voice-activated transactions for low-literacy users.
- Localized language support in mobile applications.

3. Leveraging Social Influence to Increase Adoption

Since SI has a strong moderating effect, financial service providers can use peer-to-peer recommendations to boost adoption.

Strategies include:

- Referral programs where users get rewards for inviting friends.
- Influencer marketing using trusted public figures to promote digital wallets.
- Community-based adoption campaigns in rural and underserved areas.

5.6. Limitations of the Study and Future Study Recommendations

While the study provides valuable insights into the factors influencing digital wallet adoption in Addis Ababa, several limitations should be acknowledged. These limitations highlight potential constraints in the research design, methodology, and findings, which future studies can address.

1. Limited Explanatory Power of the Model

The R-squared (R^2) value of 22.2% suggests that the independent variables (age, gender, income, education, and technological literacy) and the moderating effects of the UTAUT constructs explain only 22.2% of the variance in digital wallet adoption. While this indicates that the model captures some of the key factors influencing adoption, a significant portion (77.8%) of the variation remains unexplained.

This suggests that other behavioral, psychological, or contextual factors—such as perceived security, trust in financial institutions, mobile network reliability, and government policies—may play a crucial role in adoption. Future research should incorporate additional explanatory variables

such as digital financial trust, perceived risk, and regulatory barriers to improve the model's predictive accuracy.

2. Potential Sample Bias and Generalizability Issues

The study focused exclusively on respondents in Addis Ababa, which may limit the generalizability of the findings to other regions of Ethiopia, particularly rural areas. Digital wallet adoption in rural communities may be influenced by different factors such as infrastructure challenges, lower smartphone penetration, and lower financial literacy. Future studies should consider a broader sample that includes rural and semi-urban populations to provide a more comprehensive understanding of nationwide adoption patterns.

3. Self-Reported Data and Response Bias

The study relied on self-reported questionnaire responses, which may introduce social desirability bias or misreporting of digital wallet usage. Some respondents may have overstated or understated their technological literacy or income levels due to personal biases or privacy concerns.

A mixed-method approach incorporating qualitative interviews or actual transaction data from financial institutions could enhance the accuracy of adoption patterns.

4. Sensitivity of Normality and Statistical Assumptions

While regression analysis was conducted, the normality tests on unstandardized residuals showed statistically significant p-values (Kolmogorov-Smirnov and Shapiro-Wilk tests), which is common in large samples. Strict adherence to normality assumptions may not always be necessary in large datasets due to the central limit theorem, but researchers should be aware that non-normality could still impact regression results.

Future studies could explore alternative modeling techniques such as logistic regression or structural equation modeling (SEM) to better capture complex relationships.

5. Lack of Longitudinal Data

The study employed a cross-sectional research design, meaning data was collected at a single point in time. This prevents analysis of how digital wallet adoption behaviors change over time or how

economic conditions, technological advancements, or government regulations influence adoption trends.

Future research should consider longitudinal studies to track changes in digital wallet usage over time and assess the long-term impact of demographic factors on adoption.

6. Exclusion of Psychological and Behavioral Factors

While the study incorporated demographic variables and UTAUT constructs as moderators, it did not include key behavioral factors such as:

- Perceived trust and security concerns in digital transactions.
- Perceived usefulness (PU) as a determinant of sustained usage.
- User experience and satisfaction levels with digital wallet interfaces.

Future studies should integrate qualitative insights from users and examine behavioral models to complement the quantitative findings.

Despite these limitations, the study provides a valuable foundation for understanding digital wallet adoption in Addis Ababa. The findings offer practical insights for financial institutions, policymakers, and technology developers aiming to enhance digital financial inclusion. However, the study underscores the need for a more comprehensive approach that integrates behavioral, psychological, and infrastructural factors to fully capture the dynamics of digital wallet adoption.

5.7. Final Remarks

In closing, this study underscores the importance of understanding both demographic dynamics and perceived technological value when assessing digital wallet adoption in developing economies. The insights gained not only inform future academic inquiry but also serve as a practical guide for financial technology stakeholders aiming to foster wider adoption. While the findings have limitations, they open up new directions for targeted interventions and highlight the evolving nature of user engagement with digital platforms. Ultimately, promoting digital financial tools is not just a matter of innovation—it is also about inclusivity, education, and trust-building. As societies like Addis Ababa continue to digitize, studies like this play a crucial role in shaping a more connected, financially empowered future.

Furthermore, this study highlights the critical role of context-specific research in financial technology. While global models like UTAUT offer a solid foundation for analyzing technology adoption, their application in urban African settings reveals unique behavioral patterns shaped by income disparity, technological access, and generational divides. For instance, the moderating effects of performance and effort expectancy vary significantly depending on users' socioeconomic status, emphasizing that solutions must be tailored—not simply transferred from other markets. This localization of research not only enriches academic understanding but also ensures that financial services are designed to meet the actual needs of users on the ground.

Finally, the findings reinforce the idea that digital transformation in finance is not solely a technical challenge—it is also a social one. Adoption depends not just on system design or smartphone penetration, but on whether people trust the technology, find it accessible, and perceive tangible benefits in their daily lives. Therefore, developers and policy implementers must work collaboratively to address barriers such as digital literacy gaps, security concerns, and infrastructure limitations. As Ethiopia and other emerging economies advance toward cashless societies, continued research that bridges theory with lived experience will be vital for shaping inclusive, user-centered innovation.

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Questionnaire

		Response Options				
S/N	**Demographic Factor Questions**	**1**	**2**	**3**	**4**	**5**
1	What is your age group	18 - 24	25 - 34	35 - 44	45 - 54	55 and above
2	What is your Gender	Male	Female			
3	What is your monthly income range in ETB	Below 5,000	5,001- 10,000	10,001 – 20,000	20,000 – 30,000	20,000 – 30,000
4	What is your highest level of education completed	High School (or equivalent)	Bachelor's Degree	Master's Degree	Doctorate (PhD)	
5	How would you rate your proficiency in using technology	Very Low	Low	Moderate	High	Very High
	UTAUT Constructs Questions	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
6	Using digital wallets helps me save time compared to traditional payments.					
7	Using digital wallets enhances my overall payment experience.					
8	Using digital wallets enhances my productivity in daily tasks.					
9	Digital wallets can improve online shopping experience.					
10	I believe that digital wallets provide a more personalized payment experience.					
11	Using a digital wallet will enable me to make payments without geographical limitations.					
12	Using digital wallets will make it easier to manage recurring expenses (e.g., water and electricity bills, etc.).					
13	I believe using digital wallets is more convenient than traditional payment methods.					
14	I believe that using digital wallets will reduce the need to carry physical cash.					
15	Learning to use a digital wallet is easy for me.					
16	The process of setting up a digital wallet is simple.					
17	I can easily complete financial transactions using a digital wallet without help.					
18	I believe that using a digital wallet does not require significant technical knowledge.					
19	I believe that navigating through the features of a digital wallet is straightforward.					
20	I believe digital wallet applications will allow me to complete transactions without unnecessary steps.					
21	Digital wallets will help me access my transaction history easily.					
22	I believe the digital wallet application is free from technical errors that hinder its use.					
23	I believe using digital wallets is more convenient than traditional payment methods. (Repeated Question)					
24	My friends and colleagues recommend using digital wallets.					
25	Social media and online reviews positively influence my decision to use digital wallets.					
26	The use of digital wallets is widely endorsed in my area.					
27	The advantages of digital wallets are often discussed in my social circle.					
28	I perceive that my social group views digital wallet usage positively.					
29	I feel that adopting a digital wallet would enhance my social status.					
30	I believe that using a digital wallet would be a socially beneficial decision.					
31	Using a digital wallet is considered a modern practice in my area.					
32	There is a strong social expectation for me to use digital wallets.					
33	I have access to a mobile phone that can run a digital wallet application.					
34	I have access to financial resources.					
35	Digital wallet services are available in my area.					
36	I can easily find technical help if I encounter difficulties using digital wallets.					
37	I have the basic skills required to use a digital wallet effectively.					
38	I have access to online resources to learn more about using the digital wallet.					
39	I have necessary regulatory permissions to use digital wallets.					
40	I already have other financial tools that will integrate well with digital wallet use (e.g., mobile banking etc.).					
41	I have access to an internet connection.					
42	There is institutional support for the use of digital wallets in my country.					