

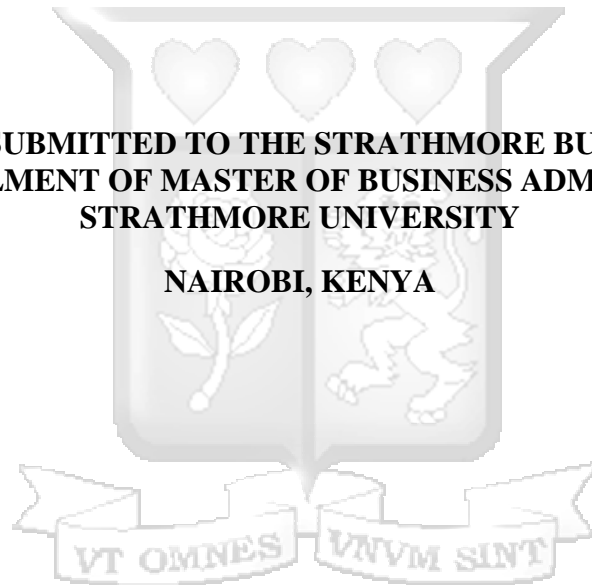
**DETERMINANTS OF THE USAGE OF PAYMENT CARDS AMONG EMPLOYED
YOUTH IN NAIROBI**

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**A DISSERTATION SUBMITTED TO THE STRATHMORE BUSINESS SCHOOL IN
PARTIAL FULFILMENT OF MASTER OF BUSINESS ADMINISTRATION AT
STRATHMORE UNIVERSITY**

NAIROBI, KENYA



MAY, 2025

DECLARATION

I confirm that this work has not been submitted before for a degree at Strathmore University or any other university. To the best of my knowledge, it contains no material previously published or authored by someone else, except where proper citation is made in the research proposal itself.

Name of Candidate: Kevin Njuguna Karanja

Signature:



Approval

The research proposal of Kevin Njuguna Karanja was reviewed and approved by the following:

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Faculty Affiliation: Lecturer, BFS Program Lead

Institution: SBS



DEDICATION

This dissertation is dedicated to my esteemed wife and children, whose unwavering support, sacrifices, and encouragement have been instrumental in my academic journey. Their belief in my abilities has greatly contributed to the realization of this achievement.

Furthermore, I dedicate this work to my supervisor, Dr. Erastus Mbithi, for his invaluable guidance and mentorship. I also extend my gratitude to my friends and colleagues for their constant support and camaraderie throughout this endeavor.



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Thank you all for your unwavering support.



ABSTRACT

In Kenya's rapidly digitizing financial landscape, mobile money platforms like M-Pesa have become the primary mode of payment for many citizens, including formally employed youth. Despite widespread issuance of payment cards to this demographic through salaried bank accounts, anecdotal and industry evidence suggests that card usage remains low. This research examined the effects of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards among Nairobi's youth in formal employment. The theoretical foundations of this study were Technology Acceptance Model (TAM) and Diffusion of Innovation Theory (DIO). Convenience sampling was used to recruit 397 participants for this study. Data for this study was collected using structured questionnaires comprising of standardized, closed questions. The findings suggest that financial literacy, demographic characteristics, and mobile payment adoption all contribute to shaping the usage of payment cards among formally employed youth in Nairobi. Financial literacy emerged as a particularly strong factor, as knowledge and awareness about financial matters increased the likelihood of using payment cards. Demographic factors, including income and education, further influenced adoption, while mobile payments played a complementary role, encouraging the use of card-based transactions. The findings of this study have several important implications for financial institutions, policymakers, and managers. First, financial literacy plays a crucial role in payment card adoption; hence, the need for targeted financial education programs to improve consumer understanding of payment cards. Second, demographic factors influence card usage, which underscores the need for customized card payment products to meet diverse consumer needs. Third, the complementary relationship between mobile payments and card payments indicates that seamless integration between these systems can enhance usage.

Keywords: Demographic factors, financial literacy, mobile payment adoption, employed youth, payment cards usage.

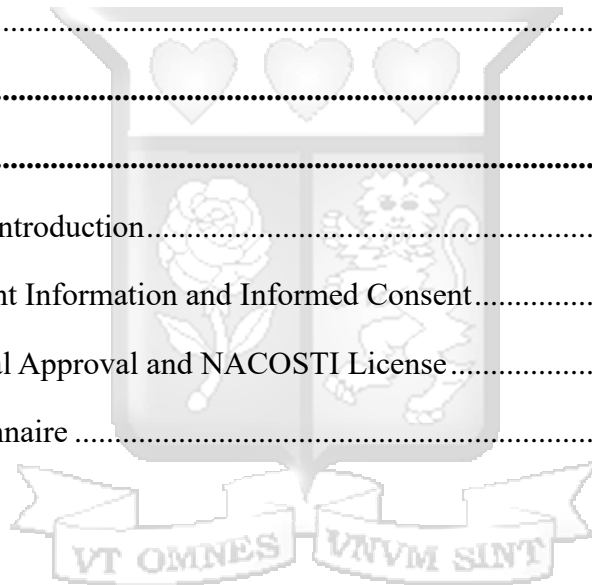
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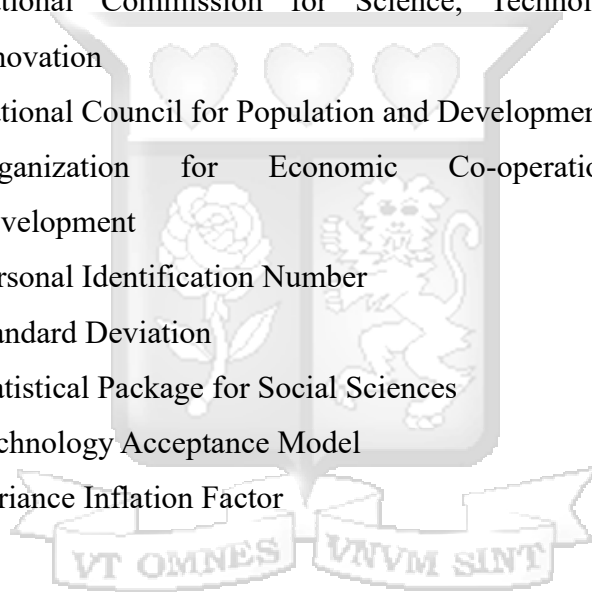
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ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
ATM	Automated Teller Machine
CBK	Central Bank of Kenya
DOI	Diffusion of Innovation
GDP	Gross Domestic Product
KES	Kenya Shillings
KIPPRA	The Kenya Institute for Public Policy Research and Analysis
NACOSTI	National Commission for Science, Technology and Innovation
NCPD	National Council for Population and Development
OECD	Organization for Economic Co-operation and Development
PIN	Personal Identification Number
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences
TAM	Technology Acceptance Model
VIF	Variance Inflation Factor



DEFINITION OF KEY TERMS

Demographic Factors

Demographic factors are the socio-economic characteristics of an individual, such as age, income level, and educational achievement, can also potentially affect the use of payment cards (Long et al., 2023).

Financial Literacy

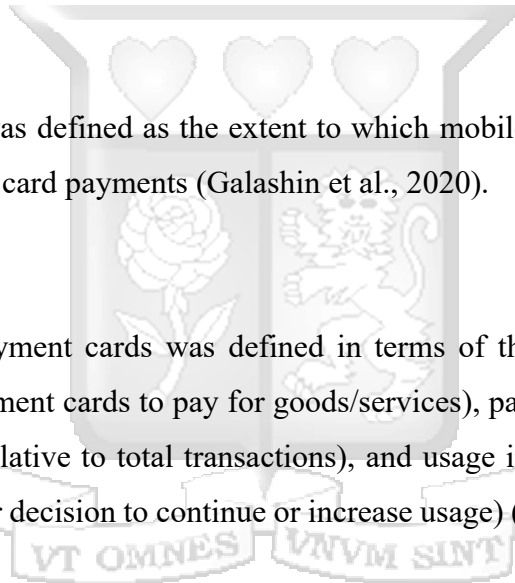
Financial literacy is defined as the ability to understand and use financial skills, such as budgeting, personal finance management and investing (Cude, 2021).

Mobile Payment Adoption

Mobile payment adoption was defined as the extent to which mobile payments are perceived as more favorable compared to card payments (Galashin et al., 2020).

Usage of Payment Cards

For this study, usage of payment cards was defined in terms of the frequency of usage (how frequent consumers use payment cards to pay for goods/services), payment card spend share (the volume of card payments relative to total transactions), and usage intent (consumer satisfaction with payment cards and their decision to continue or increase usage) (Dospinescu et al., 2019; Lin et al., 2019).



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Payment cards offer consumers with numerous advantages, including convenience, security, financial flexibility, ease of tracking and managing finances, universal acceptance, credit building, increased e-commerce, and consumer confidence (Botta, 2022). Cards are simple and quick to use and eliminate the need to carry cash. Also, cards are equipped with security features, such as fraud alerts, encryption, and personal identification number (PINs) that make them safer compared to carrying large amounts of cash (Dospinescu et al., 2019). Moreover, consumers perceive payment cards as a convenient means of paying for goods and services and are increasingly becoming accepted in most business establishments (Boden et al., 2020). Additionally, most financial institutions offer payment card services, which makes it easy for consumers to obtain them (King, 2018). Moreover, most payment cards are globally recognized, which in turn enables cross-border payments. Regardless of these benefits, consumers have raised some drawbacks associated with card payments including potential fraud and costly transactions (Chen et al., 2019). Another concern raised by consumers regarding payment cards is the increased likelihood of impulse buying (unchecked spending) (Pradhan et al., 2018).

Globally, cards are a popular means of making payments across the globe. Data from Statista (2023a) showed that the number of payment cards increased by two billion during the 2019-2021 period – a trend that is projected to increase in the future. In 2017, there were an estimated 20.48 billion payment cards in circulation globally. By 2022, there were 25.85 billion payment cards in circulation worldwide (Pokora, 2023). By 2027, it is projected that there will be 28.44 billion payment cards in use worldwide. In developed economies like the US, cards constitute the primary means of payments (Pokora, 2023). For instance, in the United States, cash accounts only 9% of payments while the remaining are made using cards – physical debit card (49%), physical credit card (32%), virtual credit card (4%) and virtual debit card (5%) (Pokora, 2023). In the US, the use of cards is more popular in Baby Boomers (56-74 years), with Generation Z (18-23) reporting the lowest use of this payment method (Pokora, 2023). According to the Bank for International Settlements, over 60% of non-cash retail payments in OECD countries are made using cards (Iorio

et al., 2025). In developed countries, card transactions remain dominant due to established banking infrastructure and consumer trust (Zhang & Mao, 2020). Overall, globally, cards constitute a popular means of payments by consumers.

Regionally, however, the use of payment cards is low in Africa. Sub-Saharan Africa has experienced low adoption of card-based payments, with mobile money becoming the preferred mode of transaction. The World Bank (2024) reports that fewer than 20% of adults in many African countries use debit cards regularly. South Africa leads in card payments with an average of 50.3 transactions per capita with Kenya coming a distant second at 4.4 transactions per capita (Statista, 2023b). This disparity highlights the relatively limited penetration of payment cards across much of the continent. Africa has the lowest payment card penetration compared to other regions around the world. Surprisingly, Africa has the highest penetration of mobile money compared to other regions. Other electronic means of payments including digital wallets are increasingly becoming adopted by African countries including South Africa, Nigeria, Kenya, Ghana and Egypt (Botta, 2022). Studies across Sub-Saharan Africa show a strong preference for mobile money platforms due to ease of access, lower transaction costs, and higher levels of digital penetration (Rusman, 2021; Ullah et al., 2022). Overall, regional trends show that while credit card penetration is low, the use of digital payments is high.

Similar patterns are seen in the local Kenyan context where the penetration of mobile money payments is high while that of card payments is low (Kusimba, 2021; Rusman, 2021). The usage of card payments in Kenya has shown gradual but modest growth over the years, though it remains significantly lower than mobile payment adoption. In the early 2010s, the use of debit and credit cards was limited, with most transactions conducted in cash or through traditional banking services. The introduction of mobile money services like M-Pesa in 2007 reshaped Kenya's payment landscape, leading to rapid adoption of mobile payments, while card payments continued to grow at a slower rate (Rusman, 2021). The Central Bank's FinAccess Survey (2024) indicates that while 81% of adults have access to formal financial services, only 24% reported using payment cards for transactions, compared to over 80% who use mobile money services like M-Pesa.

Kenya is primarily a cash-dominated economy characterized by the low usage and acceptance of payment cards at merchant establishments (Kusimba, 2021). The increasing acceptance and popularity of mobile payments, like Airtel Money and M-Pesa, has hindered the growth of payment

cards (Rusman, 2021). Currently, an estimated 80% of Kenyans use mobile payment systems, while less than 15% rely on payment cards as a primary payment method (Rusman, 2021). The number of payment cards in circulation in Kenya reached approximately 12 million in 2023; however, usage frequency remains low, with most cardholders using them only occasionally (Kusimba, 2021). Unlike cards, mobile payment services are offered at small businesses and have lower charges, which makes them more attractive to consumers (Kusimba, 2021). However, only an estimated 15% of youth in Kenya regularly use payment cards, compared to over 80% who rely on mobile payment platforms like M-Pesa for most transactions (Kusimba, 2021) Even with financial inclusion efforts, an increase in the banked population, availability of bank accounts and agency banking models, it is surprising that the usage of payment cards in Kenya is still low compared to global trends (Rusman, 2021).

As a result, there is the need to examine the reasons contributing to the low usage of payment cards in Kenya. While M-Pesa and other mobile payment platforms dominate the Kenyan payment landscape, studying payment card usage among Nairobi's youth remains critical for several reasons. First, payment cards offer complementary financial services that mobile platforms do not fully replace. For instance, debit and credit cards are integrated into global banking networks, enabling online purchases from international vendors, access to Automated Teller Machines (ATMs) worldwide, and seamless payments at various local and global retail outlets (Kodongo, 2018). These features offer flexibility and purchasing power beyond mobile money's core functions.

Additionally, payment cards generally provide added security features, such as chip-and-pin, fraud protection, and chargeback mechanisms, which mobile platforms might lack, especially for higher-value transactions. Furthermore, while mobile money is commonly used for small to medium-sized transactions, cards are often preferred for larger purchases due to higher transaction limits and lower fees for high-value payments (Rusman, 2021).

Payment card usage is often linked to financial literacy and access to formal financial services, which can build credit history (Chen et al., 2019). Youth familiar with payment cards may gain access to credit facilities; thus, helping them establish credit scores that could support future financial needs, such as loans for education or business ventures. This aligns with financial inclusion goals by encouraging responsible financial behavior among the youth. While mobile

money is popular for peer-to-peer transactions, payment cards are increasingly necessary for retail and e-commerce transactions, both locally and internationally (Rusman, 2021). However, empirical studies focusing on payment card usage in Kenya remain limited, especially among the urban youth, which is a group that is financially active and likely to benefit from diverse payment options. While studies have examined mobile money's role in Kenya's financial inclusion, few explore the determinants of payment card adoption in this demographic, pointing to a significant gap that this study sought to address.

While mobile money usage has been extensively studied in Kenya, particularly in rural or informal sectors, there is a noticeable empirical gap regarding payment card usage among formally employed urban youth. Prior studies have largely been conducted in developed countries or focused on general populations, overlooking this key demographic in Kenya's financial ecosystem.

Understanding the factors that influence card adoption among Nairobi's youth could provide insights to help financial institutions develop strategies to increase card penetration, moving Kenya closer to a fully cashless economy. This study focused on examining the effects of financial literacy, demographic factors, and mobile payment adoption as determinants of the usage of payment cards. The factors under investigation – financial literacy, demographic characteristics, and mobile payment adoption – were selected based on existing literature that highlights their influence on payment behaviors. These factors, therefore, were chosen as they represent key elements affecting payment behaviors and are crucial for understanding the low usage of payment cards among Nairobi's employed youth. In addition, these factors have not been adequately studied in the Kenyan context.

1.2 Statement of the Problem

Although formally employed youth in Nairobi are often issued payment cards with their bank accounts, anecdotal and industry evidence suggests that many do not use these cards actively for transactions. Instead, mobile money platforms like M-Pesa are preferred. Currently, only an estimated 15% of youth in Kenya regularly use payment cards, compared to over 80% who rely on mobile payment platforms like M-Pesa for most transactions (Kusimba, 2021). This raises concerns about underutilization of formal banking infrastructure and the factors that influence payment behavior among this demographic (Rusman, 2021). This underuse of cards presents a

problem not only for commercial banks, which invest heavily in card infrastructure and digital strategies, but also for the youth themselves, who may be foregoing the financial advantages that come with consistent card use (Nguyen & Cassidy, 2018). In contrast, in countries with high financial inclusion, such as the United States, payment card adoption often exceeds 60-70% of the youth population (Pokora, 2023). An ideal usage level in the Kenyan context would involve a balanced adoption of both mobile and card payments, allowing youth to benefit from the unique advantages of each payment method (Kusimba, 2021).

While payment cards offer unique benefits, such as enhanced security, global transaction capabilities, and access to credit, most urban youth continue to favor mobile payments (Kusimba, 2021). This trend raises concerns about the limited use of formal financial products that could support financial literacy, build credit history, and enable broader economic participation (Kusimba, 2021). In Kenya, cash dominates as the payment method and there is low usage of cards by consumers and acceptance by consumers (Kusimba, 2021).

Even with financial inclusion efforts by the government and financial institutions, an increase in the banked population, availability of bank accounts and agency banking models, it is surprising that the usage of payment cards in Kenya is still low compared to global trends (Rusman, 2021). For instance, in the United States, cash accounts only 9% of payments while the remaining are made using cards – physical debit card (49%), physical credit card (32%), virtual credit card (4%) and virtual debit card (5%) (Pokora, 2023). Regionally and locally however, there is low usage of card payments. South Africa leads in card payments with an average of 50.3 transactions per capita with Kenya coming a distant second at 4.4 transactions per capita (Statista, 2023b). Africa has the lowest payment card penetration compared to other regions around the world.

The low usage of payment cards has significant negative implications for the economy. The use of payment cards reduces the amount of cash in circulation, which in turn reduces inflation (Galashin et al., 2020). Increased supply of money is linked to increased inflation while reduced money supply lowers inflation, which explains the inflation-lowering effect of payment card activities. With Kenya currently struggling with a high cost of living due to inflation, increasing the use of payment cards can be a potentially beneficial strategy to mitigate this problem. Credit and debit card spending has also been positively correlated with employment rates (Wong et al., 2020). Moreover, card payments can eliminate the grey economy since such transactions are documented

and have an audit trail, which can in turn increase tax collection by the government (Kusimba, 2021). Data also links economic growth to increased penetration of payment cards amongst consumers (Kim et al., 2018). Moreover, positive associations have been reported between card penetration and economic indicators, such as gross domestic product (GDP), consumption and financial inclusion (Abdul Karim et al., 2022). Therefore, the low usage of payment cards in Kenya implies missed opportunities for economic growth for the country.

The low usage of cards among this group suggests a missed opportunity for financial growth, credit access, and economic participation that card adoption could support (Kodongo, 2018). When youth rely exclusively on mobile payment apps instead of payment cards, they may miss out on several critical benefits associated with card usage. Payment cards, particularly credit cards, enable users to build a credit history, which is essential for accessing loans for education, businesses, or housing in the future (Kodongo, 2018). Without this financial history, youth face limitations in long-term financial mobility. Additionally, payment cards provide access to broader global payment networks, allowing for international transactions and online purchases that mobile payment platforms may not support (Rusman, 2021). Cards also offer enhanced tracking, fraud protection, and security features, which help with managing spending and protecting users in high-value transactions. By only using mobile payments, youth may also be more vulnerable to financial disruptions, as they lack diversification in their cashless payment methods (Rusman, 2021). In contrast, an ideal payment ecosystem would integrate both payment cards and mobile apps, allowing youth to take advantage of the convenience and accessibility of mobile payments while also benefiting from the financial building blocks and security features that cards provide (Rusman, 2021). Additionally, financial institutions and policymakers are indirectly affected, as the limited usage of payment cards among youth could impact broader financial inclusion efforts and the diversification of Kenya's cashless payment ecosystem (Kusimba, 2021).

Notable conceptual, contextual and methodological gaps exist in the extant research on the use of payment cards. The concept of payment card usage has been conceptualized and operationalized differently. Some different conceptualizations of payment card usage include transaction volume (Stavins, 2020), card penetration rate (Shy, 2020), frequency of use (Seldal & Nyhus, 2022), payment card spend share (Wong et al., 2020), card activation rate, card utilization rate (Xu et al., 2023), and usage intent (Biradar, 2024). Additionally, different determinants of payment cards use

have been studied, which include cost of transactions (Aggarwal et al., 2023); costs associated with bank cards, credit limit size, reward programs and ways of use (Dospinescu et al., 2019); satisfaction, social influence, compatibility, and relative advantage (Jamshidi & Hussin, 2016); consumer attitudes and card features (Lin et al., 2019); behavioral traits and financial literacy (Long et al., 2023); and demonetization policy (Pal et al., 2018).

Contextual gaps also exist in the literature. Studies on the determinants of the use of card payments have been conducted across diverse contexts, including Vietnam (Nguyen & Cassidy, 2018), India (Biradar, 2024; Pal et al., 2018), Pakistan (Qureshi et al, 2018; Ullah et al., 2022; Abdul Karim et al., 2022), Norway (Seldal & Nyhus, 2022), the United States (Shy, 2020; Stavins, 2020; Zhang & Mao, 2020), OECD countries (Wong et al., 2020), China (Xu et al., 2023). As a result, the findings of existing studies cannot be applied in the Kenyan context.

Furthermore, studies on the determinants of payment card use have also been conducted using different methodologies, which include descriptive surveys (Biradar, 2024; Yang et al., 2023; Wong et al., 2020; Ullah et al., 2022; Zhang & Mao, 2020), panel data analysis (Xu et al., 2023), experimental designs (Liu & Dewitte, 2021), and differences-in-differences design (Aggarwal et al., 2023). These different methodologies result in different findings and understandings of the factors that influence the use of payment cards and make it difficult to compare findings as well as clearly understand the determinants of payment cards usage.

In addition, contradictory evidence gaps have been found in the existing literature, which leads to a lack of clarity regarding the relationships between determinants (financial literacy, demographic factors, and mobile money adoption) and the use of payment cards (Xu et al., 2023). One strand of literature shows that these determinants are significant predictors of consumers' payment behaviors including the adoption of payment cards (Aggarwal et al., 2023; Dospinescu et al., 2019; Li et al., 2020; Lin et al., 2019; Xu et al., 2023). Another strand of literature shows no effect of these determinants on the use of payment cards (Trütsch & Nikolaus, 2021; Qureshi et al., 2018). This contradictory evidence gaps in the literature relating to contradictory findings motivated this study. Considering the conceptual, methodological, contextual and contradictory evidence gaps in the existing literature, the current study investigated the determinants of payment cards usage amongst urban youth in Nairobi City County, using the descriptive cross-sectional research design.

1.3 Main Objective of the Study

This research sought to examine the determinants of the usage of payment cards amongst formally employed youth in Nairobi.

1.3.1 Specific Objectives of the Study

1. To examine the effect of financial literacy on the usage of payment cards by the formally employed youth in Nairobi
2. To examine the effect of demographic factors on the usage of payment cards by the formally employed youth in Nairobi
3. To examine the effect of mobile payment adoption on the usage of payment cards by the formally employed youth in Nairobi.

1.4 Research Questions

1. What is the influence of financial literacy on the usage of payment cards in the formally employed youth in Nairobi?
2. What is the effect of demographic factors and on usage of payment cards by the formally employed youth in Nairobi?
3. What is effect of mobile payment adoption on the usage of payment cards by the formally employed youth in Nairobi?

1.5 Significance of the Study

1.5.1 Policymakers

For policymakers and regulators, like the Central Bank of Kenya (CBK), the results obtained from this study may offer useful insights that can help formulate effective policies to enhance the usage of payment cards in Kenya. The findings may inform the development of guidelines for financial institutions and providers of card payment services like Visa and Mastercard.

1.5.2 Practice

Practitioners, including managers of financial institutions and payment cards providers, might benefit from this study in terms of how to improve the adoption of this form of payment. The recommendations offered from this study may help financial institutions and payment cards providers formulate effective strategies to encourage consumers to use this form of payment.

1.5.3 Theory

Lastly, the results of this study may contribute towards the unresolved debate regarding the effect of financial literacy, demographic factors, and mobile payment on the usage of payment cards. The results of this study may also provide a basis for further studies to better understand the determinants of the usage of payment cards in Kenya as well as in other contexts.

1.6 Scope of the Research

This study was limited to investigating the usage of payment cards by the youth, who are defined as people aged between 18 and 34 years (NCPD, 2021). The geographical location of this study was limited to Nairobi County – the rationale for choosing this county is underpinned by the need to focus on urban youth. The determinants that were studied were limited to financial literacy, demographic characteristics, and mobile payment adoption, which are demand-side determinants. Supply-side determinants of the usage of payment cards were not studied. The methodological scope of the current research was quantitative, which was executed using the descriptive cross-sectional design. The population scope consisted of the 1.9 million youth in Nairobi City County. The unit of analysis was the urban youth in Nairobi. Data was collected from a sample of urban youth selected from across the various sub-counties in Nairobi. The study was conducted between February and March 2025.

1.7 Chapter Summary

The background, problem statement, objectives, and research questions have been discussed in this chapter. Also, the significance and scope of the present research have been discussed in this chapter.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses theoretical and empirical literature related to the topic of payment cards' usage. This chapter is organized as follows: Section 2.2 discusses the theoretical foundation; Section 2.3 discusses the empirical literature; Section 2.4 presents the research gap; Section 2.5 is the conceptual framework; and Section 2.6 is the operationalization of study variables.

2.2 Theoretical Foundation

2.2.1 Technology Acceptance Model

The Technology Acceptance Model (TAM), developed by Fred Davis, describes how users accept and use a particular technology (Davis, 1989). TAM posits the actual use of a technology or system is influenced by behavioral intention, which is in turn influenced by attitude (user's impression of the technology or system). TAM proposes that the use of a technology is influenced by perceived usefulness and perceived ease of use (Xu et al., 2023). Perceived usefulness is defined as an individual's perception on whether a given technology is useful for them. Perceived ease of use is the degree of effort needed to use a technology (Davis, 1989). Technologies that are perceived to be useful and easy, elicit positive attitudes from users (Xu et al., 2023). TAM also holds that external variables like social influence and trust are valid. Moreover, perceptions about a technology might change due to due factors like gender and age because of individual differences (Davis, 1989).

TAM has several strengths. This theory has a high explanatory power and taking into consideration social and external influences on the adoption of technology. This theory has been tested and validated in numerous studies on the adoption of various types of technology including payment systems (Lew et al., 2020; Yang et al., 2023). Lew et al. (2020) tested and validated the constructs of TAM in the use of mobile wallet payments. This theory was also validated by Yang et al. (2023), who reported its predictive ability in explaining the adoption of mobile payment systems.

While the Technology Acceptance Model (TAM) has been widely applied in technology adoption studies due to its simplicity and predictive strength, it has several notable weaknesses. One major limitation is its overemphasis on individual perceptions, specifically perceived usefulness and perceived ease of use, while neglecting broader contextual, cultural, and organizational factors that also influence adoption behavior (Xu et al., 2023). TAM also assumes a linear and rational decision-making process, overlooking emotional, social, or habitual influences. Additionally, it lacks explanatory power for post-adoption behavior, such as continued use or user satisfaction over time. Critics also argue that TAM's generic constructs can be too vague, leading to inconsistent operationalization across studies. As a result, researchers often need to extend TAM with additional variables or integrate it with other models to capture more complex, real-world behaviors (Xu et al., 2023).

TAM was used to inform some of the variables in this study including demographic factors and financial literacy. TAM holds that individual differences can account for different attitudes towards a technology; thus, can influence intention and actual use. This study considered demographic factors that influence the use of card payments. Additionally, the variable of financial literacy was adapted from the constructs of perceived ease of use and usefulness. Applying the TAM in the Kenyan context requires considering local contexts, such as infrastructure, cultural norms, and socioeconomic conditions. The success of technology adoption in Kenya often hinges on how well the technology addresses real-life challenges and its accessibility to diverse populations. In this regard, the variable of demographic factors and financial literacy were based on the constructs of TAM. People having high levels of financial literacy are expected to find card payments useful in terms of convenience and safety (Dospinescu et al., 2019).

2.2.2 Diffusion of Innovation Theory

Everett Rogers (1981) formulated the Diffusion of Innovation (DOI) theory to understand how, why, and at what rate new ideas and technologies spread through cultures. This theory proposes that the adoption of innovation is influenced by the characteristics of the innovation (relative advantage, compatibility, complexity, and trialability). Relative advantage is defined as the extent to which an innovation is considered better compared to the superseding idea. Compatibility is the degree to which the innovation is perceived as aligned with the existing values, past experiences, and needs of potential adopters (Rogers, 1981). Complexity refers to the degree to which an

innovation is deemed difficult to understand and use. Trialability is the degree to which users can experiment with an innovation before being committed to use. Observability is the extent to which other people can see the results of using an innovation (Rogers, 1981). The DOI proposes that the likelihood of adoption increases the perceived relative advantage, compatibility, trialability and observability are higher, and complexity is low.

The DOI theory has several strengths, including its broad applicability, which allows it to explain the spread of innovations in different social systems (Benhabib et al., 2021). It also provides a clear framework for understanding how and why innovations are adopted, emphasizing factors like relative advantage, compatibility, and communication channels (Benhabib et al., 2021). However, this theory also has weaknesses, such as its assumption of a linear adoption process, which may not account for the complexities of real-world diffusion, including the role of resistance, cultural differences, and the potential for re-adoption or discontinuation. Additionally, DOI tends to focus on individual decision-making, sometimes overlooking the influence of external factors like policy, economic conditions, or power dynamics within a social system (Das, 2022).

The Diffusion of Innovation theory, despite its widespread use in explaining how new technologies and practices spread, has several limitations. One key weakness is that it tends to follow a linear, one-size-fits-all model, assuming that innovations diffuse similarly across all social systems, which may not hold true in diverse cultural or economic contexts. The theory also places heavy emphasis on the attributes of the innovation itself (such as relative advantage, compatibility, complexity), often overlooking the role of social, institutional, or structural barriers, such as policy constraints, infrastructure gaps, or digital divides, that can hinder adoption. Furthermore, DOI often fails to account for the active role of users in reshaping or adapting innovations, implying a passive diffusion process. It also lacks a strong explanatory mechanism for why some innovations fail to spread, and does not address long-term adoption behaviors or discontinuance. As a result, while DOI provides a useful starting point, it often needs to be complemented with other theories to fully explain technology adoption in real-world settings.

Although DOI provides a framework that can be used to understand patterns of innovation adoption, its effectiveness increased when used in conjunction with other models to address its drawbacks and offer a better understanding of innovation adoption. For this study, the DOI theory formed the basis of the mobile adoption variable as well as the dependent variable of usage of payment cards. The greater the perceived relative advantage of card payments over mobile payments, the more likely card payments will be adopted (Biradar, 2024).

The Technology Acceptance Model (TAM) and the Diffusion of Innovation (DOI) theory offer distinct perspectives that, when combined, create a robust framework for analyzing payment card adoption. TAM focuses on the factors that drive an individual's acceptance and usage of a technology based on perceived usefulness and ease of use. This theory is well-suited to examining how financial literacy and demographic factors (such as age and education) influence youths' perceptions of payment cards and their likelihood to adopt them as part of their financial behaviors.

DOI, on the other hand, provides a broader social perspective by examining how innovations, such as payment cards, spread within a community or social group over time. DOI introduces concepts like relative advantage, compatibility, and observability, which help explain the role of social influences, compatibility with existing payment habits, such as mobile payments, and perceived benefits in encouraging or discouraging adoption within the youth demographic. By combining these theories, the study explored both individual-level factors and social factors that influence adoption. Thus, using TAM and DOI together allows for a holistic understanding of the personal and social determinants impacting payment card usage, making both theories essential for a well-rounded analysis.

This study anchors its analysis on the Technology Acceptance Model (TAM), which provides a theoretical basis for understanding how financial literacy influences the perceived ease and usefulness of payment cards. Similarly, the Diffusion of Innovation (DOI) theory supports the analysis of mobile payment adoption by highlighting relative advantage and compatibility as key drivers in technology adoption choices. These frameworks are therefore directly applicable to the constructs of this study and provide a coherent theoretical lens for analyzing determinants of payment card usage.

2.3 Conceptual Review

2.3.1 Usage of Payment Cards

In the extant literature, the concept of usage of payment cards has been conceptualized and operationalized differently by scholars. For instance, Dospinescu et al. (2019) defined payment cards usage in terms of transaction volume, which refers to the number of transactions completed using payment cards within a defined period. Xu et al. (2023) further measured payment cards usage using the number of payments, purchases and withdrawals made using credit and debit cards within a month. The usage of payment cards has also been defined as the card penetration rate, which denotes the percentage of the population that has and uses payment cards. Payment cards use has also been defined using the frequency of use, which refers to the average number of times a consumer utilizes a payment card within a given period (Dospinescu et al., 2019). Using this definition, Dospinescu et al. (2019) measured payment card use by the number of transactions per cardholder per month.

Other definitions of payment card use in the existing literature include payment card spend share, card activation rate, card utilization rate, and usage intent (Aggarwal et al., 2023; Li et al., 2023). Payment card spend share refers to the proportion of total consumer spending made using payment cards relative to other payment methods, such as checks and cash. Card activation rate is defined as the percentage of issued cards that consumers are actively using (Li et al., 2023). Usage intent is defined as the consumer satisfaction with payment cards and their decision to continue or increase usage (Aggarwal et al., 2023). For this study, usage of payment cards was defined in terms of the frequency of usage (how frequent consumers use payment cards to pay for goods/services), payment card spend share (the volume of card payments relative to total transactions), and usage intent (consumer satisfaction with payment cards and their decision to continue or increase usage) (Dospinescu et al., 2019; Lin et al., 2019).

2.3.2 Determinants of Usage of Payment Cards

Existing studies have revealed numerous factors that influence the usage of payment cards, which include characteristics of card payments, cultural and social influences, economic factors, merchant influence, the market and regulatory environment, and personal preferences and factors (Aggarwal et al., 2023; Cude, 2021; Li et al., 2020). Characteristics of card payments, such as their

convenience, security, financial flexibility, incentives and rewards, facilitating budgeting and financial management, perceived safety, and ease of use have been vastly investigated and reported to have a positive effect on the usage of payment cards (Aggarwal et al., 2023; Li et al., 2023).

Cultural and social influence, notably peer influence can affect the decision to adopt and use card payments (Stavins, 2020). Cultural norms explain the increased use of payments in some regions where payment cards are commonly used and socially accepted as the preferred payment method (Cude, 2021). Economic factors, such as high-income levels and promotions and bonuses, such as zero-interest or low interest introductory offers, signup bonuses and special promotions, can also encourage people to adopt and use payment cards (Galashin et al., 2020). Merchant influence, through offering card-only discounts or payments and loyalty programs, have also been reported to influence the decision by consumers to use their cards (Galashin et al., 2020). Government regulations, through mandates or incentives, can also increase the use of digital payments, including payment cards (Nguyen & Cassidy, 2018). This study focused on examining the effects of financial literacy, demographic factors, and mobile payment adoption as determinants of the usage of payment cards.

2.3.2.1 Financial Literacy

Financial literacy denotes a broad concept that lacks a consistent definition in existing literature. Goyal & Kumar (2021) defined financial literacy as the understanding and knowledge of financial risks and concepts as well as the confidence, motivation, and skills to apply this understanding and knowledge to make effective financial decisions, enhance financial wellbeing, and promote economic participation. According to Garg & Singh (2018), financial literacy is the knowledge of fundamental financial concepts, such as budgeting, personal finance management and investing, as well as the ability to perform simple calculations.

Financial literacy has also been conceptualized as the ability to apply financial skills and knowledge to effectively manage financial resources and achieve lifetime financial security (Kodongo, 2018). Financial literacy has also been linked to other similar concepts, including financial awareness, financial education, and financial capability (Goyal & Kumar, 2021). Cude (2021) described the concept of financial illiteracy, which can take two forms – lacking knowledge of finance concepts and having this knowledge but failing to apply them. From these definitions,

it is evident that having knowledge of fundamental concepts of finance is not enough; instead, these knowledge needs to be applied and reflected in one's financial behavior to demonstrate literacy.

Research on financial literacy focuses on its determinants and effects on financial behavior. This research examines the effect of financial literacy on the use of card payments, which is a form of financial behavior. A subset of financial literacy is the concept of payment literacy, which refers to knowledge of payment instruments and systems (Trütsch & Nikolaus, 2021). For this study, Goyal & Kumar's (2021) definition of financial literacy was adopted, which focuses on understanding and knowing financial concepts, especially payment systems, and applying them to make effective financial decisions, enhance financial wellbeing and promote economic participation.

Financial literacy was defined as the ability to understand and use financial skills, such as budgeting, personal finance management and investing (Cude, 2021). The indicators that were used for financial literacy are knowledge of credit cards, knowledge of debit cards and knowledge of financial concepts and skills (Dospinescu et al., 2019). Financial literacy has been identified as a critical factor in understanding financial tools with research showing that individuals with higher financial literacy are more likely to engage with diverse payment methods, including credit and debit cards (Aggarwal et al., 2023; Li et al., 2023; Nguyen & Cassidy, 2018).

2.3.2.2 Demographic Factors

Demographic characteristics are generally defined as the specific characteristics of a particular population, such as their age, level of income, geographic location, level of education, gender, and socio-economic status, among others. Demographic characteristics have been reported to influence financial behavior of people including the choice of payment methods (Long et al., 2023; Sedal & Nyhus, 2022). Themes in the literature suggest that age, level of education, income, and gender, are relevant demographic characteristics that influence the use of payment methods. Payment behaviors are not uniform across demographic groups, indicating the significant effect of these variables (Stavins, 2020).

Demographic factors were defined as the characteristics, features or attributes that define a person (Li et al., 2020). The indicators that were used to measure demographic factors are age, gender, level of education, and level of income. Demographic characteristics, such as age, income level,

and education, also play a significant role in shaping payment preferences. Studies indicate that younger, urban populations may lean toward cashless solutions; however, their preferences can vary within age groups and socioeconomic status (Stavins, 2020; Seldal & Nyhus, 2022).

2.3.2.3 Mobile Payment Adoption

Consumer preference for mobile versus card payment is a key consideration when choosing the payment method. A common theme is that consumers tend to prefer mobile to card payments due to perceived security, convenience and pain of payment. Mobile payment adoption was defined as the extent to which mobile payments are perceived as more favorable compared to card payments (Galashin et al., 2020). The indicators that were used for measuring mobile payment adoption are the perceived convenience, security and pain of payment in mobile payments vis-à-vis card payments (Dospinescu et al., 2019). Mobile payment adoption is particularly relevant in Kenya, where mobile money services like M-Pesa dominate. Studies reveal that the widespread adoption of mobile payments can impact users' willingness or need to adopt other payment forms like cards (Liu & Dewitte, 2021).

2.3.3 Employed Youth in Nairobi

Kenya is a relatively youthful country with those aged 18-34 years constituting about 35% of the country's population (National Council for Population and Development [NCPD], 2021). In the Kenyan context, the youth are defined as individuals aged between 18 and 34 years (NCPD, 2021). This definition was adopted for this study. The youth are projected to make up a significant proportion of Kenya's population in the foreseeable future (NCPD, 2021). For most businesses in the country, the youth comprise a significant customer base (Dospinescu et al., 2019). Therefore, examining their payment behaviors can yield useful implications for businesses. The youth in Kenya comprise of the millennials and Generation Z populations, which have been reported to have the lowest use of payment cards compared to other demographics (Pokora, 2023).

The context of this study was Nairobi City County, which has an estimated population of 1.9 million youths aged between 18-34 years. According to KIPPRA (2024), the youth aged 18-34 years constitute 56.58 percent of the labor force within Nairobi City County, which translates to a population of 924,000 youth who are employed, with 40 percent of this group working in formal sectors, which tend to offer access to financial services like bank accounts and payment cards.

Additionally, the median monthly income for employed youth in Nairobi is estimated at KES 25,000 (KIPPRA, 2024). This income level, although modest, aligns with the financial access threshold for basic banking services, including debit and credit card eligibility. The employed youth segment in Nairobi, thus, represents a critical demographic for studying payment card usage. Unlike their unemployed counterparts, employed youth have regular income, which increases their likelihood of adopting formal financial tools like payment cards (KIPPRA, 2024). Moreover, as payment behavior in this segment reflects potential growth in financial inclusion, insights gained can help financial institutions tailor their strategies to improve youth engagement with digital banking solutions (Rusman, 2021).

Nairobi is uniquely suited for this study due to its role as Kenya's economic and financial hub, housing the headquarters of major banks, multinational corporations, and government institutions, which collectively drive financial innovation. Unlike other cities, Nairobi offers a higher concentration of financially active, employed youth, with approximately 924,000 youth engaged in formal or informal employment (KIPPRA, 2024). This segment is more likely to interact with digital financial services, including payment cards. Additionally, Nairobi's status as Kenya's tech and digital innovation center, home to numerous fintech companies, fosters an environment ripe for adopting diverse payment methods. The city has also been the focus of financial inclusion initiatives, such as mobile banking and agency banking, aimed at increasing access to financial services for urban residents (Rusman, 2021). This environment provided an ideal setting to study payment card usage, as Nairobi's urbanized, tech-savvy youth may exhibit distinct spending behaviors that could offer insights applicable to other urban centers experiencing similar digital transformations across Kenya and Africa.

2.4 Empirical Literature

This section presents a review of the empirical literature on the determinants of the usage of payment cards with a focus on financial literacy, demographic factors and mobile payment adoption

2.4.1 Financial Literacy and the Usage of Payment Cards

Two strands of research exist regarding the effect of financial literacy on the choice of payment instrument including card payments. The first strand shows the positive effect of financial literacy

on choice of payment instruments. A study by Long et al. (2023) examined the effect of financial literacy on the usage of mobile and electronic money among Japanese consumers. Usage in this study was defined in terms of frequency. Their findings indicated that a higher financial literacy was associated with increased use of electronic money and mobile payment. While this study yields valuable evidence on how payment literacy affects usage of mobile and electronic payments, the findings are only applicable in Japan.

The positive effect of financial literacy on the use of card payments was demonstrated by Nguyen & Cassidy (2018) in Vietnam. Nguyen and Cassidy (2018) defined financial literacy as the degree to which a person is confident in his/her knowledge to use a card for making payments – this definition was adopted from the concept of perceived self-efficacy. The results of their study showed that financial literacy had a positive effect on the intention to use a credit card. However, these findings are only applicable in the Vietnamese context.

Another study conducted in Norway showed the positive effect of financial literacy on the use of payment technologies (Sedal & Nyhus, 2022). Sedal and Nyhus (2022) reported that the likelihood of using contactless payments was higher in persons with higher financial literacy. Higher literacy was also associated with the use of online and mobile payments (Sedal & Nyhus, 2022). Users of these payments systems had a significantly higher level of financial literacy in comparison to non-users. A limitation of this study was that the findings are only applicable in Norway.

The second strand of research shows that financial literacy has no significant effect on the choice of payment instruments including the use of card payments. Trütsch & Nikolaus (2021) examined the effect of financial literacy on the payment behavior in Switzerland. They defined payment behavior in terms of the choice of mobile payment, contactless credit card, debit card, prepaid card and cash. Trütsch & Nikolaus (2021) reported that financial literacy had no effect on the choice of the payment instrument, leading to the conclusion that financial literacy does not predict payment behavior. Similar findings on the insignificant effect of financial literacy on the choice of payment instruments were demonstrated by Ullah et al. (2022) in Pakistani consumers. Ullah et al. (2022) reported no association between financial skills and the intention to adopt mobile payments by smartphone users. The studies conducted by Trütsch & Nikolaus (2021) and Ullah et al. (2022) were limited to Swiss and Pakistani contexts.

Trütsch & Nikolaus (2021) showed that payment literacy significantly predicts payment behavior. Their findings reported a positive relationship between payment literacy and payment instrument adoption although payment literacy did not influence payment instrument usage defined in terms of the frequency of transactions. Payment-illiterate persons were more likely to make use of cash payments in comparison to payment-literate persons.

Like Trütsch & Nikolaus (2021), Prasad et al. (2018) introduced the concept of digital financial literacy and examined its impact on the use of digital payments in India. Prasad et al. (2018) reported a positive impact of digital financial literacy on the use of digital payment platforms. Prasad' et al. (2018) findings are limited to India. From the literature, it is evident that the relationship between financial literacy and the use of different payment instruments is unclear. Some studies showed a positive effect while others showed no effect. Also, the reviewed studies are limited to specific contexts. As a result, the relationship between financial literacy and the use of card payments is still unclear.

Financial literacy is a critical determinant because it affects individuals' confidence in using financial products, such as payment cards. Youth with higher financial literacy are more likely to understand the benefits of payment cards, leading to higher usage. Higher financial literacy is expected to positively influence payment card usage, as literate individuals may perceive payment cards as secure and efficient. The TAM supports this by linking perceived ease of use and usefulness to financial behavior. Youth with financial knowledge might view payment cards as beneficial, making them more likely to adopt and use these tools. Financial literacy has been reported by some scholars as a significant positive determinant of the use of payment cards (Aggarwal et al., 2023; Li et al., 2023) as well as an insignificant predictor of payment behavior (Trütsch & Nikolaus, 2021). Differences in financial infrastructure, education systems, and the prominence of alternative payment systems like mobile money may account for these disparities.

While existing literature establishes a general relationship between financial literacy and financial behavior, there is scarcity of studies that have specifically examined how financial literacy influences the usage of payment cards among formally employed youth in Nairobi. Given the dominance of mobile money platforms in Kenya, it is not self-evident that financial literacy leads to increased card usage in this context. Some youth may be financially literate but still prefer M-Pesa due to convenience, peer influence, or lack of infrastructure (Rusman, 2021). This research

seeks to clarify whether financial literacy is still a significant determinant in an ecosystem where alternative digital payment tools are culturally dominant

2.4.2 Demographic Factors and the Usage of Payment Cards

Significant effects of demographic factors have also been reported in the extant literature. Age is one of the demographic factors that have been studied that influences the use of payment instruments. In Japan, Long et al. (2023) reported differences in the usage of mobile and electronic payments across ages in Japanese consumers. In particular, Long et al. (2023) reported that middle-aged persons (40-69 years) were more likely to use electronic money compared to younger people. The same study showed that younger people aged below 31 years are more likely to use mobile payment compared to older ones. A limitation of this study was that the findings are limited to the Japanese context.

The significant effect of age on the use of payment technologies was also demonstrated by Sedal and Nyhus (2022), who compared the use of online, contactless, and mobile payments across the silent generation (those born between 1928 and 1945), baby boomers (1946-1964), generation X (1965-1980), Millennials (1981-1996), and Generation Z (1997-2012) in Norway. Sedal and Nyhus (2022) found that younger generations were more likely to use digital payment methods (online, mobile and contactless payments) compared to the older generations. This difference can be explained by the digital divide between the younger and older generations. However, the findings of this research are only applicable to the Norwegian context.

Unexpectedly, Stavins (2020), after surveying consumers in the US, reported that the adoption of credit card increases with age, which suggests that younger demographics have lower rates of credit adoption compared to older demographics. Stavins showed that credit card usage in younger consumers aged below 25 is 48%, which is significantly lower compared to 87% of those aged 65 years and above. Still, other researchers, such as Qureshi et al. (2018) showed that age did not have any effect on the use of plastic card payments in Pakistan. Evidently, findings in the existing literature contradict with respect to the effect of age on the use of payment methods. Some studies show the significant effect of age (Long et al., 2023; Sedal & Nyhus, 2022) while others indicate that age does not affect the usage of payment cards (Stavins, 2020; Qureshi et al., 2018). These studies have contextual limitations.

The level of education constitutes another important demographic characteristic that can affect the use of various payment methods. The study by Sedal and Nyhus (2022) showed that those with a higher education level had a higher probability of using online, mobile and contactless payments than those with lower education levels. Similar results findings were reported in the United States by Stavins (2020), who presented data showing that the rate of credit card adoption increased with the level of education. Those with graduate degrees were more likely to have a credit card (92%) compared to those who did not have high school education (33%). In terms of credit card use, defined using credit card balance, Stavins (2020) showed a positive relationship between credit card balances and the level of education. However, Qureshi et al. (2018) indicated that the level of education does not have a significant effect on the use of plastic payment cards in Pakistan.

Another key demographic characteristic studied in the literature that affects consumers' payment behaviors is income levels. A recurring theme in the literature is that the use of electronic payment methods increases with an increase in household income. According to Stavins (2020), the rate of credit card adoption was higher in respondents whose yearly income was \$100,000 (91%) compared to those whose yearly household income was less than \$25,000 (42%). Similar patterns were observed in terms of credit card use defined in terms of the average credit card balance, which was shown to increase with an increase in the level of income. Similar findings were observed by Shy (2020) who reported an increase in the rate of ownership and use of credit and debit cards with an increase in household income. On the contrary, evidence from some studies, such as Qureshi et al. (2018) indicated no effect of income level on the use of plastic payment cards by Pakistani consumers.

The effect of gender on the use of payment technologies have also been reported in the literature. Sedal and Nyhus (2022) demonstrated that women are more likely to use mobile payments and online payments compared to men in Norway. By contrast, studies conducted in the US show that men are more likely to use mobile payments compared to women (Lursadi et al., 2018; Meyll & Walter, 2019). However, Sedal and Nyhus (2022) found that men have a higher likelihood of using contactless payments in comparison to women in Norway. In India, Prasad et al. (2018) showed that men were more likely to use digital payment platforms compared to women. Similarly, in Pakistan, men were more likely to use plastic card payments than women (Qureshi et al., 2018). These studies provide contradictory findings regarding the effect of gender on the choice of

payment methods. This effect varies across countries due to the differences in gender equality as well as the gender digital divide (Sedal & Nyhus, 2022).

Overall, it is evident from the literature that the impact of demographic factors on payment methods is unclear. There is contradictory evidence regarding the effect of age, gender, income and education on the adoption and use of electronic payments including cards. Both positive effects and no effects have been reported in the literature. In addition, the generalizability of existing studies is limited to their specific contexts, with scarce studies conducted in Kenya.

Demographic characteristics, including age, gender, income, and education, can significantly shape payment behavior. For instance, older youth with higher incomes are more likely to adopt payment cards than younger, lower-income individuals. Age, income, and education levels are expected to positively correlate with payment card usage, as these factors generally indicate higher financial access and stability. Demographic factors are relevant in the context of TAM and DOI theory. According to DOI, individuals with higher education and income (early adopters) are more likely to try new financial products like payment cards. Research shows mixed results on demographic influences. Some studies find age and income to be significant predictors, while others see no impact, particularly in contexts with widespread mobile money use. The variability in findings may be due to cultural factors, regional economic conditions, and differing levels of trust in financial institutions.

2.4.3 Mobile Payment Adoption and the Usage of Payment Cards

Boden et al. (2020) conducted a multi-country study with data collected from the United States, India, and Germany to compare the convenience of mobile versus card payments among consumers. The results of this study showed that mobile payment is superior to card payments in terms of convenience even though there is no difference in the cost of transactions between the two modalities. Boden et al. (2020) reported that retailers can increase their customer's willingness to pay through mobile payments than card payments. Therefore, Boden et al. (2020) stresses the importance of convenience in making mobile payments the preferred choice over credit cards. However, a limitation is that these findings can only be generalized to the United States, India, and Germany.

Preference for mobile payments over cards was also demonstrated in India in a study by Pal et al. (2018). Pal et al. (2018) reported that while credit and debit cards are perceived by consumers as easier to maintain compared to mobile wallets, the adoption and use of mobile wallets in India is higher, which can be attributed to facilitating conditions, such as low-cost internet and mobile wallet companies providing discounts. Moreover, the increased risk perception associated with payment cards played a role in inhibiting their use when compared to mobile payments that are viewed to be safer. These findings are only relevant in the context of India.

Similarly, Liu and Dewitte (2021) provided evidence suggesting that the use of credit card is fading away in favor of mobile payments using a sample from Western Europe. Liu and Dewitte (2021) sought to test if the concept of credit card effect (credit cards increase spending) can be replicated to mobile payments. Their study did not show that the credit card effect is applicable to mobile payments. Instead, they observed that the credit card effect is fading away. Spending was higher in mobile payments compared to cash and card payments. Liu & Dewitte (2021), also reported that mobile payments were characterized by higher convenience and lower pain of payment compared to cash and card payments.

In Kenya, mobile payments are highly popular, and they directly compete with payment card adoption. The study sought to understand if mobile payment preferences impact card usage among Nairobi's youth. Mobile payment adoption is hypothesized to have an inverse relationship with payment card usage, as mobile payments are often perceived as more convenient and accessible. DOI theory applies in this case, as it suggests that users will adopt an innovation (mobile payments) that offers perceived relative advantages over existing solutions (payment cards). The Perceived Usefulness concept from TAM also suggests that the preference for mobile payments may reduce the likelihood of using cards. Some studies find mobile payments to be a substitute for cards, while others show complementary use, where users adopt both methods depending on context. Variability may stem from differences in mobile payment infrastructure, transaction costs, and user preferences in different countries.

2.5 Research Gap

Notably, conceptual, contextual and methodological gaps exist in the extant research on the use of payment cards. The concept of payment card usage has been conceptualized and operationalized

differently. Some different conceptualizations of payment card usage include transaction volume (Stavins, 2020), card penetration rate (Shy, 2020), frequency of use (Seldal & Nyhus, 2022), payment card spend share (Wong et al., 2020), card activation rate, card utilization rate (Xu et al., 2023), and usage intent (Biradar, 2024). Additionally, different determinants of payment cards use have been studied, which include cost of transactions (Aggarwal et al., 2023); costs associated with bank cards, credit limit size, reward programs and ease of use (Dospinescu et al., 2019); satisfaction, social influence, compatibility, and relative advantage (Jamshidi & Hussin, 2016); consumer attitudes and card features (Lin et al., 2019); behavioral traits and financial literacy (Long et al., 2023); and demonetization policy (Pal et al., 2018).

Contextual gaps also exist in the literature. Studies on the determinants of the use of card payments have been conducted across diverse contexts, including Vietnam (Nguyen & Cassidy, 2018), India (Biradar, 2024; Pal et al., 2018), Pakistan (Qureshi et al., 2018; Ullah et al., 2022; Abdul Karim et al., 2022), Norway (Seldal & Nyhus, 2022), the United States (Shy, 2020; Stavins, 2020; Zhang & Mao, 2020), OECD countries (Wong et al., 2020), China (Xu et al., 2023). As a result, the findings of existing studies cannot be applied in the Kenyan context. Furthermore, studies on the determinants of payment card use have also been conducted using different methodologies, which include descriptive surveys (Biradar, 2024; Yang et al., 2023; Wong et al., 2020; Ullah et al., 2022; Zhang & Mao, 2020), panel data analysis (Xu et al., 2023), experimental designs (Liu & Dewitte, 2021), and differences-in-differences design (Aggarwal et al., 2023). These different methodologies result in different findings and understandings of the factors that influence the use of payment cards.

In addition, contradictory evidence gaps have been found in the existing literature, leading to a lack of clarity regarding the relationships between determinants (financial literacy, demographic factors, and mobile money adoption) and the use of payment cards (Xu et al., 2023). One strand of literature shows that these determinants are significant predictors of consumers' payment behaviors including the adoption of payment cards (Aggarwal et al., 2023; Dospinescu et al., 2019; Li et al., 2020; Lin et al., 2019; Xu et al., 2023). Another strand of literature shows no effect of these determinants on the use of payment cards (Trütsch & Nikolaus, 2021; Qureshi et al., 2018). This contradictory evidence gaps in the literature relating to contradictory findings motivated this study. Considering the conceptual, methodological, contextual and contradictory evidence gaps in

the existing literature, the current study investigated the determinants of payment cards usage amongst urban youth in Nairobi City County, using the descriptive cross-sectional research design. The research gaps are summarized in Table 2.1.



Table 2. 1: Summary of Research Gaps

Study	Focus of the Study	Findings	Research Gap	Focus of the current study
Aggarwal et al. (2023)	To examine the impact of demonetization (increasing the costs of cash transactions) on the switch to digital payment in India	Demonetization was found to have a positive influence on the switch to digital payments	Conceptual, contextual, and methodological	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya. The methodological approach was descriptive cross-sectional research design
Dospinescu et al. (2019)	To investigate the influence of costs associated with bank cards, credit limit size, reward programs, customer service, volume of information available on the card, ease of use, possibility to perform cash operations at the ATM, social status associated with using cards, and availability of mobile banking on the use of bank cards	The use of bank cards was correlated with the credit limit size, reward program, costs associated with the bank card, social status and image, the possibility of performing cash operations at the ATM, and the availability of mobile banking	Conceptual and contextual,	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya.
Jamshidi and Hussin (2016)	To understand the determinants associated with	Satisfaction, social influence, compatibility, and relative advantage	Conceptual and contextual,	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the

	the adoption of Islamic cards in Malaysia	were the main determinants		usage of payment cards. The context of the present research was Kenya.
Lin et al. (2019)	To examine the determinants of credit card spending among Chinese consumers	Consumer attitudes towards money and credit card limit positively influenced card spending while age and income level had a negative effect	Conceptual and contextual,	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya.
Liu and Dewitte (2021)	To determine if the credit card effect can be replicated in mobile payments in the US and Belgium using an experimental design	The credit card effect could not be replicated in mobile payments	Conceptual, contextual, and methodological	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya. The methodological approach was descriptive cross-sectional research design
Long et al. (2023)	To investigate the effect of behavioral traits and financial literacy on the adoption of electronic payment services in Japan	Higher financial literacy had a positive effect on electronic payments adoption. Risk averse individuals were less likely to use electronic payments as opposed to people	Conceptual and contextual	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya.

		who have herd behavior		
Meyll and Walter (2019)	To determine influence of mobile payment technology on credit card behavior in the United States	The use of mobile payment technology was associated with costly credit card behavior in terms of spending	Conceptual and contextual	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya.
Nguyen and Cassidy (2018)	To examine the determinants of intention to adopt credit cards in Vietnam	The perceived ease of use, anxiety, self-efficacy, subjective norms, and perceived usefulness were significant determinants. Perceived cost was insignificant	Conceptual and contextual	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya.
Pal et al. (2018)	To examine the inhibiting and facilitating factors associated with digital payments in India	Demonetization was found to be a significant facilitator	Conceptual and contextual	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya.
Qureshi et al. (2018)	To examine the factors that influenced consumer attitudes	Age, education and household income did not have a	Conceptual and contextual	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the

	towards using card payments in Pakistan	significant effect on the usage of card payments. Males were more likely to use card payments than females		usage of payment cards. The context of the present research was Kenya.
Shy (2020)	To examine the effect of household income on the ownership of bank cards in the United States	Household income was positively related to frequent use of bank cards	Conceptual and contextual	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya.
Trütsch & Nikolaus (2021)	To investigate the effect of financial literacy on payment behavior in Switzerland	Financial literacy did not have any effect on the choice of payment instrument. Instead, payment literacy was the strongest predictor	Conceptual and contextual	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya.
Ullah et al. (2022)	To assess the impact of digital literacy and financial literacy on the intent to adopt m-payment in Pakistan	Financial skills were not associated with the intent to adopt	Conceptual and contextual	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya.

Wong et al. (2020)	To examine the association between economic growth and cashless payments in OECD countries	Debit card payments were associated with economic growth	Conceptual, contextual, and methodological	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya. The methodological approach was descriptive cross-sectional research design
Xu et al. (2023)	To examine the influence of mobile payment adoption on credit card activities among Chinese bank customers using panel data analysis	Mobile payment adoption was found to increase credit card activities	Conceptual, contextual, and methodological	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya. The methodological approach was descriptive cross-sectional research design
Yang et al. (2023)	To examine the factors that influence the intent to use mobile payments in Taiwan	Attitudes, usefulness, observability and ease of use were significant determinants of the intent to use mobile payment	Conceptual and contextual	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya.
Zhang and Mao (2020)	To study the influence of consumer factors on the intent to adopt mobile payments in the United States	Cognitive antecedents (perceived ease of use, relative advantage and	Conceptual and contextual	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the

		usefulness), affective antecedents (emotions associated with mobile payments) and social antecedents (peer influence) were significant determinants		usage of payment cards. The context of the present research was Kenya.
Biradar (2024)	To investigate the factors that influence the use of credit and debit cards in India	Level education, income, and urban residence had positive effects while age and being female had negative effects	Conceptual and contextual	The present study focused on the effect of financial literacy, demographic factors, and mobile payment adoption on the usage of payment cards. The context of the present research was Kenya.

Source: Researcher (2025)

2.6 Conceptual Framework

Figure 2.1 shows the relationships between the independent variables (financial literacy, demographic factors, and mobile payment adoption) and the dependent variables of usage of payment cards. The conceptual framework of this study is anchored in two theoretical models: TAM and DOI. TAM informs the inclusion of financial literacy and demographic factors by positing that perceived usefulness and ease of use drive technology adoption—individuals with higher financial literacy and favorable demographic characteristics (such as age, income, and education) are more likely to perceive payment cards as beneficial and easy to use, leading to increased usage. DOI theory supports the inclusion of mobile payment adoption and payment card usage by emphasizing attributes like relative advantage, compatibility, and complexity in determining adoption. In this study, mobile payment adoption is viewed as a competing or complementary innovation, where users evaluate card usage based on how well it compares to mobile alternatives. Usage of payment cards, as the dependent variable, is also shaped by how these innovations diffuse through social systems such as peer networks and employment contexts. Together, these theories explain how individual-level perceptions and broader innovation characteristics interact to influence the usage of payment cards among formally employed youth in Nairobi.

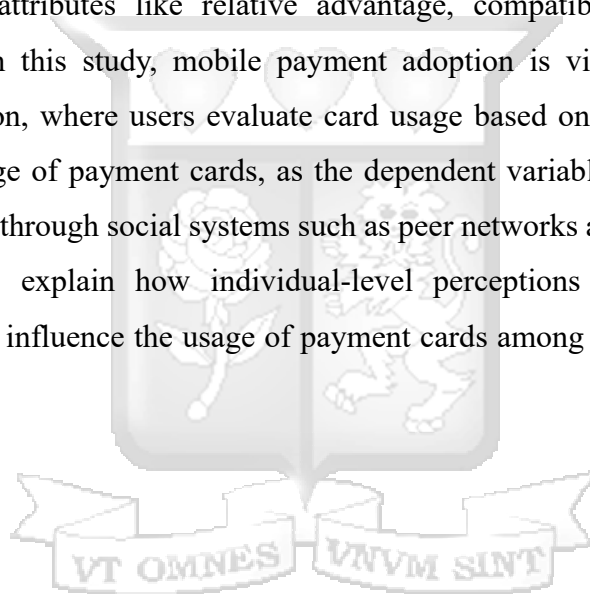
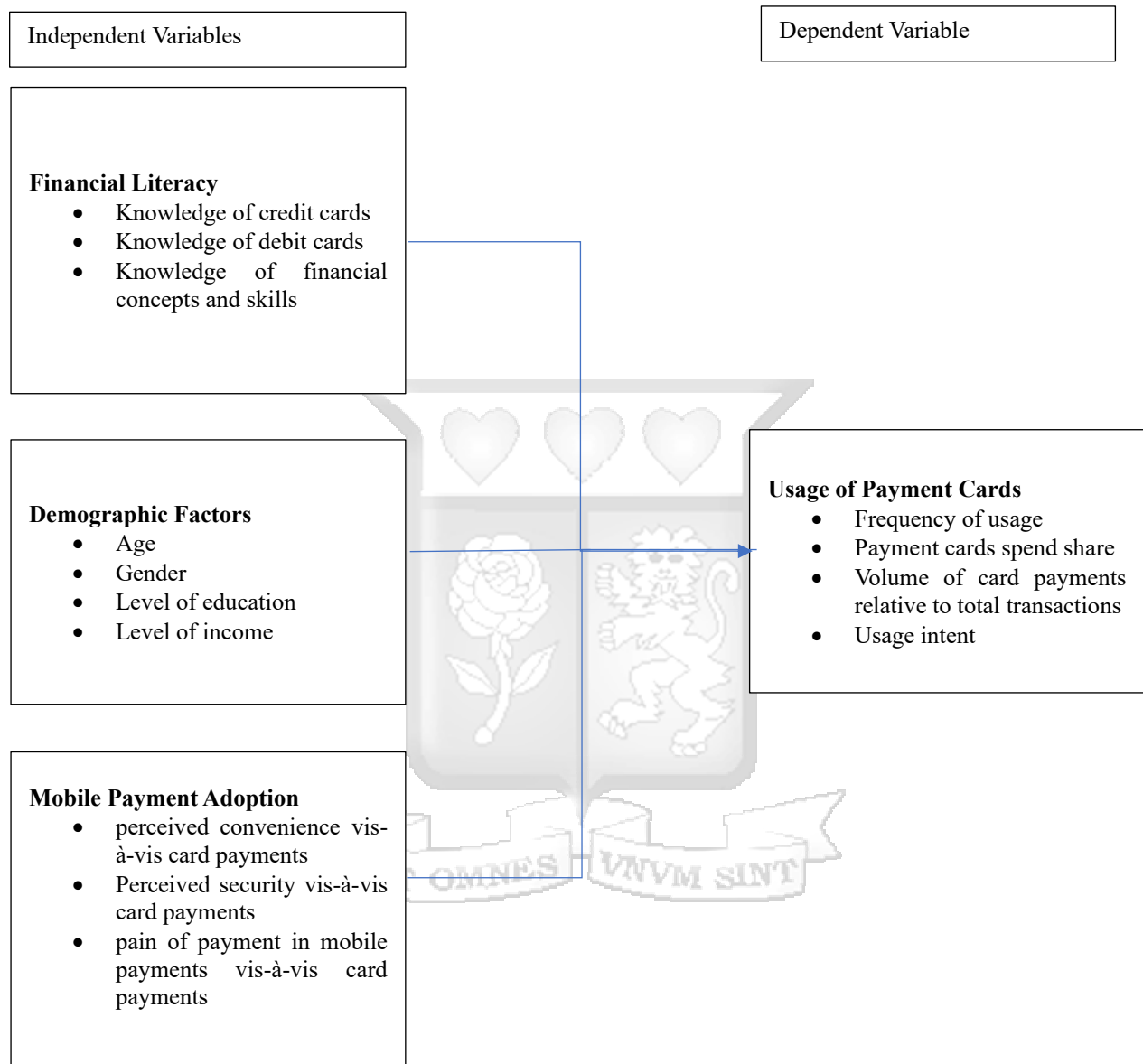


Figure 2. 1: Conceptual Framework



Source: Researcher (2025)

2.7 Operationalization of Study Variables

Table 2.2 shows how the variables in this study were operationalized.

Table 2. 2: Operationalization of Study Variables

Variable	Indicators	Measurement	Literature source	Questionnaire Items
Financial literacy	Knowledge of credit cards	Five-point Likert scale	Dospinescu et al. (2019)	Section B
	Knowledge of debit cards	Five-point Likert scale	Aggarwal et al. (2023)	
	Knowledge of financial concepts and skills	Five-point Likert scale	Lin et al. (2019)	
Demographic factors	Age	Five-point Likert scale	Long et al. (2023)	Section B
	Gender	Five-point Likert scale	Lin et al. (2019)	
	Level of education	Five-point Likert scale	Pal et al. (2018)	
	Level of income	Five-point Likert scale	Qureshi et al. (2018)	
Mobile payment adoption	Perceived convenience vis-à-vis card payments	Five-point Likert scale	Aggarwal et al. (2023)	Section B
	Consumer protection laws	Five-point Likert scale	Dospinescu et al. (2019)	
	Perceived security vis-à-vis card payments	Five-point Likert scale	Long et al. (2023)	
	Pain of payment in mobile payments vis-à-vis card payments	Five-point Likert scale	Aggarwal et al. (2023)	
Usage of payment cards	Frequency of usage	Five-point Likert scale	Pal et al. (2018)	Section C
	Payment cards spend share	Five-point Likert scale	Long et al. (2023)	
	Volume of card payments relative to total transactions	Five-point Likert scale	Dospinescu et al. (2019)	
	Usage intent	Five-point Likert scale	Lin et al. (2019)	

Source: Researcher (2025)

2.8 Chapter Summary

This chapter has discussed the theories that underpinned the present study, which are the TAM and DOI theories. The empirical literature on the factors that influence the usage of payment cards has also been discussed, with a focus on financial literacy, demographic factors, and mobile payment adoption. Additionally, the chapter has presented the research gap, conceptual framework and the operationalization of the variables.



CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter outlines how the research was executed to collect the data needed to answer the research questions. The aspects of methodology discussed in this chapter include the research philosophy, design, population, sampling, procedures for data collection and analysis, steps taken to improve the quality of research, and the ethical considerations.

3.2 Research Philosophy

Research philosophy consists of a set of assumptions and beliefs that concern what constitutes a valid knowledge. These assumptions and beliefs influence the methodology, design and data collection and analysis techniques. This study was guided by the positivism philosophy, which posits that valid knowledge is one that is objective and developed using a scientific approach by studying measurable and observable phenomena. Positivist research focuses on examining causal explanation and prediction (Saunders et al., 2015). Positivism philosophy was suitable for this study because of its explanatory nature in that the usage of card payments was explained using a set of independent variables including financial literacy, demographics and mobile payment adoption. The findings of this research needed to be generalizable to the study's population of urban youth, which underpinned the choice of positivism over other philosophies including interpretivism, realism and pragmatism (Saunders et al., 2015).

Interpretivism focuses on exploring meanings, perceptions and interpretation in a subjective manner; hence, was suitable for the proposed study that seeks to examine associations between well-defined variables. Realism focuses on examining historical causation, which was unsuitable for the proposed research since historical trends were not studied. Pragmatism focuses on developing practical interventions to address an issue (Saunders et al., 2015), which was suitable for the proposed study since it adopted a generalized approach to the issue of payment card use rather than being limited to a specific case study organization. Overall, positivism was the best fit for the proposed research to examine the relationships between variables. In addition,

the positivism philosophy has been employed in similar research studies on the adoption of payment systems (Dospinescu et al., 2019; Long et al., 2023).

3.3 Research Design

The research design is defined as the plan that outlines how data will be collected to answer research questions (Saunders et al., 2015). Since positivism is the guiding philosophy for this research, the quantitative method was used for the present study. The quantitative method entails collecting and analyzing numerical data to either predict or describe phenomena or assess associations between variables.

The specific quantitative design that was adopted for the proposed study is the descriptive cross-sectional research design. This design is used to examine associations between variables using statistical techniques. In this case, the proposed research sought to examine the relationship between usage of payment cards as the dependent variable and a set of independent variables including financial literacy, demographic factors and mobile payment adoption. Thus, the objectives of the proposed study were aligned with the descriptive cross-sectional research design. the selection of a descriptive cross-sectional design is justified by the study's aim to examine relationships between variables at a single point in time, which aligns with similar studies in the field of payment systems. Moreover, this design has also been used in similar studies on the adoption of payment systems (Dospinescu et al., 2019; Long et al., 2023).

3.4 Population of the Study

The population for this study comprised of formally-employed youth in Nairobi County. The term "formally employed youth" in this study was operationally defined as individuals aged 18–34 years who are engaged in wage employment within Nairobi City County. This distinction excludes self-employed individuals and informal workers to ensure a focused investigation of a subgroup with consistent access to formal banking infrastructure, including payment cards issued through salary-linked accounts. Youth was defined as those aged 18-34 years, who make up 35% of the population (NCPD, 2021). In Nairobi, there are an estimated 1.9 million youth (City Population, 2023). According to KIPPRA (2024), the youth aged 18-34 years constitute 56.58 percent of the labor force within Nairobi City County, which translates to a population of 924,000 youth who are formally employed – this constituted the population for this research.

3.5 Sampling Design

Purposive sampling was used to recruit participants for the present study. In purposive sampling, the researcher intentionally selects specific individuals or groups based on certain criteria relevant to the research study (Bell et al., 2015). The aim is to choose participants who are particularly knowledgeable about the subject or who exhibit specific characteristics that are of interest to the research. (Bell et al., 2022). The benefits of purposive sampling include cost-effectiveness and ability to collect data from a large sample pool (Saunders et al., 2015). Although purposive sampling is not probabilistic and introduces some selection bias, it is commonly used because it is practical. Moreover, for this study's population, getting a random sample was not possible since random sampling requires access to the list of the sampling frame. Purposive sampling was chosen due to the accessibility of the target population—formally employed youth in Nairobi—and the logistical constraints of identifying a complete sampling frame. The lack of a national or centralized database of formally employed youth in Nairobi necessitated the use of non-probability (purposive) sampling

To determine the sample size needed for the proposed study, Yamane's formula $n = N/(1+N(e)^2)$ was used. In this formula, n is the sample size, N is the study's population and e is the error margin. Using a population of 924,000 and an error margin of 5%, the sample size calculated by Yamane's formula is $n = 924000/(1+924000(0.05)^2) \approx 400$ respondents. Respondents were drawn from the 17 sub-counties in Nairobi. From each sub-county, at least 24 respondents were targeted.

The study specifically targeted formally employed youth aged 18-34 because they are more likely to engage with payment card systems due to stable income and exposure to financial services. Self-employed youth and those in informal employment were not included due to the difficulty of accessing consistent records about their income and payment habits. The exclusion of these groups minimized variability that could obscure the study's results on determinants of payment card usage. Illiterate or those with cognitive disabilities were excluded due to their inability to provide informed consent.

3.6 Data Collection Methods

In this study, primary data was collected. Data for this study was collected using structured questionnaires comprising of standardized, closed questions. The rationale for choosing structured

questionnaires stems from their effectiveness in gathering data from a large pool of respondents (Hair et al., 2019). Also, the standardized nature of the questions reduces cognitive load on respondents, which can in turn improve response rate and reduce missing data in submitted questionnaires. Moreover, questionnaires guarantee anonymity and confidentiality since respondents' personal details were not to be captured, which can help improve honesty from respondents. A key drawback of questionnaires is that respondents might misunderstand or misinterpret the questions (Hair et al., 2019). This issue was addressed using plain language and providing adequate detail in questions making it easy for respondents to process and analyze questions. Respondent fatigue was minimized by keeping the questionnaire short and brief.

The use of a questionnaire in this study is justified by its effectiveness in collecting standardized data from a large sample of respondents efficiently. A structured questionnaire allows for the systematic collection of data on key variables—such as financial literacy, demographic factors, and mobile payment adoption—using Likert scales and categorical responses, which are well-suited for statistical analysis (Hair et al., 2019). This method provides anonymity, encouraging honest responses, and minimizes interviewer bias. Furthermore, questionnaires are cost-effective and practical for reaching a dispersed urban youth population in Nairobi, making them ideal for this cross-sectional study design (Hair et al., 2019). Structured questionnaires were used to ensure consistency in responses and to facilitate quantitative analysis

The questionnaire was designed with clear, simplified, and closed-ended questions, and enumerators were trained to provide clarification when needed during administration. The questionnaire was administered in person using a structured, face-to-face approach. Trained research assistants were deployed to targeted locations within Nairobi City County known to host a high concentration of formally employed youth, including office buildings, business parks, and government institutions. Respondents were first screened to confirm that they met the study's inclusion criteria—namely, being aged between 18 and 34 and formally employed. After providing informed consent, participants completed paper-based questionnaires, which were designed with simple, standardized, and closed-ended questions to ensure ease of understanding. Research assistants were available to offer clarification where necessary, reducing the likelihood of response errors due to misinterpretation.

The questionnaire comprised of three sections including basic information (Section A), factors affecting the usage of payment cards (Section B), and the usage of payment cards (Section C). Questions for the variables were in the format of a five-point Likert scale from strongly agree to strongly disagree.

3.7 Research Quality

The quality of this research was enhanced by taking measures to assess and improve the validity and reliability of the data collection instruments.

3.7.1 Validity

Validity is defined as the extent to which the findings of the study accurately reflect the phenomenon being studied (internal) and actual relationships in the population (external validity). To improve internal validity, pilot research was conducted using 30 respondents consisting of randomly surveyed youths to determine the clarity of the questionnaire. The questionnaire was also subjected to a review by experts to establish it accurately captures the concepts being studied. In this respect, the questionnaire was developed under the direction of a supervisor at Strathmore University. The feedback obtained from experts and pilot study was used to improve the questionnaire. External validity was increased by using a large sample.

3.7.2 Reliability

Reliability is defined as the extent to which similar findings can be obtained if the research is repeated, that is, its degree of dependability. For this study, the reliability of the questionnaire was calculated and reported. A reliability coefficient of 0.7 or more is deemed acceptable by Bell et al. (2022). For Saunders et al. (2015), a Cronbach's alpha of <0.6 is unacceptable, 0.6-0.7 is minimally acceptable, 0.7-0.9 is acceptable, and >.9 is excessive. For this study, the threshold by Bell et al. (2022) of at least 0.7 was adopted. Additionally, the questionnaire was adapted from reliable instruments that have already been used and tested for reliability by previous researchers (Dospinescu et al., 2019; Long et al., 2023). Table 3.1 shows the reliability statistics for the questionnaire.

Table 3. 1: Reliability Statistics

Variable	Cronbach's Alpha	Number of Items	Interpretation
Financial Literacy	0.873	10	Reliable
Demographic Factors	0.602	11	Reliable
Mobile Payment Adoption	0.811	11	Reliable
Usage of Payment Cards	0.855	9	Reliable

Source: Researcher (2025)

3.8 Data Analysis

The statistical package for social sciences (SPSS) version 27 was used to analyze data. Descriptive statistics, especially means, standard deviation and frequencies was used to describe and summarize the variables. To assess the relationships between the variables, a multiple linear regression model was used. The following regression model was adopted to determine the strength and direction of the relationships between financial literacy, demographics, and mobile phone adoption (independent variables) and usage of card payments (the dependent variable).

In this study, the dependent variable, usage of payment cards, was measured as a composite score, calculated as the mean of several Likert-scale items. This approach allows for a more robust, quasi-continuous measure of the construct, which is suitable for regression analysis. By averaging multiple items, the composite score reduces measurement error and better aligns with the assumptions of a regression model. This method has been widely used in survey research, as it provides a reliable and interpretable metric that captures the overall concept being studied.

$$PC = \beta_0 + \beta_1 FL + \beta_2 DF + \beta_3 MP + \epsilon$$

Where:

PC = Use of payment cards

$\beta_1, \beta_2, \beta_3, \dots, \beta_p$: are the regression coefficients

FL = financial literacy

DF = demographic factors

MP = mobile payment adoption

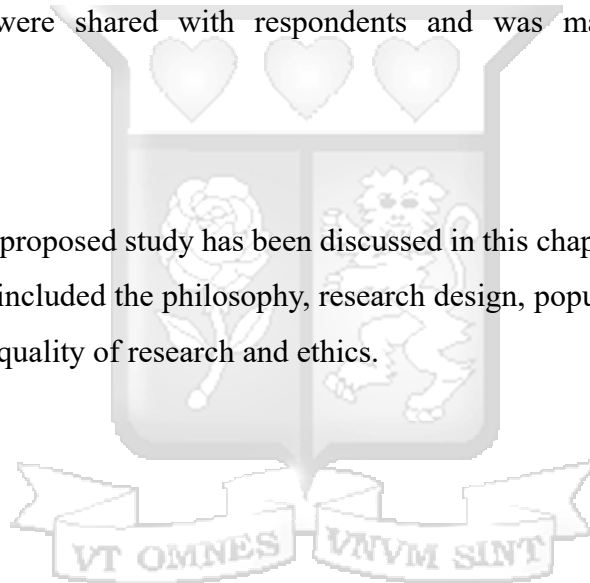
ϵ = Error function

3.9 Ethical Considerations

Before commencing data collection, necessary approvals were obtained from Strathmore University's Internal Ethical Review Committee and the National Commission for Science, Technology, and Innovation (NACOSTI). Secondly, participation in this study was voluntary. Respondents were briefed about the study including its objectives and the nature of their participation, after which they provide an informed consent to take part in the study. Thirdly, the confidentiality of respondents was safeguarded by not collecting personal information, such as their names and contact data, that could potentially be used to determine their identities. The findings of the study were shared with respondents and was mailed to their respective organizations.

3.10 Chapter Summary

The methodology for the proposed study has been discussed in this chapter. The specific elements discussed in this chapter included the philosophy, research design, population and sampling, data collection, data analysis, quality of research and ethics.



CHAPTER FOUR

PRESENTATION OF RESULTS

4.1 Introduction

The aim of this study was to examine the determinants of the usage of payment cards amongst formally employed youth in Nairobi. This chapter outlines the key findings of this study based on the objectives of this study. The structure of this chapter is as follows: Section 4.2 discusses the response rate, Section 4.3 presents the demographic information of respondents, Section 4.4 presents descriptive statistics of the variables, Section 4.5 presents inferential analysis including the correlations, diagnostic tests and multiple correlations, and Section 4.6 presents a chapter summary.

4.2 Response Rate

According to Bell et al. (2022), the response rate is a key aspect that influences the research validity. In essence, a high response suggests a lower likelihood of having a biased sample whereas a low response rate suggests that the sample may be unrepresentative; hence, may lead to skewed results. In this study, the target sample size was 400 respondents. The researcher was able to collect 297 complete questionnaires, translating to a response rate of 74.75%. As Bell et al. (2022) reported, a response rate of at least 60% is sufficient for analysis and can produce generalizable results. The response rate for this study is summarized in Table 4.1

Table 4. 1: Response Rate

Category	Frequency	Percentage
Number of questionnaires that were distributed	400	100%
Number of complete questionnaires that were returned	297	74.75%
Number of questionnaires that were not returned	133	25.25%

Source: Researcher (2025)

4.3 Demographic Information of Respondents

In this section, the demographic information of respondents is presented, which consists of their age, gender, level of education, and monthly income. The study surveyed 297 respondents with

diverse demographic characteristics. The majority (46%) were aged between 29 and 32 years, followed by 31% in the 33–34 age group. Respondents aged 25–28 accounted for 13%, while younger age groups were less represented, with 6% aged 21–24 and only 3% aged 18–20. The gender distribution was nearly equal, with 51% of respondents being female and 49% male. Regarding educational attainment, most respondents held a university degree (41%) or a master’s degree (35%), while 11% had a postgraduate degree. A smaller proportion had completed high school (7%) or college (6%). In terms of income, 28% of respondents earned between 60,001 and 80,000 Kenyan Shillings per month, 22% earned between 80,001 and 100,000, and 21% earned above 100,000. Lower income brackets were less common, with 13% earning 40,001–60,000, 10% earning 20,001–40,000, and 6% earning 0–20,000. These findings highlight a well-educated and relatively high-income sample, with a concentration of respondents in their late twenties to early thirties. The demographic characteristics of respondents are summarized in Table 4.2.

Table 4. 2: Demographic Profile of Respondents

		Frequency	Percent
Age (years)	18-20	8	3%
	21-24	19	6%
	25-28	40	13%
	29-32	138	46%
	33-34	92	31%
	Total	297	100%
Gender	Female	152	51%
	Male	145	49%
	Total	297	100%
Level of Education	High School	20	7%
	College	18	6%
	University Degree	122	41%
	Master's Degree	105	35%
	post-graduate Degree	32	11%
	Total	297	100%
Monthly Income in Kenya Shillings	0-20,000	18	6%
	20,001-40,000	31	10%
	40,001-60,000	38	13%
	60,001-80,000	83	28%
	80,001-100,000	66	22%
	Above 100,000	61	21%
	Total	297	100%

Source: Researcher (2025)

4.4 Descriptive Analysis

This section provides descriptive statistics relating to the variables of this study, which include financial literacy, demographic factors, mobile payment adoption and usage of payment cards.

4.4.1 Descriptive Statistics on Financial Literacy

The first research objective focused on evaluating the influence of financial literacy on the usage of payment cards among youth in formal employment in Nairobi. The indicators used to measure financial literacy were knowledge of credit cards, debit cards, and financial concepts and skills.

Regarding credit card usage, a significant portion of respondents expressed a neutral to positive understanding of how to effectively use a credit card for purchases. Thirty-four percent agreed, while 17% strongly agreed with the statement, suggesting a solid grasp of this concept. However, there was also a considerable amount of uncertainty, with 27% remaining neutral and 15% disagreeing to some extent. A small minority (6%) strongly disagreed with the statement.

Awareness of interest rates and associated costs when using a credit card showed a similar trend. While 23% of respondents agreed and 18% strongly agreed, a large portion (46%) were neutral, and 13% disagreed in some capacity. This indicates that while many participants are somewhat aware of the financial implications of credit card use, a significant number remain unclear about these details.

When it comes to the importance of paying credit card balances on time, a majority (41%) agreed, with 13% strongly agreeing. Still, a considerable number (31%) remained neutral, and 15% were either indifferent or unaware, as reflected by the disagree and strongly disagree categories. This suggests that there is room for improvement in understanding the importance of timely payments to avoid penalties.

On debit card usage, respondents appeared more confident. Forty-one percent agreed and 10% strongly agreed that they knew how to use a debit card to manage spending directly from their bank accounts. However, there was still some uncertainty, with 39% remaining neutral, which shows that not all participants feel fully informed about managing spending with a debit card.

The concept that each debit card transaction immediately affects the bank account balance was well understood by many, with 32% agreeing and 15% strongly agreeing. However, the largest portion (48%) remained neutral, indicating that while some grasp this concept, many still have doubts or lack full awareness.

Monitoring and managing debit card transactions through online banking was another area where understanding seemed to be fairly high, with 44% agreeing and 7% strongly agreeing. Again, 34% remained neutral, suggesting room for greater clarity on how to track transactions online effectively.

In terms of credit card debt management, understanding of how interest rates affect credit card debt was moderate. While 36% agreed and 6% strongly agreed that they knew how to minimize costs, nearly half (48%) were neutral, suggesting a lack of clarity or experience in dealing with interest-related concerns.

Awareness of the importance of maintaining a good credit score was reflected in the responses, with 23% agreeing and 18% strongly agreeing that they recognized the significance of a good credit score for responsible credit card use. However, a significant portion (46%) remained neutral on this matter, highlighting a gap in awareness.

The financial risks associated with overspending on a credit card were generally well recognized. Forty-two percent of respondents agreed, and 10% strongly agreed, showing a solid understanding of the potential dangers of excessive credit card spending. However, 38% were neutral, suggesting that while many respondents understood the risks, others were unsure or unaware.

Lastly, respondents seemed to have a moderate understanding of calculating the total cost of credit card purchases, including interest if not paid in full. While 39% agreed and 11% strongly agreed, 41% were neutral, and 8% disagreed, showing that while many could calculate these costs, a sizable portion still struggled with this concept.

In summary, the survey responses indicate that while many individuals demonstrate a reasonable understanding of credit and debit card usage, there are notable gaps in awareness and understanding, particularly when it comes to managing costs, interest rates, and maintaining financial discipline. These findings are summarized in Table 4.3.

Table 4. 3: Frequencies and Percentages for Financial Literacy

		Frequency	Percent
I understand how to effectively use a credit card for purchases	Strongly Disagree	18	6%
	Disagree	45	15%
	Neutral	81	27%
	Agree	102	34%
	Strongly Agree	51	17%
	Total	297	100%
I am aware of the interest rates and costs involved when I use my credit card	Strongly Disagree	15	5%
	Disagree	24	8%
	Neutral	137	46%
	Agree	68	23%
	Strongly Agree	53	18%
	Total	297	100%
I understand the importance of paying my credit card balance on time to avoid penalties	Strongly Disagree	15	5%
	Disagree	30	10%
	Neutral	93	31%
	Agree	121	41%
	Strongly Agree	38	13%
	Total	297	100%
I know how to use a debit card to manage my spending directly from my bank account	Strongly Disagree	12	4%
	Disagree	15	5%
	Neutral	117	39%
	Agree	123	41%
	Strongly Agree	30	10%
	Total	297	100%
I understand that each debit card transaction reduces my bank account balance immediately	Strongly Disagree	12	4%
	Disagree	0	0%
	Neutral	144	48%
	Agree	96	32%
	Strongly Agree	45	15%
	Total	297	100%
I know how to monitor and manage my debit card transactions through online banking	Strongly Disagree	15	5%
	Disagree	27	9%
	Neutral	102	34%
	Agree	132	44%
	Strongly Agree	21	7%
	Total	297	100%
I understand how interest rates affect credit card debt and how to minimize costs	Strongly Disagree	9	3%
	Disagree	18	6%
	Neutral	144	48%
	Agree	108	36%
	Strongly Agree	18	6%
	Total	297	100%
	Strongly Disagree	15	5%

I recognize that maintaining a good credit score is important for responsible credit card use	Disagree	24	8%
	Neutral	137	46%
	Agree	68	23%
	Strongly Agree	53	18%
	Total	297	100%
I am aware of the financial risks, like debt, that come with overspending on a credit card	Strongly Disagree	9	3%
	Disagree	18	6%
	Neutral	114	38%
	Agree	126	42%
	Strongly Agree	30	10%
	Total	297	100%
I can calculate the total cost of credit card purchases, including interest, if I don't pay in full.	Strongly Disagree	15	5%
	Disagree	9	3%
	Neutral	121	41%
	Agree	116	39%
	Strongly Agree	33	11%
	Total	294	100%

Source: Researcher (2025)

The descriptive statistics for financial literacy indicate a moderate level of understanding among respondents, with an overall mean score of 3.45 (SD = 0.70) (See Table 4.4). The highest mean score was observed for the statement "I understand that each debit card transaction reduces my bank account balance immediately" (M = 3.55, SD = 0.89), suggesting that respondents have a relatively strong grasp of basic debit card functionality. Similarly, "I am aware of the financial risks, like debt, that come with overspending on a credit card" had a high mean of 3.51 (SD = 0.87), indicating a reasonable awareness of the consequences of overspending.

In contrast, the lowest mean score was associated with "I understand how interest rates affect credit card debt and how to minimize costs" (M = 3.36, SD = 0.81), implying that respondents may have less confidence in their ability to manage interest-related costs. Additionally, statements related to credit card cost awareness and credit score importance both had means of 3.40 (SD = 1.03), highlighting potential gaps in knowledge.

The standard deviations across the items ranged from 0.81 to 1.12, suggesting some variability in responses, particularly in credit card-related knowledge. While respondents demonstrated a moderate understanding of financial literacy concepts, the findings suggest that targeted financial education could enhance awareness, particularly in areas related to credit card interest rates and debt management. Detailed descriptive statistics for financial literacy are presented in Table 4.4

Table 4. 4: Descriptive Statistics for Financial Literacy

	N	Mean	Std. Deviation
I understand how to effectively use a credit card for purchases	297	3.41	1.121
I am aware of the interest rates and costs involved when I use my credit card	297	3.40	1.032
I understand the importance of paying my credit card balance on time to avoid penalties	297	3.46	1.006
I know how to use a debit card to manage my spending directly from my bank account	297	3.48	.893
I understand that each debit card transaction reduces my bank account balance immediately	297	3.55	.892
I know how to monitor and manage my debit card transactions through online banking	297	3.39	.932
I understand how interest rates affect credit card debt and how to minimize costs	297	3.36	.811
I recognize that maintaining a good credit score is important for responsible credit card use	297	3.40	1.032
I am aware of the financial risks, like debt, that come with overspending on a credit card	297	3.51	.870
I can calculate the total cost of credit card purchases, including interest, if I don't pay in full.	297	3.49	.919
Overall Score for Financial Literacy	297	3.4468	.70029
Valid N (listwise)	297		

Source: Researcher (2025)

4.4.2 Descriptive Statistics on Demographic Factors

The second research objective was to evaluate the influence of demographic factors on the usage of payment cards. The demographic factors that were studied included age, gender, level of education, and level of income.

The responses indicate that age is widely perceived as a factor influencing financial decision-making, including payment card usage. A majority of respondents (70%) either agreed (51%) or strongly agreed (19%) that their age influences their financial decisions, while only 4% disagreed and 26% remained neutral. Similarly, a strong majority (69%) agreed that younger individuals are more likely to adopt new payment technologies, reflecting a general belief in generational differences in financial behavior.

The influence of life stage was also strongly affirmed: 87% of respondents agreed or strongly agreed that their stage in life affects how they use and perceive payment cards, with no respondents disagreeing and only 12% remaining neutral. These results suggest that age-related factors are considered relevant by most respondents in shaping how they engage with financial tools such as credit and debit cards.

In terms of gender, more than half of the respondents (61%) agreed or strongly agreed that gender plays a role in financial decision-making, while 36% were neutral. Similarly, 71% agreed or strongly agreed that men and women have different attitudes toward the use of credit and debit cards. While a sizable minority remained neutral, these findings reflect a perceived gender-based divergence in attitudes toward payment card usage.

With respect to education, a large majority of respondents acknowledged its importance. 69% of participants agreed or strongly agreed that their level of education has helped them understand the benefits and risks of using payment cards, while only 4% disagreed and 27% remained neutral. Additionally, 68% agreed that education influences how well they manage their finances, with a similar majority (66%) believing that individuals with higher education levels are more likely to use credit and debit cards effectively.

When it comes to income, 63% of respondents agreed or strongly agreed that their income level affects their decision to use credit or debit cards, though 37% were neutral. A greater majority (65%) believed that individuals with higher income levels are more likely to use credit cards frequently, and a nearly even split (65%) also agreed that their income allows them to take advantage of the benefits offered by various payment cards, suggesting a strong perceived link between income and financial tool usage. These findings are detailed in Table 4.5.

Table 4. 5: Frequencies and Percentages for Demographic Factors

		Frequency	Percent
My age influences my financial decisions, including the use of payment cards	Strongly Disagree	0	0%
	Disagree	13	4%
	Neutral	77	26%
	Agree	151	51%
	Strongly Agree	56	19%
	Total	297	100%
I believe that younger individuals are more	Strongly Disagree	0	0%
	Disagree	3	1%

likely to adopt new payment technologies.	Neutral	90	30%
	Agree	162	55%
	Strongly Agree	42	14%
	Total	297	100%
My stage in life affects how I use and perceive payment cards	Strongly Disagree	0	0%
	Disagree	4	1%
	Neutral	35	12%
	Agree	149	50%
	Strongly Agree	109	37%
	Total	297	100%
I believe that gender plays a role in financial decision-making, including the use of payment cards	Strongly Disagree	0	0%
	Disagree	10	3%
	Neutral	106	36%
	Agree	157	53%
	Strongly Agree	24	8%
	Total	297	100%
In my opinion, men and women have different attitudes toward the use of credit and debit cards.	Strongly Disagree	0	0%
	Disagree	8	3%
	Neutral	79	27%
	Agree	158	53%
	Strongly Agree	52	18%
	Total	297	100%
My level of education has helped me understand the benefits and risks of using payment cards	Strongly Disagree	0	0%
	Disagree	12	4%
	Neutral	81	27%
	Agree	118	40%
	Strongly Agree	86	29%
	Total	297	100%
Education influences how well I manage my finances, including the use of payment cards	Strongly Disagree	8	3%
	Disagree	8	3%
	Neutral	79	27%
	Agree	93	31%
	Strongly Agree	109	37%
	Total	297	100%
I believe that individuals with higher education levels are more likely to use credit and debit cards effectively.	Strongly Disagree	0	0%
	Disagree	8	3%
	Neutral	95	32%
	Agree	118	40%
	Strongly Agree	76	26%
	Total	297	100%
My income level affects my decision to use credit or debit cards	Strongly Disagree	0	0%
	Disagree	0	0%
	Neutral	111	37%
	Agree	128	43%
	Strongly Agree	58	20%

	Total	297	100%
I believe that individuals with higher income levels are more likely to use credit cards frequently	Strongly Disagree	0	0%
	Disagree	4	1%
	Neutral	98	33%
	Agree	149	50%
	Strongly Agree	46	15%
	Total	297	100%
My income allows me to take advantage of the benefits offered by various payment cards.	Strongly Disagree	0	0%
	Disagree	0	0%
	Neutral	106	36%
	Agree	103	35%
	Strongly Agree	88	30%
	Total	297	100%

The descriptive statistics indicate that demographic factors significantly influence financial decision-making and payment card usage, with an overall mean score of 3.89 (SD = 0.35). Life stage had the highest mean (4.22, SD = 0.701), suggesting that individuals strongly believe their stage in life affects how they use and perceive payment cards. Education also emerged as a key factor, with high agreement on its role in understanding financial risks (Mean = 3.94, SD = 0.807) and managing finances effectively (Mean = 3.97, SD = 0.993). Income-related factors were similarly influential, with respondents acknowledging that their income level affects their ability to use payment cards and take advantage of associated benefits (Mean = 3.80 - 3.94). Gender differences in financial decision-making had a slightly lower mean (3.66, SD = 0.675), though many still perceived differences in how men and women approach credit and debit card use. The relatively low standard deviations suggest consistent responses, reinforcing the importance of demographic characteristics in shaping financial behaviors. These findings are outlined in Table 4.6.

Table 4. 6: Descriptive Statistics for Demographic Factors

	N	Mean	Std. Deviation
My age influences my financial decisions, including the use of payment cards	297	3.84	.775
I believe that younger individuals are more likely to adopt new payment technologies.	297	3.82	.673
My stage in life affects how I use and perceive payment cards	297	4.22	.701
I believe that gender plays a role in financial decision-making, including the use of payment cards	297	3.66	.675

In my opinion, men and women have different attitudes toward the use of credit and debit cards.	297	3.86	.728
My level of education has helped me understand the benefits and risks of using payment cards	297	3.94	.850
Education influences how well I manage my finances, including the use of payment cards	297	3.97	.993
I believe that individuals with higher education levels are more likely to use credit and debit cards effectively.	297	3.88	.820
My income level affects my decision to use credit or debit cards	297	3.82	.734
I believe that individuals with higher income levels are more likely to use credit cards frequently	297	3.80	.707
My income allows me to take advantage of the benefits offered by various payment cards.	297	3.94	.807
Overall Score for Demographic Factors	297	3.8852	.35357

Source: Researcher (2025)

4.4.3 Demographic Statistics for Mobile Payment Adoption

The third objective of this study was to examine the influence of mobile payment adoption on the usage of card payments. The findings highlight a strong preference for mobile payment adoption due to its convenience, accessibility, and time-saving benefits. A significant portion of respondents (59%) agreed, and 25% strongly agreed that mobile payments are more convenient than using payment cards. Only 16% were neutral, with no one strongly disagreeing or disagreeing. This shows a strong positive sentiment toward mobile payments in terms of convenience.

Similarly, 72% agreed and 12% strongly agreed that mobile payments save time compared to using debit or credit cards, with just 16% being neutral. This reinforces the view that mobile payments are seen as a time-saving alternative, reflecting a broad belief in their efficiency.

Regarding accessibility, 63% agreed, and 10% strongly agreed that mobile payments are more accessible than card payments, with 21% being neutral and 5% disagreeing. This suggests that while mobile payments are generally perceived as more accessible, there remains some variation in opinion, particularly among those who are neutral or disagree.

When asked if mobile payments are easier for everyday transactions than payment cards, 42% agreed, and 15% strongly agreed, with 42% being neutral. This indicates a more divided opinion on this matter, as respondents were split between those who found mobile payments easier and those who felt neutral.

In terms of managing finances, 29% agreed, and 28% strongly agreed that mobile payments are more convenient than card payments. However, a large portion (44%) remained neutral. This suggests that while a substantial number of respondents recognize the convenience, many are still unsure or do not feel strongly about the advantages of mobile payments for managing finances.

Security concerns were more positive, with 37% agreeing, and 20% strongly agreeing that mobile payments are more secure than card payments, while 42% were neutral. This indicates a good level of confidence in the security of mobile payments, although many respondents remain neutral, possibly due to lack of experience or concerns.

In terms of fraud prevention, 52% agreed, and 16% strongly agreed that mobile payments are less prone to fraud than card payments, with 32% being neutral. This suggests that there is a strong belief in the superior fraud protection of mobile payments.

Trust in mobile payment systems was similarly high, with 63% agreeing, and 12% strongly agreeing that they trust mobile payment systems more than traditional card payment systems. However, 25% remained neutral, pointing to some uncertainty about the reliability of mobile payment systems compared to traditional cards.

Controlling spending with mobile payments was another area with strong support, with 70% agreeing and 21% strongly agreeing that mobile payments make it easier to manage finances. Only 5% were neutral, and 4% disagreed. This indicates a strong belief that mobile payments provide better control over spending.

However, 65% agreed, and 22% strongly agreed that mobile payments feel less tangible and harder to track compared to card payments, while 11% remained neutral. This suggests that while mobile payments are seen as convenient, there are concerns about their ability to provide a clear, tangible record of transactions.

Similarly, 62% agreed, and 30% strongly agreed that paying with a mobile device makes the transaction feel less significant compared to using a card. This reflects concerns about the perceived intangibility of mobile payments, with many respondents feeling that mobile payments diminish the psychological significance of making a payment.

Overall, the findings show that respondents generally favor mobile payments in terms of convenience, time-saving, accessibility, and security. However, there are notable concerns about the tangibility and tracking of expenses, as well as the psychological significance of using a mobile device for payments. These findings are presented in Table 4.7.

Table 4. 7: Frequency and Percentages for Mobile Payment Adoption

		Frequency	Percent
I find mobile payments more convenient than using payment cards	Strongly Disagree	0	0%
	Disagree	0	0%
	Neutral	48	16%
	Agree	174	59%
	Strongly Agree	75	25%
	Total	297	100%
Mobile payments save me time compared to using debit or credit cards	Strongly Disagree	0	0%
	Disagree	0	0%
	Neutral	48	16%
	Agree	213	72%
	Strongly Agree	36	12%
	Total	297	100%
I prefer using mobile payments because they are more accessible than card payments	Strongly Disagree	0	0%
	Disagree	16	5%
	Neutral	63	21%
	Agree	187	63%
	Strongly Agree	31	10%
	Total	297	100%
Mobile payments are easier to use for everyday transactions than payment cards	Strongly Disagree	0	0%
	Disagree	1	0%
	Neutral	125	42%
	Agree	126	42%
	Strongly Agree	45	15%
	Total	297	100%
I find it more convenient to manage my finances using mobile payments than with card payments.	Strongly Disagree	0	0%
	Disagree	0	0%
	Neutral	130	44%
	Agree	85	29%
	Strongly Agree	82	28%
	Total	297	100%
I feel more secure using mobile payments than using payment cards.	Strongly Disagree	0	0%
	Disagree	0	0%
	Neutral	126	42%
	Agree	111	37%
	Strongly Agree	60	20%
	Total	297	100%

I believe that mobile payments are less prone to fraud compared to card payments.	Strongly Disagree	0	0%
	Disagree	0	0%
	Neutral	94	32%
	Agree	154	52%
	Strongly Agree	49	16%
	Total	297	100%
I trust mobile payment systems more than I trust traditional card payment systems	Strongly Disagree	0	0%
	Disagree	0	0%
	Neutral	74	25%
	Agree	187	63%
	Strongly Agree	36	12%
	Total	297	100%
I find it easier to control my spending with mobile payments than with card payments.	Strongly Disagree	6	2%
	Disagree	5	2%
	Neutral	16	5%
	Agree	207	70%
	Strongly Agree	63	21%
	Total	297	100%
Mobile payments feel less tangible, making it harder for me to track my expenses compared to card payments.	Strongly Disagree	0	0%
	Disagree	6	2%
	Neutral	32	11%
	Agree	194	65%
	Strongly Agree	65	22%
	Total	297	100%
Paying with a mobile device makes the transaction feel less significant compared to paying with a card	Strongly Disagree	0	0%
	Disagree	6	2%
	Neutral	16	5%
	Agree	185	62%
	Strongly Agree	90	30%
	Total	297	100%

Source: Researcher (2025)

The descriptive statistics indicate a generally positive perception of mobile payment adoption among respondents. The highest mean score (4.21, SD = 0.629) suggests that many individuals feel that paying with a mobile device makes transactions seem less significant than using a card, which may influence spending habits. Similarly, the perception that mobile payments feel less tangible than making expense tracking more challenging had a high mean of 4.07 (SD = 0.635). Convenience was also a key factor since respondents found mobile payments more convenient than cards (M = 4.09, SD = 0.638) and easier for financial management (M = 3.84, SD = 0.831). Mobile payments were also widely seen as time-saving (M = 3.96, SD = 0.531) and accessible (M = 3.78, SD = 0.698). Trust in mobile payment systems was relatively high (M = 3.85, SD = 0.582),

and respondents believe mobile payments are less prone to fraud than cards ($M = 3.85$, $SD = 0.678$). Security perceptions were moderate with a mean of 3.78 ($SD = 0.761$). Notably, respondents reported that mobile payments helped them control spending ($M = 4.06$, $SD = 0.716$), though the reduced psychological impact of transactions may contribute to overspending. The overall mean score for mobile payment adoption is 3.94 ($SD = 0.337$), reflecting a generally favorable attitude towards this payment method. These findings are shown in Table 4.8.

Table 4. 8: Descriptive Statistics for Mobile Payment Adoption

	N	Mean	Std. Deviation
I find mobile payments more convenient than using payment cards	297	4.09	.638
Mobile payments save me time compared to using debit or credit cards	297	3.96	.531
I prefer using mobile payments because they are more accessible than card payments	297	3.78	.698
Mobile payments are easier to use for everyday transactions than payment cards	297	3.72	.715
I find it more convenient to manage my finances using mobile payments than with card payments.	297	3.84	.831
I feel more secure using mobile payments than using payment cards.	297	3.78	.761
I believe that mobile payments are less prone to fraud compared to card payments.	297	3.85	.678
I trust mobile payment systems more than I trust traditional card payment systems	292	3.85	.582
I find it easier to control my spending with mobile payments than with card payments.	297	4.06	.716
Mobile payments feel less tangible, making it harder for me to track my expenses compared to card payments.	297	4.07	.635
Paying with a mobile device makes the transaction feel less significant compared to paying with a card	297	4.21	.629
Overall Score for Mobile Money Adoption	297	3.9435	.33678

Source: Researcher (2025)

4.4.4 Usage of Payment Cards

The usage of payment cards was the dependent variable. A majority of respondents (66%) agreed, and 21% strongly agreed that they frequently use payment cards to pay for goods and services. Only 13% were neutral, suggesting that payment cards are commonly used for regular transactions among the participants.

When it comes to using payment cards for daily transactions, 54% agreed, and 31% strongly agreed, while 16% were neutral. This shows that a substantial portion of respondents rely on payment cards for most of their daily purchases, indicating a high degree of reliance on cards for everyday spending.

The frequency of payment card use is further underscored by the finding that 54% of respondents agreed, and 37% strongly agreed that they use their payment cards several times a week. With only 9% neutral, this demonstrates that payment cards are a frequent mode of payment for a significant portion of the population.

Regarding the share of total transactions made using payment cards, 40% strongly agreed, and 35% agreed that a significant portion of their transactions are made using payment cards, while 24% remained neutral. This suggests that for many participants, payment cards represent a major method of transaction, though a smaller group is less reliant on them.

In terms of monthly expenditures, 40% agreed, and 32% strongly agreed that payment card usage represents a large share of their overall monthly spending. With 26% neutral and 2% disagreeing, it is clear that payment cards are an essential tool for managing monthly expenses for a large portion of the respondents.

When it comes to high-value purchases, 42% agreed, and 23% strongly agreed that they use payment cards more often than other payment methods. However, 33% were neutral, suggesting that while a majority of participants prefer using payment cards for large purchases, there is some variation in how often payment cards are used for significant transactions.

Satisfaction with payment cards is quite high, with 49% agreeing, and 21% strongly agreeing that they are satisfied with the benefits offered by their payment cards. Although 28% were neutral and 2% disagreed, the overall sentiment is positive, indicating that many respondents find value in the benefits associated with their payment cards.

Looking to the future, 48% agreed, and 16% strongly agreed that they plan to continue using their payment cards for future transactions. However, 30% were neutral, suggesting that while most participants intend to continue using their cards, a significant portion remains undecided or open to other payment options.

Finally, when asked whether they would recommend using payment cards to others, 54% agreed, and 19% strongly agreed, while 25% were neutral and 2% disagreed. This demonstrates that the majority of respondents would encourage others to use payment cards, reflecting positive perceptions of their utility and benefits.

In summary, the survey findings indicate that payment cards are widely used and preferred for daily transactions, with respondents expressing high levels of satisfaction and a strong likelihood of continued usage. These findings are shown in Table 4.9.

Table 4. 9: Frequencies and Percentages for Usage of Payment Cards

		Frequency	Percent
I frequently use payment cards to pay for goods and services	Strongly Disagree	0	0%
	Disagree	0	0%
	Neutral	40	13%
	Agree	195	66%
	Strongly Agree	62	21%
	Total	297	100%
I use my payment card for most of my daily transaction	Strongly Disagree	0	0%
	Disagree	0	0%
	Neutral	47	16%
	Agree	159	54%
	Strongly Agree	91	31%
	Total	297	100%
I use my payment card several times a week	Strongly Disagree	0	0%
	Disagree	0	0%
	Neutral	27	9%
	Agree	159	54%
	Strongly Agree	111	37%
	Total	297	100%
A significant portion of my total transactions are made using payment cards	Strongly Disagree	0	0%
	Disagree	6	2%
	Neutral	70	24%
	Agree	103	35%
	Strongly Agree	118	40%
	Total	297	100%
My payment card usage represents a large share of my overall monthly expenditures.	Strongly Disagree	0	0%
	Disagree	6	2%
	Neutral	77	26%
	Agree	118	40%
	Strongly Agree	96	32%

	Total	297	100%
I use my payment card for high-value purchases more often than other payment methods.	Strongly Disagree	0	0%
	Disagree	7	2%
	Neutral	98	33%
	Agree	124	42%
	Strongly Agree	68	23%
	Total	297	100%
I am satisfied with the benefits offered by my payment card.	Strongly Disagree	0	0%
	Disagree	7	2%
	Neutral	83	28%
	Agree	146	49%
	Strongly Agree	61	21%
	Total	297	100%
I plan to continue using my payment card for future transactions.	Strongly Disagree	0	0%
	Disagree	14	5%
	Neutral	90	30%
	Agree	144	48%
	Strongly Agree	49	16%
	Total	297	100%
I would recommend using payment cards to others.	Strongly Disagree	0	0%
	Disagree	7	2%
	Neutral	75	25%
	Agree	159	54%
	Strongly Agree	56	19%
	Total	297	100%

Source: Researcher (2025)

The descriptive statistics indicate a strong preference for payment card usage among respondents. The mean score for frequent payment card usage was 4.07 (SD = 0.582), which reflected a high level of agreement. Similarly, using payment cards for most daily transactions had a higher mean of 4.15 (SD = 0.666), while the frequency of using payment cards several times a week had the highest mean of 4.28 (SD = 0.621), indicating frequent engagement.

A significant portion of total transactions was made using payment cards, with a mean of 4.12 (SD = 0.838), and their usage accounted for a large share of monthly expenditures (M = 4.02, SD = 0.815). The use of payment cards for high-value purchases was slightly lower as evidenced with a mean of 3.85 (SD = 0.796); thus, suggesting variability in preference for such transactions.

Respondents expressed moderate satisfaction with the benefits of their payment cards (M = 3.88, SD = 0.753). Future usage intentions were slightly lower (M = 3.77, SD = 0.778), indicating some

uncertainty, though respondents generally recommended payment card usage to others ($M = 3.89$, $SD = 0.724$). The overall score for payment card usage was 4.00 ($SD = 0.403$), demonstrating strong but not unanimous reliance on payment cards for financial transactions. These findings are presented in Table 4.10.

Table 4. 10: Descriptive Statistics for Usage of Payment Cards

	N	Mean	Std. Deviation
I frequently use payment cards to pay for goods and services	297	4.07	.582
I use my payment card for most of my daily transaction	297	4.15	.666
I use my payment card several times a week	297	4.28	.621
A significant portion of my total transactions are made using payment cards	297	4.12	.838
My payment card usage represents a large share of my overall monthly expenditures.	297	4.02	.815
I use my payment card for high-value purchases more often than other payment methods.	297	3.85	.796
I am satisfied with the benefits offered by my payment card.	297	3.88	.753
I plan to continue using my payment card for future transactions.	297	3.77	.778
I would recommend using payment cards to others.	297	3.89	.724
Overall Score for Usage of Card Payments	297	4.0041	.40324

Source: Researcher (2025)

4.5 Inferential Statistics

In this section, inferential analyses, especially correlations and multiple linear regressions are provided.

4.5.1 Correlation Analysis

Pearson's correlation was used to determine the strength, significant and direction of the relationship between variables. Table 4.11 indicates the correlation statistics. The correlation analysis reveals significant relationships among financial literacy, demographic factors, mobile money adoption, and the usage of payment cards.

Financial literacy exhibited a moderate positive correlation with demographic factors ($r = 0.441$, $p < 0.001$), which indicates that individuals with higher financial literacy tend to exhibit specific demographic characteristics that may influence financial behavior.

Furthermore, financial literacy also showed a positive correlation with mobile money adoption ($r = 0.342$, $p = 0.001$), suggesting that individuals with greater financial knowledge are more likely to adopt mobile payment solutions.

A stronger correlation was observed between financial literacy and card payment usage ($r = 0.502$, $p < 0.001$); hence, individuals with better financial literacy are more inclined to use payment cards for transactions.

Demographic factors were also positively correlated with mobile money adoption ($r = 0.456$, $p = 0.003$). This indicates that certain demographic characteristics, such as age, income level, or education, may influence the adoption of mobile payment methods.

Additionally, demographic factors showed a weaker correlation with card payment usage ($r = 0.312$, $p = 0.003$) suggesting that while demographics play a role in card payment behavior, other factors might be more influential.

A moderate positive correlation was found between mobile money adoption and payment card usage ($r = 0.492$, $p = 0.004$). This suggests that individuals who actively use mobile payments may also frequently use payment cards, possibly due to a general preference for cashless transactions. Overall, these findings highlight the interconnectedness of financial literacy, demographic characteristics, and the adoption of different payment methods.

Table 4. 11: Correlations

		FL	DF	MP	PC
FL	<i>r</i>	1			
	<i>p</i>				
DF	<i>r</i>	.441	1		
	<i>p</i>	.001			
MP	<i>r</i>	.342	.456	1	
	<i>p</i>	.001	.003		
PC	<i>r</i>	.502	.312	.492	1
	<i>p</i>	.000	.003	.004	

Source: Researcher (2025)

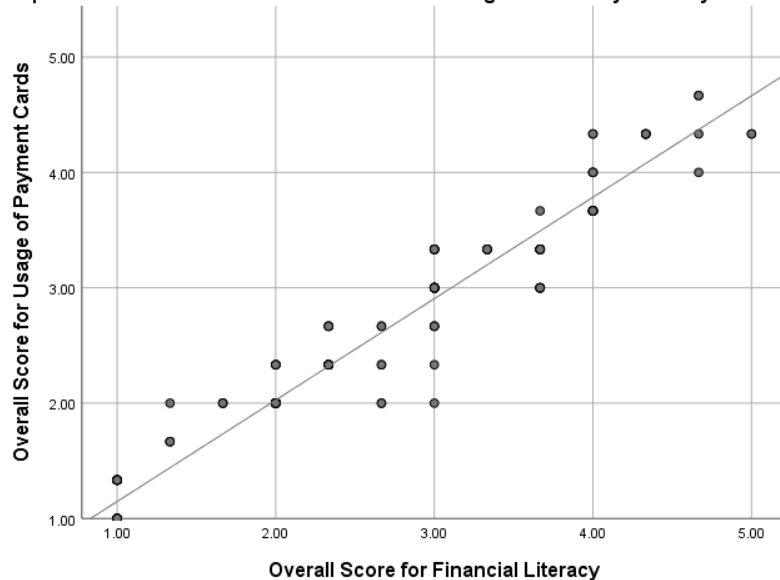
4.5.2 Regression Analysis

A regression analysis was conducted to assess the relationship between usage of payment cards as the dependent variable and financial literacy, demographic factors and mobile payment adoption as the independent variables. Before proceeding to multiple regression analysis, diagnostics were used to establish if the collected data met the assumptions required for this statistical test.

4.5.2.1 Diagnostic Tests

Linearity is the first assumption that the data should meet before a multiple regression analysis is performed. This assumption requires a linear relationship to exist between the independent variables and the dependent variable, which can be established by a visual inspection of scatter plots. Figure 4.1, 4.2, and 4.3 shows the assumption of linearity was met with the scatter plot being located closely to the fit-line.

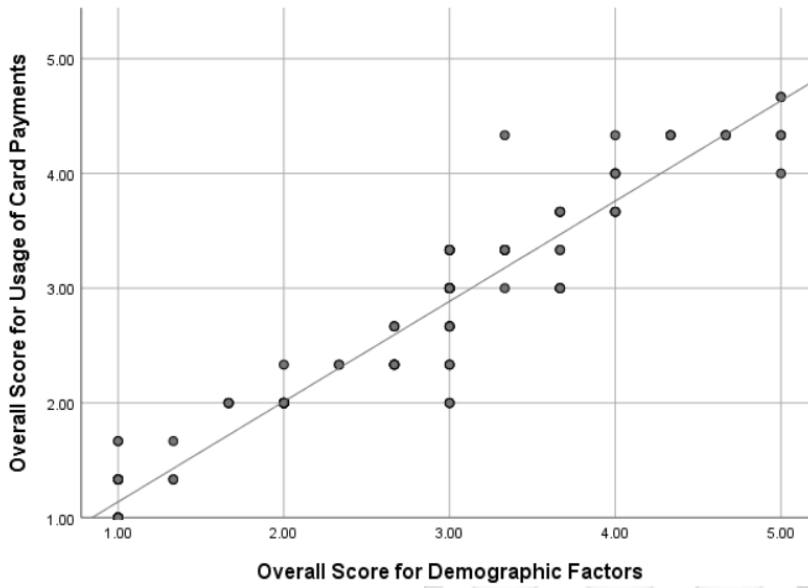
Figure 4. 1: Scatter Plot – Usage of Card Payments by Financial Literacy
Simple Scatter with Fit Line of Overall Score for Usage of Card Payments by Overall Score for Financial Literacy



Source: Researcher (2025)

Figure 4. 2: Scatter Plot – usage of Card Payments by Demographic Factors

Simple Scatter with Fit Line of Overall Score for Usage of Card Payments by Overall Score for Demographic Factors

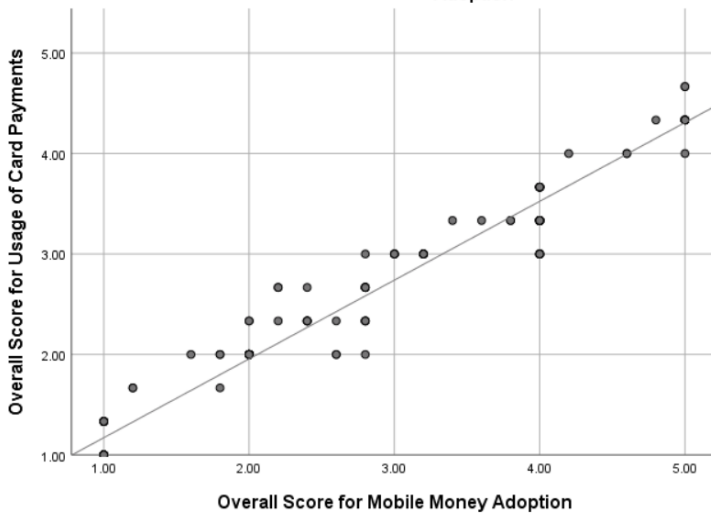


Source: Researcher (2025)



Figure 4. 3: Scatter Plot – Usage of Card Payments by Mobile Payment Adoption

Simple Scatter with Fit Line of Overall Score for Usage of Card Payments by Overall Score for Mobile Payment Adoption



Source: Researcher (2025)

Normality is another important assumption that must be met for multiple regression analysis to be performed. This assumption requires the variables to be normally distributed. The Shapiro-Wilk

test can be used to affirm normality. If the significance is greater than 0.05, then the data is considered normally distributed.

The Kolmogorov-Smirnov (K-S) and Shapiro-Wilk tests were conducted to assess the normality of the data distribution for financial literacy, demographic factors, mobile money adoption, and card payment usage.

For the Overall Score for Financial Literacy, the Kolmogorov-Smirnov statistic was 0.181 ($p = 0.255$), and the Shapiro-Wilk statistic was 0.902 ($p = 0.321$). Since the significance values (p -values) are greater than 0.05, the null hypothesis of normality is not rejected, suggesting that the data for financial literacy follows a normal distribution.

Similarly, for the Overall Score for Demographic Factors, the Kolmogorov-Smirnov test statistic was 0.144 ($p = 0.311$), and the Shapiro-Wilk statistic was 0.923 ($p = 0.389$). These results indicate that demographic factors are also normally distributed, as the p -values exceed 0.05.

For the Overall Score for Mobile Money Adoption, the Kolmogorov-Smirnov test statistic was 0.174 ($p = 0.284$), and the Shapiro-Wilk statistic was 0.935 ($p = 0.365$). Again, since both p -values are above 0.05, the data for mobile money adoption does not significantly deviate from normality.

Lastly, for the Overall Score for Usage of Card Payments, the Kolmogorov-Smirnov statistic was 0.153 ($p = 0.433$), and the Shapiro-Wilk statistic was 0.892 ($p = 0.360$). These values suggest that the usage of card payments is also normally distributed. Overall, the results of both tests indicate that the data for all four variables follows a normal distribution, making it suitable for parametric statistical analyses. These findings are presented in Table 4.12.

Table 4. 12: Normality tests

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
FL	.181	297	.255	.902	297	.321
DF	.144	297	.311	.923	297	.389
MP	.174	297	.284	.935	297	.365
PC	.153	297	.433	.892	297	.360

Source: Researcher (2025)

Another important assumption for a multiple linear regression is the independence of observations. For this assumption to be met, respondents need to be independent of each other – measures should not be taken repeatedly. The independence of observations is a design issue rather than one that can be tested statistically. This study employed a descriptive cross-sectional design; therefore, data was collected at a single point in time rather than using repeated measures.

4.5.2.2 Multiple Linear Regression Analysis

Table 4.13 shows a summary of the multiple regression model with the usage of payment cards as the dependent variable, and financial literacy, demographic factors and mobile money adoption as the independent variables.

The results presented in Table 4.13 indicate that the R-value is 0.782, suggesting a strong positive correlation between the independent variables and the usage of payment cards. The R-Square (R^2) value is 0.612. This means that approximately 61.2% of the variance in the usage of payment cards can be explained by financial literacy, demographic factors, and mobile money adoption. The Adjusted R-Square is 0.608, which accounts for the number of predictors in the model and confirms the model’s robustness in explaining the variation in card payment usage.

The standard error of the estimate is 0.21254, indicating the average deviation of observed values from the predicted values. A lower standard error suggests a better fit of the model. Overall, the findings imply that financial literacy, demographic characteristics, and mobile money adoption significantly contribute to explaining the usage of payment cards.

Table 4. 13: Summary of the Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.782 ^a	.612	.608	.21254
a. Predictors: (Constant), Overall Score for Financial Literacy, Overall Score for Demographic Factors, Overall Score for Mobile Money Adoption				

Source: Researcher (2025)

The ANOVA results evaluate the overall significance of the regression model, which examines how financial literacy, demographic factors, and mobile money adoption influence the usage of payment cards. The F-statistic is 802.158, with a p-value (Sig.) of 0.000, indicating that the model is highly significant. This means that the independent variables—financial literacy, demographic

factors, and mobile money adoption—collectively explain a substantial portion of the variation in card payment usage. The regression sum of squares (160.558) represents the portion of the variance in card payment usage explained by the predictors, while the residual sum of squares (47.572) accounts for the unexplained variance. The high ratio of explained variance to unexplained variance suggests that the model fits the data well. Overall, the ANOVA results confirm that the independent variables significantly contribute to explaining the usage of payment cards, making the regression model statistically valid. These findings are presented in Table 4.14.

Table 4. 14: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	160.558	3	.186	802.158	.000 ^b
	Residual	47.572	293	.162		
	Total	208.13	296			
a. Dependent Variable: Overall Score for Usage of Payment Cards						
b. Predictors: (Constant), Overall Score for Mobile Money Adoption, Overall Score for Financial Literacy, Overall Score for Demographic Factors						

Source: Researcher (2025)

The Variance Inflation Factor (VIF) values indicate the presence of multicollinearity among the independent variables. The VIF values for financial literacy (1.063), demographic factors (1.080), and mobile money adoption (1.018) are all close to 1, suggesting that multicollinearity is not a concern since none of the values exceed the commonly accepted threshold of 10.

Regarding the regression coefficients, the constant (intercept) has a significant value of 3.344 ($p < 0.001$), indicating that when all predictor variables are at zero, the predicted score for card payment usage is 3.344. Financial literacy has a positive and significant effect on card payment usage ($B = 0.434$, $p = 0.014$), which implies that higher financial literacy is associated with increased usage of payment cards. Demographic factors also show a positive and significant influence ($B = 0.225$, $p = 0.002$), suggesting that demographic characteristics play a role in shaping card payment usage. Mobile money adoption has a smaller but statistically significant positive effect ($B = 0.206$, $p < 0.000$), indicating that individuals who frequently use mobile money are also likely to use payment cards. The standardized coefficients (Beta values) show that financial literacy has the strongest influence on card payment usage, followed by demographic factors and mobile money adoption.

Overall, the findings indicate that financial literacy, demographic factors, and mobile money adoption significantly contribute to explaining the variation in the usage of payment cards, with financial literacy being the most influential predictor. These findings are presented in Table 4.15.

The new regression model, thus, becomes

$$PC = 3.344 + 0.434FL + 0.225 DF + 0.206MP + \epsilon$$

Table 4. 15: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.344	.361		9.265	.000		
	FL	.434	.034	.079	12.765	.014	.940	1.063
	DF	.225	.069	.062	3.261	.002	.926	1.080
	MP	.206	.070	.004	2.943	.000	.983	1.018

a. Dependent Variable: Overall Score for Usage of Payment Cards

Source: Researcher (2025)

4.6 Chapter Summary

This chapter has presented the findings obtained from this study. The findings indicate that financial literacy, demographic factors, and mobile money adoption significantly contribute to explaining the variation in the usage of payment cards, with financial literacy being the most influential predictor.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This research had the general objective of examining the factors that influence the usage of card payment among youth in formal employment in Nairobi. In this chapter, the findings are discussed. This chapter is structured in the following manner: section 5.2 is a summary of the key findings, Section 5.3 is a discussion of findings, Section 5.4 presents the recommendations, Section 5.5 outlines the limitations and suggestions for further research, and Section 5.6 is the Chapter Summary.

5.2 Summary of Main Results

The study examined the factors influencing the usage of payment cards among formally employed youth in Nairobi, focusing on financial literacy, demographic factors, and mobile payment adoption. The findings provide valuable insights into how these elements shape the payment behavior of young professionals.

The study found that financial literacy plays a significant role in influencing the use of payment cards. Financial literacy was found to have a positive and significant effect on card payment usage. Youth with higher financial literacy levels were more likely to use payment cards frequently for their transactions. This suggests that individuals who understand credit and debit cards, and financial concepts, are more comfortable using card-based payment systems. The findings highlight that increased knowledge about financial management enhances confidence in using payment cards, leading to greater adoption and usage.

Demographic characteristics also influenced the use of payment cards among formally employed youth. Demographic factors also show a positive and significant influence. Factors such as age, income level, and education appeared to shape payment preferences and behaviors. Younger professionals with stable incomes were more inclined to use payment cards regularly since they had greater access to banking services and financial products. Additionally, education played a key role, with individuals who had higher educational attainment showing a stronger preference for

payment cards. These findings suggest that demographic factors contribute to the accessibility and convenience of payment card usage among different groups within the youth population.

The study also explored the relationship between mobile payment adoption and the use of payment cards. The findings revealed that mobile payment usage has a positive effect on card payment adoption. Mobile money adoption has a smaller but statistically significant positive effect. Youth who frequently used mobile payment platforms were also more likely to use payment cards. This suggests that digital payment technologies complement each other rather than compete, as individuals who are comfortable with mobile transactions are more open to using multiple electronic payment methods including cards. However, the study also indicated that some youth preferred mobile payments over card transactions due to perceived convenience and accessibility, highlighting the need for financial institutions to enhance the efficiency and appeal of card payment systems.

Overall, the findings suggest that financial literacy, demographic characteristics, and mobile payment adoption all contribute to shaping the usage of payment cards among formally employed youth in Nairobi. Financial literacy emerged as a particularly strong factor, as knowledge and awareness about financial matters increased the likelihood of using payment cards. Demographic factors, including income and education, further influenced adoption, while mobile payments played a complementary role, encouraging the use of card-based transactions.

5.3 Discussion of Findings

In this section, a discussion of the findings is provided based on the literature review and the theoretical framework.

5.3.1 Financial Literacy and Usage of Payment Cards

The study found that financial literacy had a positive effect on the usage of payment cards among formally employed youth in Nairobi. Respondents with higher financial literacy were more likely to use payment cards frequently. The Technology Acceptance Model (TAM) supports these findings, as it suggests that individuals are more likely to adopt a financial technology if they perceive it as both useful and easy to use (Davis, 1989; Xu et al., 2023). Financial literacy enhances a person's ability to evaluate the usefulness and ease of using payment cards. For instance, an

individual who understands how to track spending and avoid credit card debt may find payment cards more practical and convenient, thus increasing their likelihood of adoption. Additionally, TAM acknowledges the role of external influences, such as social norms and trust, in technology adoption. Since financial literacy often comes from education, workplace training, or peer influence, these external factors may further shape individuals' attitudes toward card payments.

The Diffusion of Innovation (DOI) Theory also provides an explanation for these findings. Rogers (1981) argues that individuals who perceive an innovation as offering a relative advantage over existing options are more likely to adopt it. Financially literate individuals are more likely to see the advantages of payment cards—such as convenience, security, and credit-building benefits—compared to cash transactions. Furthermore, trialability (the ability to experiment with a new technology) plays a role, as financially literate individuals may be more confident in testing different financial products and payment methods.

The findings align with previous studies that have established a positive relationship between financial literacy and payment technology adoption. Nguyen and Cassidy (2018) in Vietnam and Seldal and Nyhus (2022) in Norway both found that individuals with higher financial literacy levels were more likely to use payment cards and digital payment methods. Similarly, Long et al. (2023) in Japan found that financially literate individuals exhibited higher usage of electronic and mobile payments. These studies reinforce the argument that individuals with greater financial knowledge and confidence are more likely to engage in digital financial behaviors, including card payment usage.

However, some studies have contradicted these findings. Trütsch and Nikolaus (2021) in Switzerland and Ullah et al. (2022) in Pakistan found that financial literacy had no significant effect on the choice of payment instruments. These differences could be due to contextual factors, such as the availability of alternative payment methods, cultural attitudes toward debt, and variations in financial education systems. In Kenya, where mobile money is dominant, financial literacy may play a more significant role in distinguishing between those who adopt card payments and those who continue relying solely on mobile money.

5.3.2 Demographic Factors and Usage of Payment Cards

The study found that demographic factors, such as age, education, and income, significantly influenced the usage of payment cards among the youth. Older youth with stable incomes and higher education levels were more likely to use payment cards. These findings suggest that financial stability and access to formal banking services play a critical role in payment card adoption.

These findings align with TAM, which suggests that individual characteristics—such as education and financial stability—affect a person’s perception of a technology’s usefulness and ease of use (Davis, 1989). Individuals with higher education levels are more likely to perceive payment cards as beneficial and easy to integrate into their financial habits. Similarly, the Diffusion of Innovation (DOI) Theory explains that early adopters of innovations tend to be better educated and financially stable individuals (Rogers, 1981). In this case, formally employed youth with higher incomes are more likely to adopt payment cards because they recognize the advantages over cash transactions.

The findings are consistent with Long et al. (2023) in Japan and Seldal and Nyhus (2022) in Norway, who found that younger individuals were more likely to use digital payments, including card payments. However, Stavins (2020) in the U.S. reported that credit card adoption increased with age, suggesting that older individuals were more inclined to use them. This could be due to generational differences in financial behavior and access to banking services. Additionally, Qureshi et al. (2018) in Pakistan found no significant effect of age or education on payment card adoption, possibly due to lower banking penetration and reliance on cash-based transactions.

5.3.3 Mobile Payment Adoption and Usage of Payment Cards

The study found that mobile payment adoption had a positive effect on the usage of payment cards. Youth who actively used mobile payments were also likely to use payment cards, indicating that these two payment methods complement rather than compete with each other.

The findings support DOI Theory, which states that individuals adopt innovations based on relative advantage, compatibility, and observability (Rogers, 1981). Mobile payments provide convenience and accessibility, which may encourage users to explore other digital payment options, including

cards. Additionally, TAM's concept of perceived usefulness explains why individuals comfortable with mobile payments may also see the value in using card-based transactions.

These findings contrast with some existing studies that suggest mobile payments may replace card payments. Boden et al. (2020) in the U.S., India, and Germany reported that mobile payments were preferred over card payments due to convenience. Similarly, Pal et al. (2018) in India found that consumers favored mobile wallets over credit and debit cards, partly due to security concerns. However, other studies support the idea of complementary usage. In Kenya, mobile money is deeply integrated into daily financial activities, which may explain why mobile payment users are also comfortable using card payments. The findings of the current study suggest that rather than being direct substitutes, mobile and card payments can serve different financial needs.

5.4 Recommendations

This section discusses the policy, managerial and theoretical recommendations.

5.4.1 Policy Recommendations

Based on the study's findings, several policy recommendations can be made to enhance the usage of payment cards among formally employed youth in Nairobi. First, financial literacy programs can be adopted to equip young professionals with essential knowledge about payment cards. Financial institutions and regulators should collaborate to provide targeted educational campaigns that simplify financial concepts and promote informed financial decision-making. Second, policies should be developed to improve financial inclusion by addressing demographic disparities in payment card adoption. This can be achieved through initiatives that expand banking infrastructure, reduce fees associated with card payments, and incentivize financial institutions to offer tailored card products to low-income earners. Additionally, banks should introduce flexible payment solutions that align with the financial behaviors of different demographic groups. Third, regulatory frameworks should focus on enhancing the interoperability between mobile payment platforms and card payment systems. Given the complementary nature of mobile and card payments, policymakers should encourage seamless integration between these systems to allow for easier fund transfers and broader merchant acceptance. This will create a more inclusive digital payment ecosystem that accommodates diverse user preferences while enhancing convenience and security.

5.4.2 Managerial Recommendations

To enhance the adoption and usage of payment cards among formally employed youth in Nairobi, managers in financial institutions, fintech companies, and related sectors should implement several strategic initiatives. First, banks and card service providers should develop targeted financial literacy initiatives that educate young professionals on the benefits, risks, and responsible use of payment cards. This can be done through digital awareness campaigns, workshops, and interactive financial tools embedded in banking apps. Second, financial institutions should tailor their card products to meet the diverse needs of different demographic groups. This includes introducing low-cost debit and credit card options, flexible repayment plans, and reward programs that appeal to young professionals. Third, given the complementary nature of mobile and card payments, managers should focus on improving interoperability between these systems. This can be achieved by integrating card payment functionalities with mobile money platforms, allowing users to make seamless transactions across both payment methods.

5.4.3 Theoretical Recommendations

The findings of this study provide valuable insights that can be used to refine and expand the Technology Acceptance Model (TAM) and the Diffusion of Innovation (DOI) Theory in the context of payment card adoption. First, TAM can be advanced by incorporating financial literacy as a key external variable influencing perceived usefulness and ease of use. This study demonstrated that individuals with higher financial literacy were more likely to use payment cards, suggesting that knowledge and awareness shape attitudes toward adoption beyond the traditional TAM constructs. Second, the study's findings support the DOI Theory by reinforcing the role of demographic factors, such as age, education, and income, in determining adoption patterns. However, the findings also indicate that mobile payment adoption influences card payment usage, suggesting that payment innovation should not be viewed in isolation but as part of an interconnected financial ecosystem. Future DOI applications should consider the interplay between different digital payment technologies rather than assuming that one innovation simply replaces another. Lastly, both theories can be expanded by integrating the concept of interoperability, where the ability to switch between mobile and card payments enhances adoption. This study found that mobile money adoption positively influenced card payment usage, indicating that future models should account for how multiple innovations interact rather than being solely

dependent on individual user perceptions. These refinements can help modernize TAM and DOI to better reflect the evolving digital finance landscape.

5.5 Limitations of the Study Limitations

This study has several limitations that should be acknowledged. First, the study employed a descriptive cross-sectional research design, which, while effective in identifying relationships between variables, does not allow for the determination of cause-and-effect relationships. Second, data was collected through self-reported questionnaires, which may have introduced response bias. Respondents could have provided answers that reflect socially desirable behaviors rather than their actual financial habits. This limitation makes it difficult to ascertain the truthfulness of the information provided. Additionally, self-reported financial behaviors may differ from actual payment habits due to memory recall errors or a lack of self-awareness regarding spending patterns. Third, the study focused exclusively on formally employed youth in Nairobi, excluding other demographic groups such as informally employed youth, older adults, and individuals in rural areas. Payment behaviors may vary significantly across different population segments, limiting the generalizability of the findings. This narrow focus means that insights from this study may not fully capture the diverse financial behaviors present in Kenya's broader population.

5.6 Suggestions for Further Research

To address the aforementioned limitations, future studies should consider adopting longitudinal or experimental research designs to examine how financial literacy, demographic factors, and mobile payment adoption influence payment card usage over time. These designs would provide deeper insights into causality and allow for the assessment of long-term behavioral changes in digital payment adoption. Additionally, future research could incorporate secondary data sources, such as banking transaction records, mobile payment logs, or financial institution reports, to complement self-reported data. This approach would provide more objective and accurate insights into actual payment behaviors; thus, reducing the risk of response bias and increasing the reliability of findings.

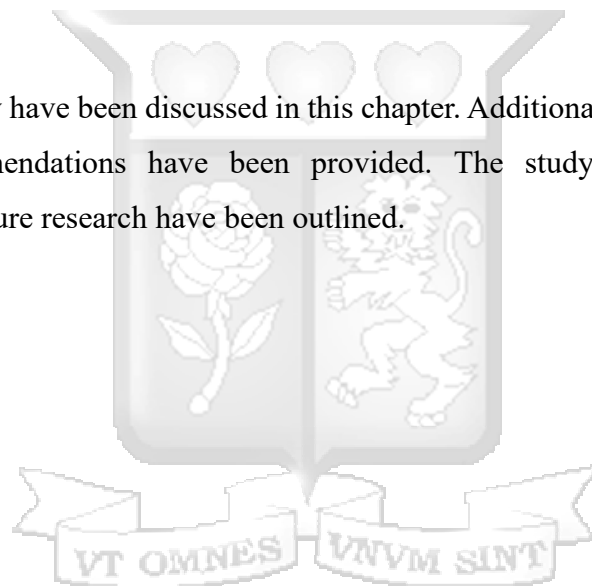
Further studies should also expand the scope to include a more diverse sample, such as youth in informal employment, older individuals, and rural populations. Comparative studies across

different regions or socio-economic groups could help determine whether similar factors influence payment card usage beyond the urban, formally employed demographic.

Beyond methodological improvements, the study's findings suggest additional areas for future research. Since mobile payment adoption was found to complement rather than replace card payments, further studies could explore how different digital payment methods interact, including the role of alternative financial technologies such as cryptocurrency, buy-now-pay-later (BNPL) services, and contactless payments. Additionally, given the strong influence of financial literacy on payment card adoption, research could also examine the effectiveness of financial education programs in enhancing digital payment adoption and responsible credit use.

5.7 Chapter Summary

The findings of this study have been discussed in this chapter. Additionally, the policy, managerial and theoretical recommendations have been provided. The study limitations as well as recommendations for future research have been outlined.



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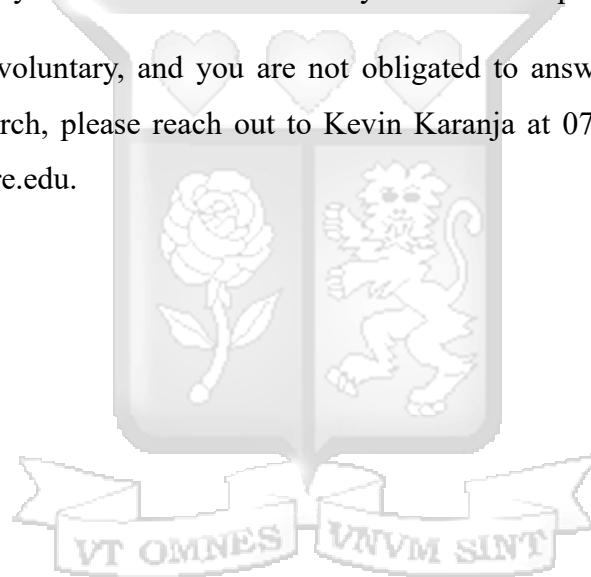
APPENDICES

Appendix I: Letter of Introduction

You are invited to participate in a research study titled, "Determinants of the Usage of Payment cards Among the Youth in Nairobi." This study is being conducted by Kevin Karanja from Strathmore University (Email: kevin.karanja@strathmore.edu, Phone: 0722958608).

The purpose of this research is to examine the determinants of the usage of payment cards amongst the youth in Nairobi. To participate, you must be between 18 and 34 years. Participation involves completing a questionnaire that will take approximately 10-20 minutes. All the information you provide will be kept strictly confidential and used only for academic purposes.

Participation is entirely voluntary, and you are not obligated to answer all questions. For any inquiries about the research, please reach out to Kevin Karanja at 0722958608 or by email at kevin.karanja@strathmore.edu.



Appendix II: Participant Information and Informed Consent

PARTICIPANT INFORMATION AND CONSENT FORM

TITLE: DETERMINANTS OF THE USAGE OF PAYMENT CARDS AMONG EMPLOYED YOUTH IN NAIROBI

SECTION 1: INFORMATION SHEET

1.0: Investigator - Kevin Karanja

SECTION 2: INFORMATION SHEET-THE STUDY

2.1: Why is this study being carried out?

For policymakers and regulators, like the Central Bank of Kenya (CBK), the results obtained from this study may offer useful insights that can help formulate effective policies to enhance the uptake and usage of payment cards in Kenya. The findings may inform the development of guidelines for financial institutions and providers of card payment services like Visa and Mastercard.

2.2: Do I have to take part?

No. Taking part in this study is entirely optional and the decision rests only with you. If you decide to take part, you will be asked to complete a questionnaire to get information on *Determinants Of The Usage Of Payment Cards Among Employed Youth In Nairobi*. If you are not able to answer all the questions successfully the first time, you may be asked to sit through another informational session after which you may be asked to answer the questions a second time. You are free to decline to take part in the study at any time without giving any reasons.

2.3: Who is eligible to take part in this study?

The population for this study will comprise of employed youth in Nairobi County. Youth will be defined as those aged 18-34 years.

2.4: Who is not eligible to take part in this study?

- Unemployed Youth in Nairobi
- Employed Youth outside of Nairobi
- Any participant <18 years and >34 years of age in Nairobi

2.5: What will taking part in this study involve for me?

You will be approached by the Researcher, Kevin Karanja and requested to take part in the study. If you are satisfied that you fully understand the goals behind this study, you will be asked to sign the informed consent form (this form) and then taken through a questionnaire to complete.

2.6: Are there any risks or dangers in taking part in this study?

There are no risks in taking part in this study. All the information you provide will be treated as confidential and will not be used in any way without your express permission.

2.7: Are there any benefits of taking part in this study?

- Increased Financial Literacy for the Participants. This knowledge can help them make better financial decisions, manage their finances more effectively, and increase their financial inclusion.
- Targeted Financial Products. By understanding the determinants of payment card usage, financial institutions may create more accessible, affordable, and relevant products tailored to young professionals. This could reduce barriers to digital payment adoption and contribute to the growth of a cashless economy.^{2.8}; What will happen to me if I refuse to take part in this study?

2.8: What will happen to me if I refuse to take part in this study?

Participation in this study is entirely voluntary. Even if you decide to take part at first but later change your mind, you are free to withdraw at any time without explanation.

2.9: Who will have access to my information during this research?

All research records will be stored in securely locked cabinets. That information may be transcribed into our database, but this will be sufficiently encrypted and password protected. Only the people who are closely concerned with this study will have access to your information. All your information will be kept confidential.

2.10: Who can I contact in case I have further questions?

You can contact me, Kevin Karanja at SBS, or by e-mail kevin.karanja@strathmore.edu or by phone 0722 958608.

You can also contact my supervisor, Dr. Erastus Mbithi at the Strathmore Business School, Nairobi, or by e-mail embithi@strathmore.edu or by phone 0729 207192.

If you want to ask someone Independent anything about this research please contact:

The Secretary–Strathmore University Institutional Ethics Review Board, P. O. BOX 59857, 00200, Nairobi, email **ethicsreview@strathmore.edu** Tel number: 0703 034418

I have had the study explained to me. I have understood all that I have read and have had explained to me and had my questions answered satisfactorily. I understand that I can change my mind at any stage.

Please tick the boxes that apply to you;

Participation in the research study

I AGREE to take part in this research

DON'T AGREE to take part in this research

Storage of information on the completed questionnaire

I DO AGREE to have my completed questionnaire stored for future data analysis

I DON'T AGREE to have my completed questionnaire stored for future data analysis

Participant's Signature:

Date: /..... /...../.....

Participant's Name: Time: /

I, certify that I have followed the SOP for this study and have explained the study information to the study participant named above, and that

s/he has understood the nature and the purpose of the study and consents to the participation in the study. S/he has been given opportunity to ask questions which have been answered satisfactorily.

Investigator's Signature:

Date: / /

Investigator's Name:

Time: /

Appendix III: Ethical Approval and NACOSTI License

Completion of Online Research Ethics Review Submission

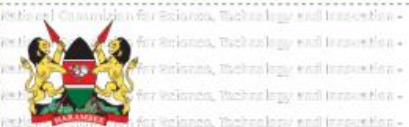
You have successfully submitted your application for ethics review "DETERMINANTS OF THE USAGE OF PAYMENT CARDS AMONG EMPLOYED YOUTH IN NAIROBI"

Certificate awarded to: Mr Karanja, Kevin

Reference number: SU-ISERC2487/24

Date and Time: 2025-03-04 11:22:27





REPUBLIC OF KENYA
National Commission for Science, Technology and Innovation

Ref No: **995674**

RESEARCH LICENSE



This is to Certify that Mr. Kevin Njuguna Karanja of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: **Determinants of the Usage of Payment Cards Among Employed Youth in Nairobi for the period ending : 31/January/2026.**

License No: **NACOSTI/P/25/415681**

995674

Applicant Identification Number



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Date of Issue: **31/January/2025**

W. W. W. W.
Director General
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Verification QR Code



NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

Appendix IV: Questionnaire

Section A: Respondents Demographic Profile (Please mark in the appropriate box)

1. Please indicate your age in years.

18-20	21-24	25-28	29-32	33-34

2. Please indicate your gender.

Male	Female

3. Indicate the highest level of education you completed

High school	
College	
University Degree	
Master's Degree	
Post-graduate Degree	

4. Please indicate your monthly income in Kenya Shillings.

0-20,000	
20,001-40,000	
40,001-60,000	
60,001-80,000	
80,001-100,000	

Above 100,000	
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Section B: Determinants

Please indicate the extent to which you agree with the following statements on financial literacy, demographic factors and adoption of mobile payment (*SD – strongly disagree, D = disagree, N = Neither disagree nor agree, A = Agree, SA = Strongly agree*)

	SD	D	N	A	SA
Financial Literacy					
I understand how to effectively use a credit card for purchases					
I am aware of the interest rates and costs involved when I use my credit card					
I understand the importance of paying my credit card balance on time to avoid penalties					
I know how to use a debit card to manage my spending directly from my bank account					
I understand that each debit card transaction reduces my bank account balance immediately					
I know how to monitor and manage my debit card transactions through online banking					
I understand how interest rates affect credit card debt and how to minimize costs					
I recognize that maintaining a good credit score is important for responsible credit card use					

I am aware of the financial risks, like debt, that come with overspending on a credit card					
I can calculate the total cost of credit card purchases, including interest, if I don't pay in full.					

	SD	D	N	A	SA
Demographic Factors					
My age influences my financial decisions, including the use of payment cards					
I believe that younger individuals are more likely to adopt new payment technologies.					
My stage in life affects how I use and perceive payment cards					
I believe that gender plays a role in financial decision-making, including the use of payment cards					
In my opinion, men and women have different attitudes toward the use of credit and debit cards.					
My level of education has helped me understand the benefits and risks of using payment cards					
Education influences how well I manage my finances, including the use of payment cards					
I believe that individuals with higher education levels are more likely to use credit and debit cards effectively.					
My income level affects my decision to use credit or debit cards					

I believe that individuals with higher income levels are more likely to use credit cards frequently					
My income allows me to take advantage of the benefits offered by various payment cards.					

	SD	D	N	A	SA
Mobile Payment Adoption					
I find mobile payments more convenient than using payment cards					
Mobile payments save me time compared to using debit or credit cards					
I prefer using mobile payments because they are more accessible than payment cards					
Mobile payments are easier to use for everyday transactions than payment cards					
I find it more convenient to manage my finances using mobile payments than with card payments.					
I feel more secure using mobile payments than using payment cards.					
I believe that mobile payments are less prone to fraud compared to card payments.					
I trust mobile payment systems more than I trust traditional card payment systems					

I find it easier to control my spending with mobile payments than with card payments.					
Mobile payments feel less tangible, making it harder for me to track my expenses compared to card payments.					
Paying with a mobile device makes the transaction feel less significant compared to paying with a card					

Section C: Usage of Card Payments

Please indicate your level of agreement with the following statements by selecting the option that best represents your opinion (*SD – strongly disagree, D = disagree, N = Neither disagree nor agree, A = Agree, SA = Strongly agree*).

	SD	D	N	A	SA
Usage of Payment Cards					
I frequently use payment cards to pay for goods and services					
I use my payment card for most of my daily transaction					
I use my payment card several times a week					
A significant portion of my total transactions are made using payment cards					
My payment card usage represents a large share of my overall monthly expenditures.					
I use my payment card for high-value purchases more often than other payment methods.					
I am satisfied with the benefits offered by my payment card.					

I plan to continue using my payment card for future transactions.					
I would recommend using payment cards to others.					

Thank You

