EFFECT OF MOBILE MONEY AND FIRM SIZE ON FINANCIAL SUSTAINABILITY OF SMES: CASE OF GROCERY RETAIL SHOPS IN NAIROBI COUNTY

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DECLARATION

I declare that this project has not been previously submitted and approved for the award of a degree by this or any other university. To the best of my knowledge and belief, the project contains no material previously published or written by another person except where due reference is made in the project itself.

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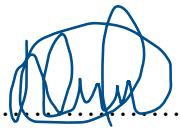
This research proposal has been submitted for presentation with my approval as the University Supervisor.

Supervisor's Signature  Date 08/06/2023.....

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DEDICATION

This research project is dedicated to my family and friends for their continued support.

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ABSTRACT

Financial sustainability is a critical aspect of the success of SMEs as an unsustainable SME can face significant challenges such as financial difficulties, decreased competitiveness, and even bankruptcy. Though adoption of mobile money services has been theorized to have the potential to improve the financial sustainability of SMEs, the studies conducted are still inconclusive. Majority of the SMEs also still continue to underperform even after incorporating mobile money services. was Against this background, the study sought to establish the effect of mobile money on financial sustainability of SMEs with a special focus on grocery retail shops in Nairobi County. The specific objectives are to establish the effect of mobile money usage, mobile money attributes and mobile money regulations on financial sustainability of grocery retail shops in Nairobi County. The study also sought out to establish the moderating effect of organizational size on the relationship between mobile money services and financial sustainability of grocery retail shops in Nairobi County. The study employs descriptive research design and the targeted population of the study was 10,450 grocery shops in Nairobi County. The respondents were owners, managers, or their equivalents in these grocery retail shops and a sample of 99 grocery shops was selected through simple random sampling. Data was collected using questionnaires andwas analyzed using descriptive and inferential analysis. The study established that mobile money usage, money attributes and mobile money regulations had a positive effect on the financial sustainability of grocery retail shops in Nairobi County. The moderating regression model further revealed that incorporating organization size strengthened the impact on the relationship that exists between mobile money and financial sustainability. Morever, the study denotes that factors such as convenience, security, and efficiency of mobile money transactions are crucial for enhancing the financial sustainability of these shops.Also, larger grocery retail shops may benefit even more from the implementation of mobile money services in terms of their financial sustainability. The study recommends that the mobile service providers shoul improve on aspects such as security, reliability, convenience, and transparency in mobile money transactions while policymakers and regulators should establish clear and supportive regulations that facilitate the growth and operation of mobile money services.

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ACRONYMS AND ABBREVIATIONS

CBD	:	Central Business District
CBK	:	Central Bank of Kenya
GDP	:	Gross Domestic Product
KNBS	:	Kenya National Bureau of Statistics
OECD	:	Organization for Economic Cooperation and Development
PESTLE	:	Political, Economic, Social, Technological, Legal and Environmental factors
RBV	:	Resource-Based View
SME	:	Small and Medium-sized Enterprises
SPSS	:	Statistical Package for Social Sciences
SWOT	:	Strengths, Weaknesses, Opportunities, and Threats

DEFINITIONS OF TERMS

Mobile Banking is the use of mobile devices or digital platforms to carry out financial transactions by MSEs (Aron, 2018).

Mobile Money Accessibility refer to the ease, convenience in which MSEs making financial transactions by use of mobile platforms. This was measured in terms of the number of transactions and the number of agent outlets (Villers, 2012).

Mobile Money Security is the assurance provided by the use of digital platforms towards the safeguarding and avoidance of loss of financial data. This was measured in terms of the incidences of cash loss (Wazid, 2019).

Financial Service Delivery refers to the convenience (time saving, security, freedom, and costs) brought about by the use of digital platforms this was measured by transaction time and success rate (Mwenda, 2015).

Financial Sustainability: This refers to the ability of an entity to maintain its financial viability over the long term, ensuring that its income is sufficient to cover its expenses and fulfill its financial obligations without relying excessively on external funding or accumulating unsustainable levels of debt. It involves effectively managing resources to achieve a balance between income generation, expenditure, and investment to support continued operations and future growth without jeopardizing financial health or stability. (Green & Davis, 2019)

Micro Enterprise means a firm, trade, service, industry or a business activity that employs a few employees (up to 10 employees) (MSE Act, 2012).

Growth refers to the annual increase in profitability, size, competitiveness and sustainability of and MSE. This was measured in terms of increased business turnovers and business profits (Florina, 2009).

Access – availability and access to financial services. Example, access points such as ATM's, bank branches and mobile money agents, IMF 2020

Usage – the usage of financial services. Example type of accounts, transaction amounts and

outstanding balance, IMF 2020

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

According to a report by the GSMA (2018), only 35% of small and medium-sized enterprises (SMEs) are financially sustainable globally, with the remaining 65% facing significant challenges in financial sustainability, market access, and competitiveness. Federal Reserve Report (2020) also showed that 44% of small businesses could only cover expenses for up to two months using their cash reserves alone. The COVID-19 pandemic further had a devastating impact on SMEs worldwide, as a survey by the International Trade Centre found that 60% of SMEs reported decreased sales due to the pandemic, and 52% reported decreased access to finance (ITC, 2020). Additionally, in developing countries, SMEs face a significant financing gap, with an estimated credit demand of $5.2 trillion and a supply of only $2.6 trillion (IFC, 2020). Financial sustainability refers to the ability of an organization to maintain its financial health over the long term (Werner et al., 2022).

Grocery retailers worldwide, in particular, grapple with financial sustainability challenges driven by changing consumer preferences and market dynamics (Smith et al., 2022). A prominent challenge pertains to the escalating costs associated with sustainable practices; responding to consumers' demands for eco-friendly and ethically sourced products often necessitates substantial investments in supply chain adjustments, sustainable packaging, and responsible sourcing (Brown & Jones, 2021). This places financial strain on retailers, particularly smaller or financially constrained ones, potentially impacting their long-term viability. Furthermore, the intensely competitive nature of the grocery industry compels retailers to engage in price wars, eroding profit margins (Johnson et al., 2020). Achieving the delicate balance between financial sustainability and affordability while contending with supply chain risks tied to climate change remains an ongoing challenge for grocery retailers (Green & Davis, 2019).

Grocery shops often need help in attaining financial sustainability, particularly in developing countries, facing challenges such as limited access to credit, high transaction costs, limited financial literacy, and inadequate financial infrastructure. In recent years, technological innovations such as mobile money services have thus emerged, having the potential to address these challenges and help grocery shops achieve financial sustainability (Molla, 2019). The use of

mobile money technology, specifically for small and medium-sized businesses, has thus increased in recent years as customer uptake also increased (World Bank, 2018). Mobile money services have several benefits for grocery shops, including lower transaction costs and improved access to credit and other financial services. Mobile money services can also enhance transparency and security in financial transactions, which can help reduce fraud and other financial crimes, hence being of utmost importance (Arner et al., 2015).

While mobile money services have greatly been incorporated (Gunther et.al 2022), gaps still exist on how it influences financial sustainability. Mobile money can also have negative effects on the financial sustainability of SMEs, depending on the context and services used (Tengeh et.al, 2020). The study further reveals that some mobile money services may charge high fees or impose low transaction limits, which reduce the profitability and cash flow of SMEs. Moreover, some mobile money services may expose SMEs to risks such as fraud, theft or network failures, which can affect their reputation and customer loyalty. Additionally, some mobile money service providers may not be compatible with other financial services or platforms which can limit the opportunities and choices of SMEs. Previous studies have not yet exhausted the research on effects of mobile money on grocery shops, most studies only focus on SMEs in general but do not narrow down to the specific type of SME which shows a gap in the business segment.

Fintech, the intersection of technology and finance, has caused significant disruption in the financial services industry, impacting financial products, payment systems, market structure, and even the nature of money itself (Sospeter & Wamalwa, 2019). The COVID-19 pandemic has accelerated the adoption of mobile money services as people have increasingly turned to cashless payments. Embracing fintech can support fundamental policy objectives, including financial stability, integrity, inclusion, efficiency, innovation, competition, and the growth of digital economies, according to the World Development Report (2022). Digital financial services allow users to store and transfer funds securely and inexpensively across long distances, leading to higher remittances, consumption, and investments. Research indicates that mobile money can significantly reduce poverty and increase financial empowerment, particularly among women and rural households in developing countries (World Bank, 2016; Bill and Melinda Gates Foundation, 2018). As of 2021, more than half of adults in sub-Saharan Africa have accounts, including one-third with mobile money accounts, which is more than three times the global average of mobile money account ownership (World Bank, 2021).

Mobile money usage facilitates transactions, payments, and money transfers through mobile devices, marking a paradigm shift in financial activities (Dahlberg et al., 2015). The surge in smartphone usage and the expansion of digital infrastructure globally have propelled this trend, resulting in a growing adoption of mobile money services (GSMA, 2021; Mas & Ng'ombe, 2020). The distinct attributes characterizing mobile-based financial services encompass an array of features, including accessibility, convenience, security, and interoperability. These defining attributes significantly influence user perceptions and, consequently, the adoption rates of such services (Donner & Tellez, 2008). Notably, the degree of trust in the security and convenience of mobile money has been identified as a pivotal driver of adoption. Developed countries have prioritized the seamless integration of mobile money within established banking systems, steering its adoption trends. In contrast, African nations have emphasized attributes such as interoperability and user-friendly interfaces to propel the adoption of mobile money services. Within Kenya, the success of M-Pesa is attributed to its intuitive user experience and widespread network of agents (Hughes & Lonie, 2017).

The realm of mobile money regulations encompasses the legal and regulatory frameworks governing the operation of mobile financial services. These regulations are designed to ensure consumer protection, prevent fraudulent activities, and foster a stable financial environment (Mbiti & Weil, 2011). The global landscape presents diverse regulatory approaches, spanning from facilitating innovation through lenient regulations to managing risks through stringent measures. In developed countries, the focus often revolves around data protection and anti-money laundering measures. Conversely, African nations have recognized the potential of mobile money in promoting financial inclusion, resulting in the introduction of enabling regulations (Boyd et al., 2019). In this regard, Kenya emerges as an exemplar, with the Central Bank's involvement in shaping mobile money regulations (Mas & Morawczynski, 2019).

Organizational size, denoting the scale of a business entity measured by parameters such as revenue, assets, and workforce size, also significantly influences the financial sustainability of grocery shops. The intricate relationship between organizational size and financial sustainability hinges upon multiple dynamics. Larger enterprises possess advantages in resource allocation and risk diversification, potentially enhancing their financial sustainability. Conversely, smaller entities often exhibit nimbleness and adaptability, enabling them to respond to evolving market conditions effectively. In developed countries, larger corporations exhibit robust financial

structures, bolstering their resilience in the face of economic uncertainties (Alam & Uddin, 2020). In contrast, the prominence of SMEs as engines of economic growth in African nations has led to a heightened emphasis on enhancing their financial sustainability (Ayyagari et al., 2021). Kenya, as an illustration, has instituted policies and initiatives aimed at fostering SME expansion, recognizing their instrumental role in the national economy (KNBS, 2020). SMEs can be defined according to the number of employees, revenues, and company assets. In Kenya, they are classified as businesses with between 0 and 99 employees, where most grocery shops lie.

The intricate interplay among mobile money usage, attributes, regulations, organizational size, and financial sustainability significantly shapes the landscape of SMEs on global, regional, and local scales. The adoption of mobile money usage can positively influence SME financial sustainability by ameliorating cash flow, reducing transaction costs, and optimizing operational efficiency (KPMG, 2019). Mobile money attributes, notably accessibility and convenience, substantially mold usage patterns, consequently impacting the financial sustainability of enterprises (Srivastava et al., 2015). Effective mobile money regulations can establish a conducive environment for businesses to leverage mobile financial services, thereby fortifying their financial sustainability (Sey & Tehinse, 2017). Moreover, the organizational size of grocery shops may mediate the influence of mobile money usage, with larger enterprises potentially capitalizing more effectively on these services due to their greater resources (Huang et al., 2017).

These variables exhibit distinctive interactions across diverse contexts. In developed countries, the seamless integration of mobile money services with pre-existing financial systems influences organizational size and financial sustainability trends. In African nations, mobile money has emerged as a catalyst for financial inclusion, with smaller SMEs such as grocery shops particularly reaping the benefits. In Kenya, mobile money services have become increasingly popular and are widely used by grocery shops. However, despite the widespread adoption of mobile money services, many grocery shops in Kenya continue to need help in achieving financial sustainability (Ndirangu, 2018).

One significant issue is the intense competition within the retail sector, exacerbated by the proliferation of large supermarket chains. According to a report by Mwambire and Kibet (2019), the dominance of these supermarkets has squeezed smaller grocery stores, driving down their profit margins. This situation is compounded by the rising costs of operation, including rent,

utilities, and taxes, as noted by Mugo et al. (2020). In Nairobi's urban areas, the high cost of living has also led to changes in consumer behavior, with many residents opting for more affordable shopping alternatives such as open-air markets and online grocery platforms, as highlighted by Achieng et al. (2018). These shifts have further eroded the customer base of traditional grocery shops, posing significant challenges to their financial viability.

Furthermore, inadequate infrastructure and logistical challenges have hampered the efficiency of grocery operations in Nairobi County. Poor road networks and traffic congestion not only increase transportation costs but also disrupt supply chains, leading to delays and potential losses for retailers. A study by Nyaga and Ondimu (2021) emphasized the impact of these infrastructural deficiencies on the perishable goods sector, where timely delivery is crucial. Additionally, unreliable access to electricity and water supply, as documented by Musyoka et al. (2018), further complicates the operations of grocery shops, particularly those reliant on refrigeration and other utilities. These infrastructural inadequacies not only drive-up operating costs but also contribute to operational inefficiencies, undermining the financial sustainability of grocery businesses in the county.

Moreover, the socio-economic challenges facing Nairobi County, such as unemployment and income inequality, have implications for the purchasing power of consumers. The study by Kamau et al. (2022) underscores how these factors limit the disposable income available for spending on groceries, forcing households to prioritize essential items over discretionary purchases. Additionally, the COVID-19 pandemic has exacerbated these economic hardships, with widespread job losses and salary cuts affecting consumer spending patterns. Research by Mutuku and Wambua (2020) highlights the pandemic's disproportionate impact on small businesses, including grocery shops, which have struggled to adapt to lockdown measures and changing consumer behaviors. As a result, many retailers in Nairobi County have faced declining revenues and financial instability, further highlighting the challenges to the sector's sustainability.

While mobile money services offer benefits such as lower transaction costs, it is important to note that most of these firms due to their small scale are not able to adopt new technologies and compete in the market, leading to underperformance and financial unsustainability (Sospeter & Wamalwa, 2019). The other challenge is usage of finances by SME owners such as grocery shops, for instance, due to increased financial inclusion from mobile money services, the shop owners may

end up over borrowing loans on their mobile phones and using the cash to engage in harmful addictive activities such as gambling. This will hinder their growth and welfare in the long run. Further inquiry is needed to understand why grocery shops in Kenya continue to underperform despite the utilization of mobile money services.

1.1.1 Grocery Retail Shops in Nairobi County

Grocery retail shops in Nairobi County constitute a crucial cornerstone of the local economy, exerting substantial influence across diverse sectors (Mwangi M, 2021). Grocery retail shops are diverse and cater to the varying needs and preferences of the local population, employing less than one hundred employees per store. Nairobi, the capital city of Kenya, has a wide range of grocery stores, including traditional markets, supermarkets, and specialty shops. Traditional markets like Gikomba Market and City Market offer a vibrant and bustling atmosphere where shoppers can find fresh produce, grains, spices, and various household items at competitive prices. Nairobi County also has specialty stores and grocery chains that cater to specific preferences, such as organic food stores and health food shops, and international supermarkets such as Carrefour offer a range of imported goods. Additionally, the city has seen the growth of online grocery delivery services, allowing residents to shop for groceries from the comfort of their homes conveniently.

These enterprises, characterized by their limited scale, wield significant impact by generating employment opportunities, driving innovation, and contributing to overall economic advancement (Smith & Uboh, 2020). However, their growth trajectory is often impeded by various challenges, with the concept of financial sustainability emerging as a paramount concern. Financial sustainability revolves around their capacity to ensure consistent operational performance, navigate cash flow dynamics efficiently, and endure economic fluctuations without compromising their stability. This facet directly influences their ability to surmount financial hurdles, bolster competitiveness, and avert the looming specter of insolvency (Ariyo et al., 2016).

In Nairobi County, the financial sustainability of these SMEs occupies a central position due to their interconnectedness with the broader economic fabric. An avenue that has garnered significant attention as a potential remedy for augmenting financial sustainability is the integration of mobile money services. Mobile money, a transformative innovation, has revolutionized financial transactions by facilitating a wide array of financial activities through mobile devices (Jack & Suri, 2014). The adoption of mobile money services is poised to emerge as a catalyst for elevating

financial sustainability. Mobile money services have demonstrated their7otentiall to yield positive outcomes for SMEs in multifaceted ways. These services streamline and expedite payment processes, giving SMEs the tools to manage transactions more effectively.

Furthermore, mobile money can play a pivotal role in optimizing cash flow, a quintessential aspect in sustaining daily operations and mitigating financial hardships (Adegbaju & Lasisi, 2013). By facilitating secure and swift financial transactions, mobile money services mitigate operational bottlenecks and enhance the liquidity profile of grocery shops. However, it is imperative to acknowledge that while mobile money services hold considerable promise, they might not represent a panacea for the diverse challenges faced by Nairobi County's SMEs. Certain considerations persist, such as the imperative of cultivating robust financial literacy and digital proficiency among SME proprietors and their workforce, thereby ensuring that the full gamut of benefits from these services is harnessed (Onyeaghala & Okoye, 2017). Additionally, the regulatory landscape governing mobile money deployment necessitates calibration to create an enabling environment for seamless integration within the business ecosystem.

1.2 Research Problem

Ensuring the financial sustainability of grocery shops stands as a pivotal factor influencing their ability to navigate various challenges, encompassing financial hardships, waning competitiveness, and potential insolvency (Molla, 2019). Nevertheless, Kenya faces a disconcerting reality where only 20.9% of grocery shops demonstrate financial sustainability (KNBS, 2020). According to a survey by Kimani et al. (2022), approximately 30% of grocery shops in Nairobi County have closed down in the past two years due to financial constraints, with many citing fierce competition from supermarkets and rising operational costs as key factors. Additionally, a report by Muthoni et al. (2021) indicates that over 50% of remaining grocery shops in the county are operating at a loss, struggling to cover basic expenses such as rent, utilities, and inventory restocking. Furthermore, a recent study by Ochieng et al. (2023) found that the COVID-19 pandemic has exacerbated the financial fragility of grocery businesses, with a staggering 70% reporting a decline in revenue since the onset of the crisis.

The adoption of mobile money services has emerged as a prospective remedy to bolster grocery shops financial sustainability, yet a significant proportion of these enterprises continue to struggle financially even after integrating such services (Kobia & Wang, 2020; KNBS, 2020). Furthermore,

while mobile money services exhibit the capacity to augment cash flow and amplify sales for grocery shops in Nairobi, they still need to be improved in addressing the full spectrum of challenges confronting these enterprises (KIPPRA, 2017; KPMG, 2019). Though existing studies have investigated the ramifications of mobile money services on grocery shops' financial sustainability, the results obtained oscillate between inconclusive, mixed, and insignificant. For instance, a study by Sospeter and Wamalwa (2019), Ng'ombe et al. (2021), and the World Bank (2017) unveiled that the adoption of mobile money had an insignificant impact on SME financial sustainability. Meanwhile, the African Development Bank (2018) stipulates that while mobile money services bolstered cash flow for grocery shops, they did not necessarily translate into sustainable expansion and long-term financial sustainability. This confluence of diverse findings implies that despite the potential inherent in mobile money services to extend financial access and utility in Kenya, the precise effects on grocery shops financial sustainability still need to be more adequately elucidated. Past studies have focused majorly on SME's in general and very little information has been given on grocery retail shops including having a moderating variable of the size of the shop (Kariuki J.W 2021).

The performance on financial sustainability of a grocery shop run by one or two employees would be different from a shop run by more than twenty employees. In most cases a grocery shop run by a sole proprietor having access to mobile money may be at a higher risk of financial misappropriation such as mixing business funds and personal funds which will happen due to lack of proper financial control measures put in place (Kariuki J.W 2021). On the other hand, a grocery shop with more employees tends to have proper financial management structures hence better financial sustainability in the long run (Kariuki J.W 2021). Additionally, scant evidence exists to elucidate the moderating influence of organizational size on the nexus between mobile money services and grocery shops financial sustainability. Consequently, this research embarked on addressing the central inquiry: What is the influence of mobile money services on the financial sustainability of grocery shops within Nairobi County? Through this investigation, an endeavor was made to bridge existing gaps in knowledge, discerning the contribution that this study can make to the wider understanding of the subject matter.

1.3 Research Objectives

1.3.1 General Objective

To establish the effect of mobile money and firm size on financial sustainability of SMEs: case of grocery retail shops in Nairobi County.

1.3.2. Specific Objectives of the Study

i. To establish mobile money usage's effect on grocery retail shops' financial sustainability in Nairobi County.

ii. To examine mobile money attributes' effect on grocery retail shops' financial sustainability in Nairobi County.

iii. To determine mobile money regulations' effect on grocery retail shops' financial sustainability in Nairobi County.

iv. To establish the moderating effect of organizational size on the relationship between mobile money and financial sustainability of grocery retail shops in Nairobi County.

1.4. Research Questions

i. How does mobile money usage affect grocery retail shops' financial sustainability in Nairobi County?

ii. What is the effect of mobile money attributes on financial sustainability of grocery retail shops in Nairobi County?

iii. What is the effect of mobile money regulations on financial sustainability of grocery retail shops in Nairobi County?

iv. What is the moderating effect of organizational size on the relationship between mobile money and financial sustainability of grocery retail shops in Nairobi County?

1.5 Significance of the Study

1.5.1 SME Business Owners

By providing empirical evidence on the impact of mobile money services on the sustainability of Grocery retail shops in Nairobi County, this study can help SME owners, managers, and policymakers make informed decisions about whether to adopt mobile money services or not. This

information can be valuable for grocery retail shop owners, in particular, who often operate on tight margins and may be looking for ways to increase their efficiency and financial sustainability. By identifying key pain points and emerging opportunities, the study could inform targeted interventions and business strategies aimed at improving profitability, reducing costs, and optimizing resource allocation. Additionally, research findings could facilitate knowledge sharing and collaboration among grocery owners, fostering a supportive network where best practices and innovative solutions are exchanged. The study will also provide practical recommendations for SME owners and managers on how to effectively use mobile money services to enhance the sustainability of their businesses. This can help SMEs to maximize the benefits of mobile money services and increase their chances of success.

1.5.2 Policymakers

By providing policymakers with evidence-based insights into the impact of mobile money services on SMEs, the study will inform the development of policies and regulations that promote the adoption and use of mobile money services by SMEs. This can be particularly valuable in Nairobi County, where SMEs are an important driver of economic growth and development. The study will also provide policymakers with practical recommendations for promoting the use of mobile money services by SMEs, which could lead to the development of more effective policies and programs to support SMEs.

1.5.3 Academicians

By filling a gap in the existing literature on mobile money services and SMEs, the study will help to advance our understanding of this important area. The study will provide theoretical insights into the factors that influence the adoption and use of mobile money services by SMEs, leading to a deeper understanding of this complex process. The study will further contribute to developing theories that explain the impact of mobile money services on the sustainability of SMEs. This can be valuable for researchers and policymakers alike, as it can help to identify the most effective ways to support SMEs and promote economic growth and development.

1.6 Scope of the Study

The study focused on grocery vendors around Nairobi, Kenya, assessing the role of mobile money services in enhancing the financial sustainability of firms. Mobile money services were a key

component of the study. The sample size was 99 grocery shops, with the target respondents being the managerial employees. The study was conducted in 3 months, from April to June 2023.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides the theoretical review, empirical review of the study, and finally, the research gaps of the study to be conducted in relation to the problem under investigation, not forgetting the conceptual framework.

2.2 Theoretical Review

This section outlines theories on pertaining to the research study. This study was guided by two theories namely Technology Acceptance Model and Contingency Theory.

2.2.1 Technology Acceptance Model

The Technology Acceptance Model (TAM) is a theoretical framework that explains the acceptance and usage of information technology (IT) by individuals. The TAM was first introduced by Fred Davis in 1989 and has since been refined by various researchers. The model stipulates that a person's intention to use a technology is determined by two primary factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which a person believes that technology will help them accomplish a task or achieve a goal, while perceived ease of use refers to the degree to which a person believes that using the technology will be effortless and straightforward (Khan et al., 2018).

TAM also recognizes that external factors like social norms, facilitating conditions, and individual differences can indirectly affect a user's intention to use the technology by influencing their perceived usefulness and ease of use. This makes it a useful framework for understanding user acceptance and adoption of technology, and a reliable predictor of user behavior in many contexts (Haji, et al., 2016). TAM can be used to understand the impact of mobile money services on the sustainability of grocery shops by examining how the perceived usefulness and ease of use influence adoption and usage of mobile money. Mobile money services like M-Pesa and Airtel Money enable businesses to receive payments and make transactions through their mobile phones, reducing the need for cash transactions and improving financial inclusion for SMEs and in some cases, financial sustainability through access to affordable credit.

Research has shown that perceived usefulness and ease of use are significant predictors of technology acceptance and usage among grocery shops (Akter et al. 2013). For instance, Akter et al. (2013) found that perceived usefulness, perceived ease of use, and perceived security were essential factors influencing the adoption of mobile money services by SMEs in Bangladesh. Similarly, Mutula and Brakel (2016) found that perceived usefulness, ease of use, and trust were significant predictors of mobile money adoption and usage by SMEs in Kenya.

Technology Acceptance Model (TAM) would be employed to explain the effect of mobile money usage on financial sustainability of grocery retail shops in Nairobi County. Mobile money usage can affect the financial sustainability of grocery retail shops by influencing their revenues costs and risks. According to TAM, the adoption and continued usage of mobile money by grocery retail shop owners and customers depend on how they perceive the benefits and challenges of using the technology. Perceived usefulness refers to the degree to which users believe that using mobile money will enhance their performance or outcomes (Davis, 1989). For example, grocery retail shop owners may perceive mobile money as useful if it helps them increase their sales, reduce cash handling costs and access financial services such as credit and savings. Customers may perceive mobile money as useful if it helps them save time, money and effort in making payments and transfers. Perceived ease of use refers to the degree to which users believe that using mobile money will be free of effort (Davis, 1989). For example, grocery retail shop owners may perceive mobile money as easy to use if it is compatible with their existing systems, has a simple and intuitive interface and offers reliable and secure transactions. Customers may perceive mobile money easy to use if it is widely available, affordable and convenient. Social influence refers to the degree to which users are influenced by the opinions and behaviors of others regarding the use of mobile money (Davis, 1989). For example, grocery retail shop owners may be influenced by the expectations and preferences of their customers, suppliers and competitors. Customers may be influenced by the recommendations and experiences of their friends, family and peers. Perceived risk refers to the degree to which users perceive potential negative consequences of using mobile money (Davis, 1989). For example, grocery retail shop owners may perceive risk if they are concerned about the security, privacy and legality of mobile money transactions. Customers may perceive risk if they are worried about the trustworthiness, reliability and quality of mobile money services.

2.2.2 Contingency Theory

Contingency theory by Donaldson, (2001) is a framework that suggests that the effectiveness of organizational actions depends on the fit between the actions and the environmental conditions. The theory proposes that there is no one-size-fits-all approach to organizing and managing a business and that the most effective approach depends on the specific context in which the business operates (Mas et al., 2016). Mobile money usage can affect the financial sustainability of grocery shops by influencing their adaptability, efficiency and competitiveness. According to Contingency Theory, the adoption and use of mobile money by grocery retail shop owners and customers depend on how well the technology matches the needs and characteristics of the business environment. Some of the factors that can affect this fit are outlined in the subsequent paragraph.

Environmental uncertainty refers to the degree of unpredictability and complexity of the external factors that affect the business, such as customer preferences, market competition, regulation and innovation (Donaldson, 2001). For example, grocery retail shop owners may adopt and use mobile money if they face high environmental uncertainty and need to respond quickly and flexibly to changing customer demands and opportunities. Customers may adopt and use mobile money if they face high environmental uncertainty and need to access convenient and secure payment options. Organizational structure refers to degree of formalization, centralization and specialization of the business operations and decision-making (Donaldson, 2001). For example, grocery retail shop owners may adopt and use mobile money if they have a low organizational structure and need to simplify and streamline their transactions and records. Customers may adopt and use mobile money if they have a low organizational structure and need to avoid bureaucracy and delays in payments and transfers. Organizational culture refers to the degree of shared values, beliefs and norms that guide the behavior and attitudes of the business stakeholders (Donaldson, 2001). Organizational culture refers to the degree of shared values, beliefs and norms that guide the behavior and attitudes of the business stakeholders (Donaldson, 2001). For example, grocery retail owners may adopt and use mobile money if they have a high organizational culture and need to align with the values and expectations of their customers suppliers, and employees. Customers may adapt and use mobile money if they have a high organizational culture and need to conform to the social norms and influences of their peers and community.

To further explain the effect of mobile money usage on financial sustainability of grocery retail shops, Contingency Theory can be used to examine how these factors affect the fit between the technology and business environment and how this in turn affects the performance and outcomes of the shops. For instance, if mobile money fits well with the environmental uncertainty, organizational structure and culture of the shops, that are more likely to adapt and use it effectively which can lead to improved adaptability, efficiency and competitiveness of the shops. Conversely, if mobile money does not fit well with the environmental uncertainty, organizational structure, and organizational culture of the shops, they are less likely to adopt and use it effectively, which can lead to reduced adaptability and competitiveness for the shops. Contingency Theory has been critiqued by some studies for being too descriptive and not prescriptive (Burns and Stalker, 1961), for being too vague and not testable (Woodward, 1965), and for ignoring the whole agency and power in organizational actions (Pfeffer and Salancik, 1978). All these studies suggest that Contingency Theory should be complemented by other theories that can provide guidance, more rigorous and empirical evidence, and more comprehensive and dynamic perspectives on the effects of mobile money on financial sustainability of grocery retail shops.

As such, the impact of mobile money services on the sustainability of SMEs may be affected by the size of the organization (Burns & Stalker, 2016). For instance, smaller grocery shops may have less formalized structures, fewer resources, and less bureaucratic decision-making processes, which may limit their ability to effectively utilize mobile money services to improve their sustainability. On the other hand, larger grocery shops may have more formalized structures, more resources, and more bureaucratic decision-making processes, which may enable them to utilize mobile money services more effectively to improve their sustainability.

2.3 Empirical Review

2.3.1 Mobile money usage and financial sustainability of grocery retail shops

Multiple studies have delved into the relationship between mobile money usage and its impact on business performance and sustainability among small and medium-sized enterprises (SMEs) across diverse geographical contexts. The collective insights from these investigations provide a nuanced understanding of the potential implications of mobile money adoption on grocery shops operational outcomes. Odhiambo and Ndeto (2020) undertook a study in Kenya, focusing on mobile money usage and its influence on business performance. Through a cross-sectional survey

encompassing 350 SMEs, their analysis, rooted in descriptive statistics and regression analysis, unveiled a significant positive relationship between mobile money usage and business performance.

Hossain and Kaur (2020) shifted the spotlight to Malaysia, examining the impact of mobile payment on financial sustainability within the context of SMEs. Their survey-based methodology, involving 147 SMEs, echoed the findings of Odhiambo and Ndeto, revealing a significant positive association between mobile money usage and financial sustainability. Here, customer satisfaction emerged as a crucial predictor of business sustainability, aligning with the outcomes observed in Malaysia. Here, perceived ease of use emerged as a key predictor, reaffirming the influence of user experience on operational outcomes.

Meanwhile, Puspitasari et al. (2021) ventured into Indonesia, shedding light on the relationship between mobile money usage and financial sustainability among Indonesian SMEs. With a sample of 205 SMEs, their study reiterated the constructive impact of mobile money usage on business performance. In this instance, trust emerged as a pivotal predictor of business performance, highlighting the critical role of establishing confidence in mobile money transactions. In a parallel vein, Bada and Olajide (2021) directed their attention to Nigeria, exploring the interplay between mobile money usage and financial sustainability. Their investigation, similar to the other studies, showcased a significant positive relationship between mobile money usage and financial sustainability. Notably, cost reduction emerged as a notable predictor, underscoring the potential for mobile money adoption to streamline operations and enhance efficiency, particularly in resource-constrained environments.

2.3.2 Mobile money attributes and financial sustainability of grocery retail shops

Studies have undertaken a comprehensive exploration of the intricate relationship between mobile money attributes, adoption, and their influence on financial sustainability and performance across diverse contexts. Akpan and Uduak (2021) and Owusu and Boakye (2021) independently delved into the effects of mobile money attributes on financial sustainability and performance among SMEs in Nigeria and Ghana, respectively. Both studies utilized survey research designs and similar analytical approaches. The consensus across these studies is that mobile money attributes wield a significant influence on both financial sustainability and performance. Specifically, the attributes of convenience and affordability were identified as positive drivers, while the attribute of trust

emerged as a challenge. These findings emphasize the potential for SMEs to enhance their financial sustainability and performance by embracing mobile money as a payment option. However, a shared recommendation surfaces—collaborative efforts among stakeholders to mitigate issues like fraud and network downtime are vital to bolstering trust in mobile money.

Expanding the discourse to the Chinese context, Zhang, Zhang, and Yu (2020) explored the adoption of mobile payment and its impact on firm performance. Their study harnessed panel data analysis and encompassed a comprehensive sample of Chinese firms. The findings unequivocally highlight the positive influence of mobile payment adoption on firm performance metrics such as financial sustainability, sales growth, and return on assets. The potential for enhanced customer satisfaction, reduced transaction costs, and improved efficiency underscores the transformative potential of mobile payment options for firms aiming to elevate their performance.

Similarly, Olumide, Adebisi, and Uwazie (2020) scrutinized mobile money adoption's implications for business sustainability among SMEs in Nigeria. Their study introduced a mediating element—customer satisfaction—through which the relationship between adoption and sustainability operates. The study underscored that the attributes of convenience and affordability are pivotal drivers of financial sustainability. This reinforces the notion that mobile money adoption can tangibly contribute to SME sustainability, particularly when bolstered by attributes that enhance customer satisfaction.

Meanwhile, Arinaitwe and Mwebaze (2019) ventured into the Ugandan context to examine the interplay between mobile money adoption and financial sustainability among SMEs. Their findings echoed the emerging consensus—that embracing mobile money as a payment option hold promise for enhancing sustainability by streamlining operations, reducing transaction costs, and boosting customer satisfaction. Nonetheless, the study emphasizes the necessity of addressing issues such as network downtime and service quality to cultivate an environment of trust.

2.3.3 Mobile money regulations and financial sustainability of grocery retail shops

Aron et al. (2017) analyzed mobile money regulatory frameworks, emphasizing the necessity for a nuanced approach encompassing component-level regulation. Their investigation delved into individual components such as customer registration, electronic money storage and exchange, foreign transfers, and interoperability. Despite the diversity in regulatory frameworks across countries, certain common elements emerged. Notably, some nations directed regulatory focus

towards trust and the management of bank accounts holding float. These regulations ranged from permitting interest accumulation in accounts, as observed in Kenya, Malawi, Afghanistan, Sri Lanka, and various Pacific Island countries, to mandating 100% cash reserve accounts deposited with the Central Bank, as exemplified by the Philippines (Greenacre & Buckley, 2014).

Building upon this regulatory landscape, Kobia and Wang (2020) did an inquiry into the intersection of mobile money regulation and business performance, particularly among mobile money agents in Kenya. Employing a cross-sectional survey methodology, they gathered data from 319 mobile money agents. Their findings illuminated a significant positive relationship between regulatory compliance and business performance. Notably, customer satisfaction emerged as a pivotal predictor of business performance among mobile money agents. This underscores the influential role of effective mobile money regulations in bolstering business performance by enhancing customer satisfaction and engendering loyalty.

Similarly, Gbadamosi and Olufemi (2020) directed their attention to Nigeria, exploring the intricate connection between mobile money regulation and financial sustainability within the realm of mobile money agents. Their survey-based approach encompassed data collection from 300 mobile money agents. Their findings resonated with those of Kobia and Wang, revealing a noteworthy positive relationship between regulatory compliance and business sustainability. Here, financial sustainability emerged as a significant predictor of business sustainability among mobile money agents. Evidently, robust mobile money regulations possess the potential to enhance the sustainability of mobile money enterprises in Nigeria by augmenting financial sustainability and mitigating risks.

Mndzebele et al. (2021) also conducted an examination of the influence of mobile money regulation on the financial sustainability of mobile money agents in Eswatini. Employing a survey research design, they gathered insights from 180 mobile money agents. The outcomes of their study unveiled a significant and affirmative impact of regulatory compliance on financial sustainability. Notably, trust emerged as a pivotal predictor of financial sustainability among mobile money agents in Eswatini. This suggests that effective mobile money regulations have the capacity to elevate the sustainability of mobile money ventures in Eswatini by fostering trust and engendering confidence in financial transactions.

2.3.4 Mobile money services, organizational size and financial sustainability of grocery retail shops

Rana, Bhatnagar, and Gupta (2020) conducted survey research in India, analyzing data from 175 micro, small, and medium enterprises (MSMEs). Their hierarchical regression analysis demonstrated that organizational size indeed moderates the link between mobile money adoption and business performance. Notably, the study revealed that mobile money adoption exerts a more potent positive influence on the performance of smaller MSMEs in comparison to their larger counterparts. Similarly, Owusu and Boakye (2021) delved into the connection between mobile money adoption and business performance within a different context, focusing on micro and small enterprises (MSEs) in Ghana. Their cross-sectional survey encompassed 200 MSEs. Unlike the findings of Rana et al., Owusu and Boakye's study suggested that organizational size did not significantly moderate the relationship between mobile money adoption and business performance among the MSEs in Ghana.

Building upon these insights, Ahiauzu and Ogbuabor (2020) investigated the impact of mobile money adoption on SMEs' business performance in Nigeria. Drawing from data collected from 384 SMEs, their study employed a moderated mediation model. Their analysis using partial least squares-structural equation modeling echoed the earlier sentiments, revealing that organizational size indeed exerts a moderating influence on the relationship between mobile money adoption and business performance. The study concurred that, similar to the findings in India, smaller SMEs tend to benefit more from adopting mobile money as a payment option compared to their larger counterparts.

Extending the discourse further, Mugo, Odondo, and Ngugi (2021) directed their attention to Kenya, investigating the interplay between mobile money adoption and business performance among SMEs. Collecting data from 193 SMEs, their study supported the notion that organizational size acts as a moderating factor. Aligning with the trends observed in previous studies, they concluded that mobile money adoption tends to have a more substantial positive impact on the business performance of smaller SMEs in contrast to larger ones. The study emphasized the potential for mobile money adoption to enhance SMEs' performance through mechanisms such as increased sales, cost savings, and improved operational efficiency.

2.4 Conceptual Framework

Figure 1 shows the conceptual framework for the study.

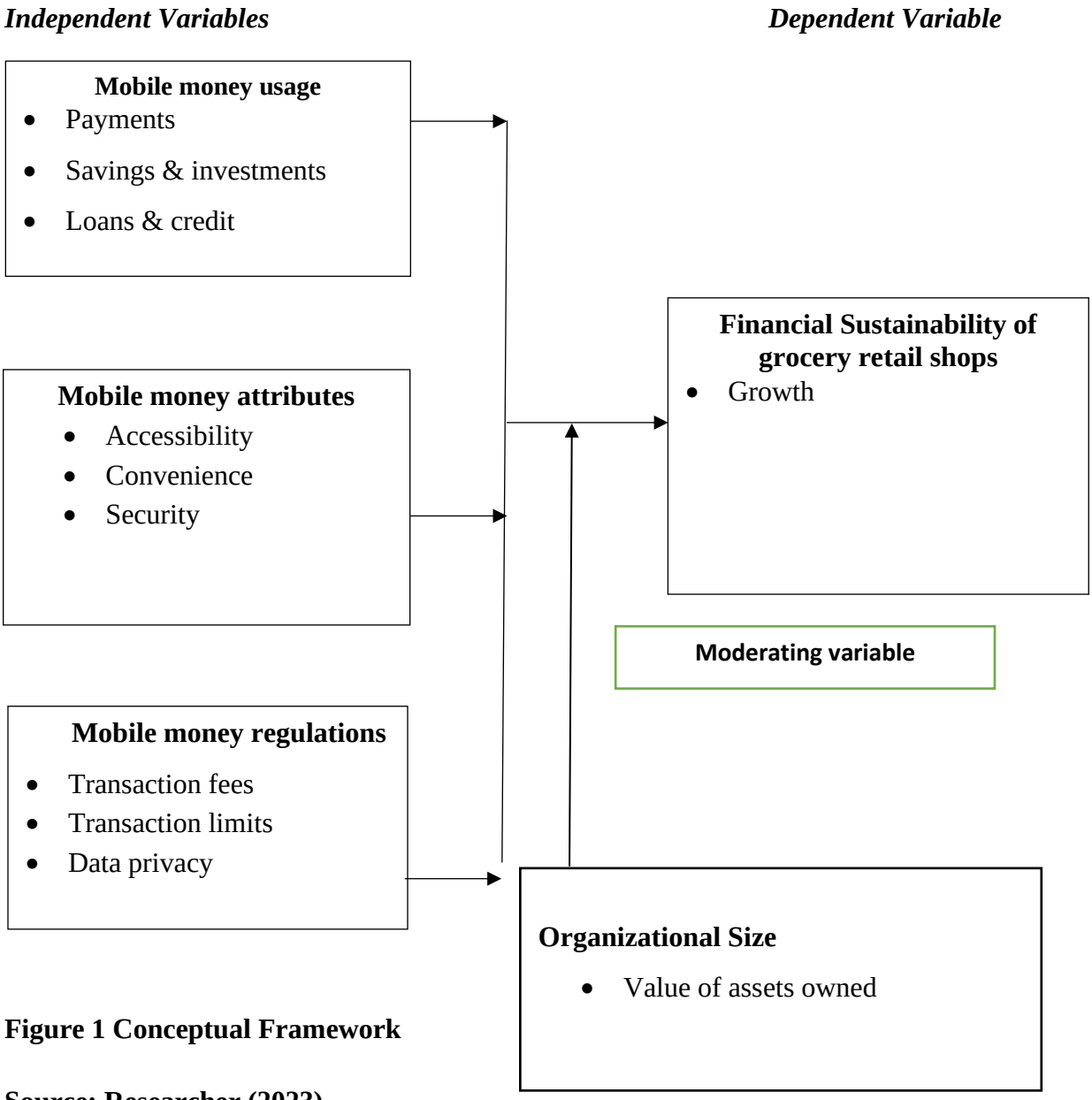

Figure 1 Conceptual Framework

Source: Researcher (2023)

2.5 Measurement of Variables

Table 1 below shows the measurement of variables.

Table 1 Measurement of Variables

Variable	Type of Variable	Variable Measurement	Scale	Guiding Theory	Supporting Literature
Mobile money usage	Independent	• Payments • Savings & investments • Loans & credit	Ordinal Scale	Technology Acceptance Model	World Bank (2020)
Mobile money attributes	Independent	• Accessibility • Convenience • Security	Ordinal Scale	Technology Acceptance Model	FSD Kenya (2019)
Mobile money regulations	Independent	• Transaction fees • Transaction limits • Data privacy	Ordinal Scale	Contingency Theory	GSMA (2019)
Organizational Size	Moderating	• Value of assets owned	Ordinal Scale	Contingency Theory	World Bank Group (2018)
Financial sustainability of grocery retail shops	Dependent	• Growth	Ordinal Scale		United Nations Capital Development Fund (2017)

2.4. Hypotheses of the Study

H_{O1}: Mobile money usage has no significant effect on financial sustainability of grocery retail shops in Nairobi County.

H_{O2}: Mobile money attributes has no significant effect on financial sustainability of grocery retail shops in Nairobi County.

H_{O3}: Mobile money regulations has no significant effect on financial sustainability of grocery retail shops in Nairobi County.

H_{O4}: Organizational Size has no significant moderating effect on the relationship between mobile money and financial sustainability of grocery retail shops in Nairobi County.

2.5 Summary of the gaps in knowledge

The empirical review highlights the relationship between mobile money usage and the financial sustainability of grocery retail shops, drawing insights from various geographical contexts. While studies like (Odhiambo & Ndeto, 2020) in Kenya, (Hossain & Kaur, 2020) in Malaysia, (Puspitasari et al., 2021) in Indonesia, and (Bada & Olajide, 2021) in Nigeria have explored this relationship, there exists a research gap concerning the specific dynamics within Nairobi County, Kenya. These studies collectively demonstrate a positive association between mobile money usage and business performance, but a focused inquiry into the socio-economic and regulatory environment of Nairobi County is warranted to understand the unique challenges and opportunities faced by grocery shops in the region.

Furthermore, investigations into mobile money attributes and their influence on financial sustainability have been conducted in various countries such as Nigeria, Ghana, China, and Uganda. Studies like (Akpan & Uduak, 2021) and (Owusu & Boakye, 2021) have examined the impact of attributes like convenience, affordability, and trust on business sustainability. However, there is a dearth of research specifically analyzing these attributes within the context of grocery retail shops in Nairobi County. Understanding how factors such as transaction costs, network reliability, and user experience affect the adoption and effectiveness of mobile money services in Nairobi County's grocery sector is crucial for devising tailored strategies to enhance financial sustainability.

Moreover, while studies have explored the impact of mobile money regulations on the financial sustainability of mobile money agents across different countries, there is limited research focusing on Nairobi County's grocery retail sector. Studies such as (Aron et al., 2017) have examined regulatory frameworks in various contexts, but a deeper investigation into how these regulations specifically affect grocery shops' financial sustainability in Nairobi County is needed. Research

could delve into the implications of regulations on customer registration, electronic money storage, and interoperability to understand how they shape the adoption and utilization of mobile money services within the grocery retail sector in Nairobi County, Kenya. **Table 2.1 summarises the research gaps.**

Table 2.1 Summary of Research Gaps

Author (Year)	Study Title	Findings	Research Gaps
Odhiambo & Ndeto (2020)	Mobile money usage and its influence on business performance in Kenya	Found a significant positive relationship between mobile money usage and business performance in Kenya.	Lack of exploration on specific mechanisms through which mobile money impacts business performance.
Hossain & Kaur (2020)	Impact of mobile payment on financial sustainability in Malaysia	Revealed a significant positive association between mobile money usage and financial sustainability.	Limited analysis on the long-term effects of mobile money adoption on financial sustainability.
Puspitasari et al. (2021)	Relationship between mobile money usage and financial sustainability in Indonesia	Demonstrated the constructive impact of mobile money usage on business performance.	Lack of examination on potential cultural or contextual factors influencing mobile money adoption and its impact on financial sustainability.
Bada & Olajide (2021)	Interplay between mobile money usage and financial sustainability in Nigeria	Showcased a significant positive relationship between mobile money usage and financial sustainability.	Insufficient exploration on the role of government policies and regulations in shaping mobile money adoption and its impact on financial sustainability.

Author (Year)	Study Title	Findings	Research Gaps
Akpan & Uduak (2021)	Effects of mobile money attributes on financial sustainability in Nigeria	Identified convenience and affordability as positive drivers, while trust emerged as a challenge.	Limited investigation into the specific strategies or interventions that can enhance trust in mobile money transactions.
Owusu & Boakye (2021)	Impact of mobile money attributes on financial sustainability in Ghana	Highlighted the significant influence of mobile money attributes on both financial sustainability and performance.	Lack of exploration on potential cultural or contextual factors influencing the perception and adoption of mobile money attributes among SMEs.
Zhang, Zhang, & Yu (2020)	Adoption of mobile payment and firm performance in China	Underlined the positive influence of mobile payment adoption on firm performance metrics such as financial sustainability and sales growth.	Limited discussion on potential challenges or barriers to mobile payment adoption among firms in China.
Olumide, Adebisi, & Uwazie (2020)	Implications of mobile money adoption for business sustainability in Nigeria	Emphasized the pivotal role of convenience and affordability in driving financial sustainability.	Lack of exploration on potential differences in the impact of mobile money adoption across different industries or sectors in Nigeria.
Arinaitwe & Mwebaze (2019)	Relationship between mobile money adoption and financial	Advocated for addressing issues such as network downtime and service	Insufficient exploration on the specific mechanisms through which mobile money adoption contributes

Author (Year)	Study Title	Findings	Research Gaps
	sustainability in Uganda	quality to foster trust in mobile money transactions.	to financial sustainability in Uganda.
Aron et al. (2017)	Analysis of mobile money regulatory frameworks	Explored diverse regulatory frameworks across countries, identifying common elements such as trust and management of bank accounts.	Lack of examination on the effectiveness of different regulatory approaches in promoting financial sustainability of mobile money enterprises.
Kobia & Wang (2020)	Intersection of mobile money regulation and business performance in Kenya	Unveiled a significant positive relationship between regulatory compliance and business performance among mobile money agents.	Limited discussion on potential variations in the impact of mobile money regulation across different types of mobile money enterprises in Kenya.
Gbadamosi & Olufemi (2020)	Connection between mobile money regulation and financial sustainability in Nigeria	Revealed a noteworthy positive relationship between regulatory compliance and business sustainability among mobile money agents.	Insufficient exploration on the specific mechanisms through which regulatory compliance contributes to financial sustainability of mobile money agents in Nigeria.
Mndzebele et al. (2021)	Influence of mobile money regulation on financial sustainability in Eswatini	Demonstrated a significant impact of regulatory compliance on financial sustainability, with trust emerging as a pivotal predictor.	Lack of examination on potential differences in the impact of mobile money regulation on different types of mobile money enterprises in Eswatini.

Author (Year)	Study Title	Findings	Research Gaps
Rana, Bhatnagar, & Gupta (2020)	Moderating role of organizational size in mobile money adoption's impact on business performance in India	Found that organizational size moderates the link between mobile money adoption and business performance, with smaller MSMEs benefiting more.	Lack of exploration on potential differences in the impact of mobile money adoption across different regions or states in India.
Ahiauzu & Ogbuabor (2020)	Impact of mobile money adoption on SMEs' business performance in Nigeria	Demonstrated that organizational size moderates the relationship between mobile money adoption and business performance, with smaller SMEs benefiting more.	Insufficient examination on the potential variations in the impact of mobile money adoption across different industries or sectors in Nigeria.
Mugo, Odondo, & Ngugi (2021)	Interplay between mobile money adoption and business performance in Kenya	Supported the notion that organizational size acts as a moderating factor, with smaller SMEs benefiting more from mobile money adoption.	Lack of exploration on potential differences in the impact of mobile money adoption across different regions or counties in Kenya.

2.6 Chapter summary

The burgeoning adoption of mobile money has ushered in a paradigm shift in the financial landscape, offering SMEs new avenues for conducting transactions, reducing costs, and enhancing operational efficiency. The reviewed literature collectively underscores the significant potential of mobile money adoption to enhance SMEs' performance and financial sustainability. Across various regions, the consensus emerges that attributes such as convenience, affordability, and customer satisfaction play pivotal roles in shaping operational outcomes. Moreover, regulatory compliance and trust-building are key considerations that influence grocery shops willingness to

adopt mobile money as a payment option. However, these studies also highlight the need for a more nuanced examination of the intricate relationships between mobile money attributes, usage, regulatory frameworks, and their implications for SMEs. Bridging the identified research gaps—through comparative analyses, interrelation exploration, and longitudinal studies—can yield a deeper understanding of how mobile money adoption can be optimized to bolster grocery shops performance and financial sustainability. Such insights are of paramount importance for policymakers, business leaders, and stakeholders seeking to harness the transformative potential of mobile money within the dynamic landscape of small and medium-sized enterprises.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the tools which were utilized by the researcher to gather, systematize, execute, and analyze data related to the research questions. It encompasses several subsections, namely research design, target population, sampling procedures, data analysis procedure, and

validity and reliability of the research instrument.

3.2 Research Philosophy

The study was approached from positivism philosophy. This philosophy is based on the assumption that scientific propositions are factual only if the observed effects are validated by empirical tests. It adopts a clear independent and objective quantitative approach to investigating phenomena (Eriksson, & Kovalainen, 2015). The principles of positivism comprise an observable social reality therefore making it the preferred paradigm for this study (Saunders, et al, 2009). According Sekaran and Bougie (2016) assumptions produced in research are comparable to generalization produced by natural scientists' positivism also emphasizes on quantifiable observations that are used for statistical analysis. The methodological implications of positivism are evident in this study.

3.3 Research Design

The research design refers to the approach or strategy chosen by the researcher to conduct the study and address the research questions. The study used a descriptive correlational research design, a scientific method of investigation aimed at collecting and analyzing data to describe current conditions, terms, or relationships regarding a problem (Yang & Choi, 2017). The research design enabled clear definition of the variables, facilitating the acquisition of comprehensive and accurate information for the study.

3.4 Target Population

As per Williamson (2018), a research population is a large group of individuals or objects that are the primary focus of a research. According to Nairobi City Council, as at 1st January, 2023, there were 10,450 grocery shops in Nairobi County and this was the population of the study as shown below. The respondents were owners, managers, or their equivalents in these SMEs.

Table 2 Target Population

Region	**Population**
Westlands	1090
Eastlands	4140

Central Business District	2160
Nairobi South	3150
Total	**10540**

Source: Nairobi City Council (2023)

3.5 Sampling techniques and Sample Size Determination

3.5.1 Sample Size

To identify the study population, Slovin's formula (1960) was used.

Slovin's formula is:

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

Whereby n represents the sample size, N refers to the total population, and e denotes the error margin.

Therefore;

$$99 = \frac{10{,}450}{1 + 10{,}450(0.10^2)}$$

By applying the formula, a sample size of 99 SMEs was studied using at 10% margin of error.

3.5.2 Sampling Procedure

The respondents for this study were selected through stratified random sampling as shown by Table 3. This is a probabilistic sampling design that first divides the target population into meaningful, non-overlying sub-categories known as strata that were used to select sample Stratified random sampling is more appropriate as the sample is drawn from a population which is not homogeneous. This method helped to reduce bias and is considered the most appropriate sampling technique (Kothari, 2014). One respondent was selected per grocery firm.

Table 3: Sample Size

Region	Population	Sample	Percentage
Westlands	1090	10	10%
Eastlands	4140	39	39%
Central Business District	2160	20	20%
Nairobi South	3150	30	30%
Total	**10540**	**99**	**100%**

3.6 Data Collection

For data collection, the study relied on primary data using self-administered questionnaires. The questionnaire were closed-ended questions that elicited specific responses for qualitative and quantitative analysis. The Likert Scale was used to rate the responses, which was separated into sub-sections. The questionnaires were delivered directly to the respondents by the researcher.

3.7 Pilot Testing

According to Casula et al., (2020), pilot research is required to increase the confidence in the study instrument. The pilot study helps to identify whether the research can be carried out and generate reliable results (Kottler, 2015). Research instruments, such as questionnaires were tested during the pilot stage as described by (Gumbo, 2020). The Piloting in this research considered 10% of the study population but similar instruments however; the 10% involved in the pilot study were not contacted during the actual study.

3.7.1 Validity Test

Validity of a data collection instrument refers to its precision. Data validity was attained in this study through content validity, which is the degree to which the items in the data collection instruments are effective in terms of relevance and appropriateness. This guaranteed that the data collection equipment truly measured what the researcher wanted to measure, and that relevant changes will be implemented in response to their ideas.

3.7.2 Reliability Test

In this study, the internal consistency of the findings was evaluated using Cronbach Alpha, which measures the degree to which a data collection tool produces consistent results. The coefficients for Cronbach Alpha range from 0 to 1, with a correlation above 0.7 considered acceptable. As suggested by Coopers and Schindler (2008), a reliability coefficient of 0.7 or higher is appropriate. To ensure high reliability, all variables had Cronbach alpha values above 0.7. If necessary, low-alpha questions were rephrased or eliminated after the pilot trial.

3.8 Data Analysis and Presentation

After data collection, the researcher checked the instruments to ensure completeness and accuracy of information obtained. Data was coded appropriately based on the objectives of the study. It was then entered into the computer, cleaned and analysed using Statistical Package for Social Science (SPSS) version 23. Descriptive statistics were used in analyzing and summarizing the data including means, percentage frequencies and standard deviation. Tables and figures were used to summarize and present the analysed data.

3.9 Data Analysis

After data collection, the researcher checked the instruments for completeness and accuracy. The data was coded, entered into the computer, and analyzed using the Statistical Package for Social Science (SPSS) and Excel software. The study collected quantitative data, which was analyzed using descriptive and inferential analysis with the help of SPSS tool. The descriptive statistics included measures of central tendency including means and percentage frequencies. Correlation analysis was conducted to establish the relationship between the independent and dependent variables in the objectives. Statistical significance test were conducted at a critical value (“alpha”) of 0.05. The coefficient of determination (R2), were obtained so as to assess the strength of the bivariate relationships. SPSS version 26 were the tools used to analyze the data. Visual presentations such as frequency tables, frequency distributions and correlation matrix were used to summarize the data (Coopers and Schindler, 2008).

3.9.1 Regression Models

The relationship between the independent and dependent variables took the format shown on Equation 3.1 below.

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \quad (3.1)$$

Where;

Y_i = Financial sustainability of grocery retail shops

X $_1$ = Mobile money usage

X $_2$ = Mobile money attributes

X $_3$ = Mobile money regulations

β_0, β_1, β_2, β_3 are the various intercepts of the respective variables.

ε is the error term

To determine the moderating effect of organizational size on the relationship between mobile money and financial sustainability of SMEs, the extended model shown in Equation 3.2 was employed as adapted from Barron and Kenny, (1986).

$$Y_i = \beta_0 + (\beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3)Z + \varepsilon \quad (3.2)$$

Where;

Y_i = Financial sustainability of grocery retail shops

X $_1$ = Mobile money usage

X $_2$ = Mobile money attributes

X $_3$ = Mobile money regulations

Z= Moderating variable (organizational size)

β_0, β_1, β_2, β_3 are the various intercepts of the respective variables.

ε is the error term

3.9.2 Test for Significance

Analysis of Variance (ANOVA) was used to gauge the accuracy of the study model's estimation (ANOVA). Pearson's product method was used to examine the model's fit at the 0.05 significance level (p-value =.05). A 95 percent confidence level was also used to determine the relevance of

independent factors in determining the dependent variable (i.e., 0.05 level of significance). Data was examined using the SPSS 24.0.

3.9.3 Hypothesis Testing

A structured process that follows a regular succession of performances is called a hypothesis. So, to decide whether to accept or reject a hypothesis based on the information from the sample, hypothesis testing requires a well-defined technique (Sekaran, & Bougie, 2016). The hypotheses were tested at a 95% confidence level, which SPSS determined to be an acceptable scientific significance level. T-test were used to evaluate each of the seven hypotheses and determine whether or not the null hypothesis is accepted. However, if $\beta \neq 0$ and P- value ≤ 0.05, the research failed to reject H0 if $\beta = 0$ and P-value ≥ 0.05. Table 4 provides an illustration of the acceptance and rejection levels.

Table 4 Hypotheses Testing

Hypotheses Statement	Hypotheses Test	Expected Direction
H_{O1}: Mobile money usage has no significant effect on financial sustainability of grocery retail shops in Nairobi County.	β- test H o: $\beta 1 = 0$; HA: = $\beta 1 \neq 0$	Reject Hypothesis
H_{O2}: Mobile money attributes has no significant effect on financial sustainability of grocery retail shops in Nairobi County.	β- test H o: $\beta 2 = 0$; HA: = $\beta 2 \neq 0$	Reject Hypothesis

H_{O3}: Mobile money regulations has no significant effect on financial sustainability of grocery retail shops in Nairobi County.	β- test H o: β 3 =0; HA: = β 3 ≠0	Reject Hypothesis
H_{O4}: Organizational Size has no significant moderating effect on the relationship between mobile money services and financial sustainability of grocery retail shops in Nairobi County.	β- test H o: β 4 =0; HA: = β 4 ≠0	Reject Hypothesis

3.10 Diagnostic Tests

3.10.1 Multicollinearity Test

This test was carried out to help in detection of a multicollinearity problem, where if not controlled, the influence of independent factors on the dependent variable will be rendered exceedingly difficult to measure and understand. In order to discover multicollinearity problems inside the model using the variability of the inflation factor (VIF) in SPSS software, the study variables was utilized. The multicollinearity problem which has to be rectified, revealed variables whose VIF values were more than 10. If this problem arises, it was corrected by loading the high VIF variable such that the remaining variables are converted from non-substantial to substantial.

3.10.2 Heteroscedasticity Test

If mistakes in all the data observations are always different, the existence of homoscedasticity will be shown. Heteroscedasticity, on the other hand, is known as the lack of homoscedasticity. Having omitted variables because the influence of the omitted variable is not in the explanatory variable, but it may be absorbed by the error term, which gives the incorrect findings. The primary source of Heteroscedasticity in the model (Saastamoinen, 2015). The presence of Heteroscedasticity leads to the bias of the standard errors of the model. The problem of Heteroscedasticity was solved by calculating the robust standard errors. The assumption of normality of residuals was tested using the Jarque-bera test.

3.10.3 Linearity Test

The regression model was subjected to a linearity assumption in order to prevent drawing the wrong inferences about the connection between the dependent variable and the predictor variables. The linearity of the correlations between the data for the independent and dependent variables was evaluated using the ANOVA test.

3.10.4 Normality Test

The dependent variable was checked for normal distribution using the normality test to see how well the regression model fits the data. This study checked for normalcy using the Kolmogorov-Smirnova and Shapiro-Wilk tests. The correlation between the data and the related normal scores formed the basis of the Shapiro-Wilk Test. As a consequence, even after significance correlation, the Shapiro-Wilk Test outperforms the Kolmogorov-Smirnov Test for determining whether or not there is normalcy.

3.11 Ethical Consideration

Before commencing the study, the researcher obtained a data collection license from the National Commission for Science, Technology, and Innovation (NACOSTI) and sought approval from the university and management of SMEs. The researcher handled the data collection process with great care and ensured that the study was conducted purely for academic purposes. Confidentiality and privacy was maintained throughout the study to safeguard the participants' identity and personal information. To avoid any form of biasness and misinterpretation of the results, the researcher fully disclosed all sources and methods used in data collection and analysis. The information gathered will be strictly used for academic purposes and will be treated with utmost confidentiality. Additionally, the researcher ensured that no individual or organization is harmed by the study in any way.

3.12 Chapter Summary

This chapter has discussed the research methodology that the researcher used in this study. It has presented a systematic description of the research design, population and sampling techniques used. It has also outlined the data collection tools that were used, data collection procedures and gave an overview of how data was analyzed. The ethical considerations were also presented. This next chapter encompasses the results of the data collected from the field, presented, analysed, and interpreted by the researcher.

CHAPTER FOUR: RESEARCH FINDINGS

4.1 Introduction

This chapter presents the findings of data collected from the field, summarized and interpreted by the researcher. Specifically, the chapter encompasses the study findings followed by interpretation of these findings. The study was aimed at obtaining information on the effect of mobile money on financial sustainability among grocery retail shops in Nairobi County. Out of a target of 99 respondents, 80 responses were obtained from the respondents which translate to a response rate of 81%. This response rate is considered to be more than sufficient enough in generalization of the results of the study (Mugenda, 2008).

4.2 Despriptive statistics

4.2.1 Gender of the respondents

The findings obtained by the study as shown by Figure 3 indicate that 76% were female while 24% were male. This shows that there was high female dominance among respondents who took part in the study which is understandable as most grocery shops are women-owned.

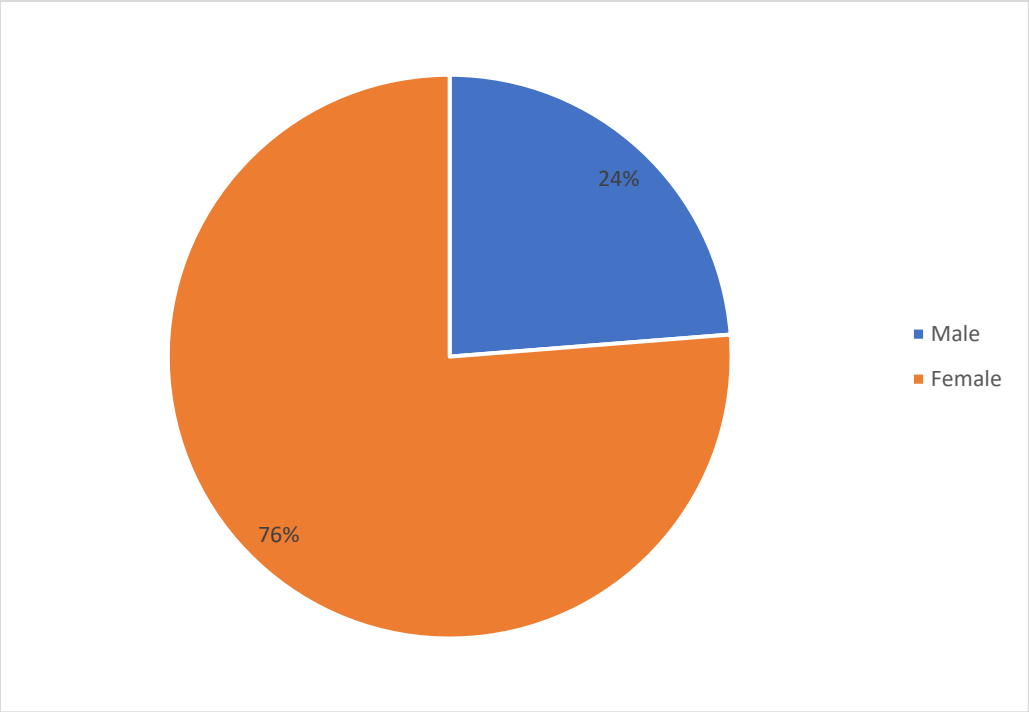

Figure 1 Gender of the Respondents

4.2.2 Level of education of the respondents

This section examined the education level of the respondents. As shown by Table 5, majority of the respondents (65%) had reached up to either primary or secondary level, 24% had reached up to tertiary level whereas only 11% had at least an undergraduate degree. This shows that majority of the respondents had not learned past secondary level.

Table 5 Level of education of the respondents

Level	Frequency	Percent
University	9	11

Tertiary	19	24
Primary/ Secondary	52	65
Total	**80**	**100**

4.2.3 Duration in the SME

The study also sought to examine the duration the respondents had been in their respective grocery shops. As per figure 4, majority of the respondents had worked at their grocery shop for a duration of 6 to 10 years, 21% had worked for more than 10 years while only 9% had worked for less than 5 years. This implies that majority of the respondents had worked in their respective SMEs for a considerable period hence well conversant with the operations including mobile money use.

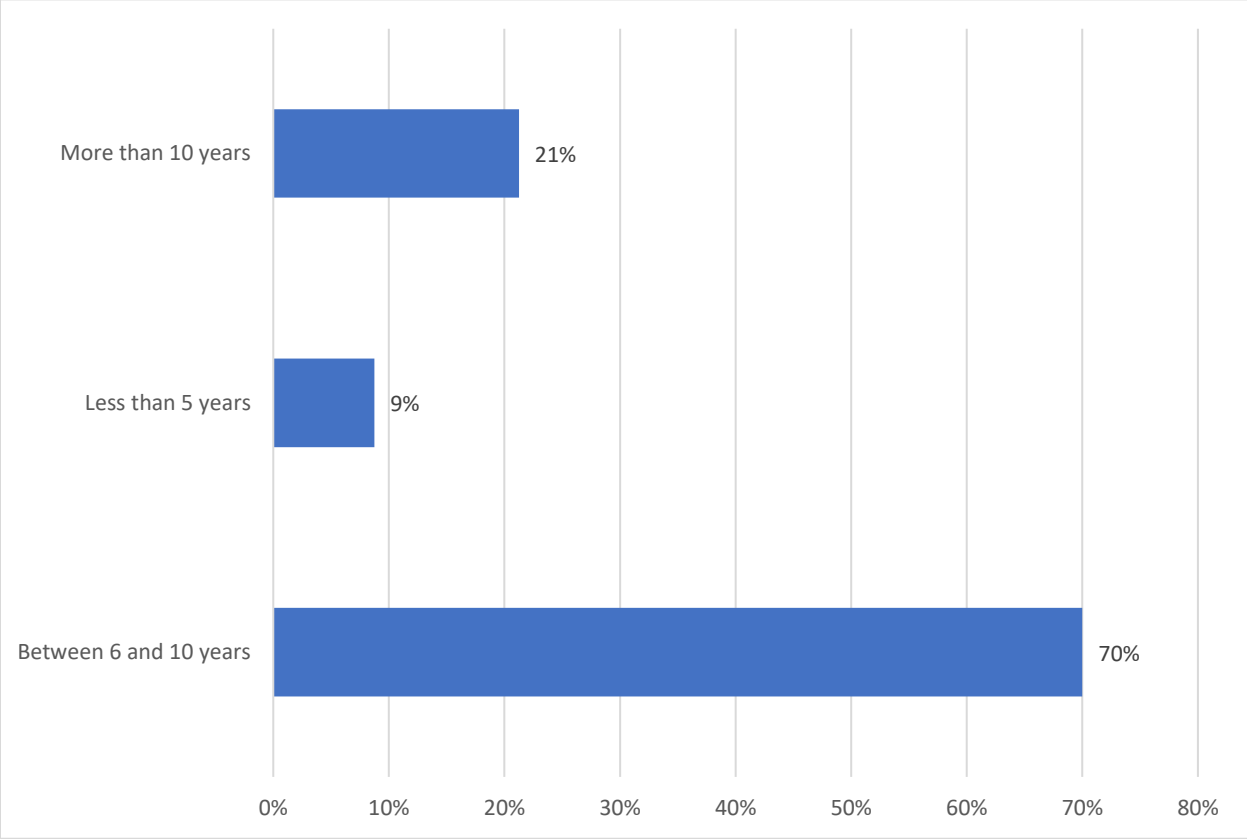

Figure 2 Duration in the SME

4.2.4 Respondents Position

On the position the respondents, the results show that most of the respondents were owners of the grocery shops (53%), followed by those who were partners (33%) and lastly managers (15%) as per figure 5 below. Based on this, it is deduced that all the respondents were directly involved in managing the grocery shops hence appropriate in providing the information sought after by the study.

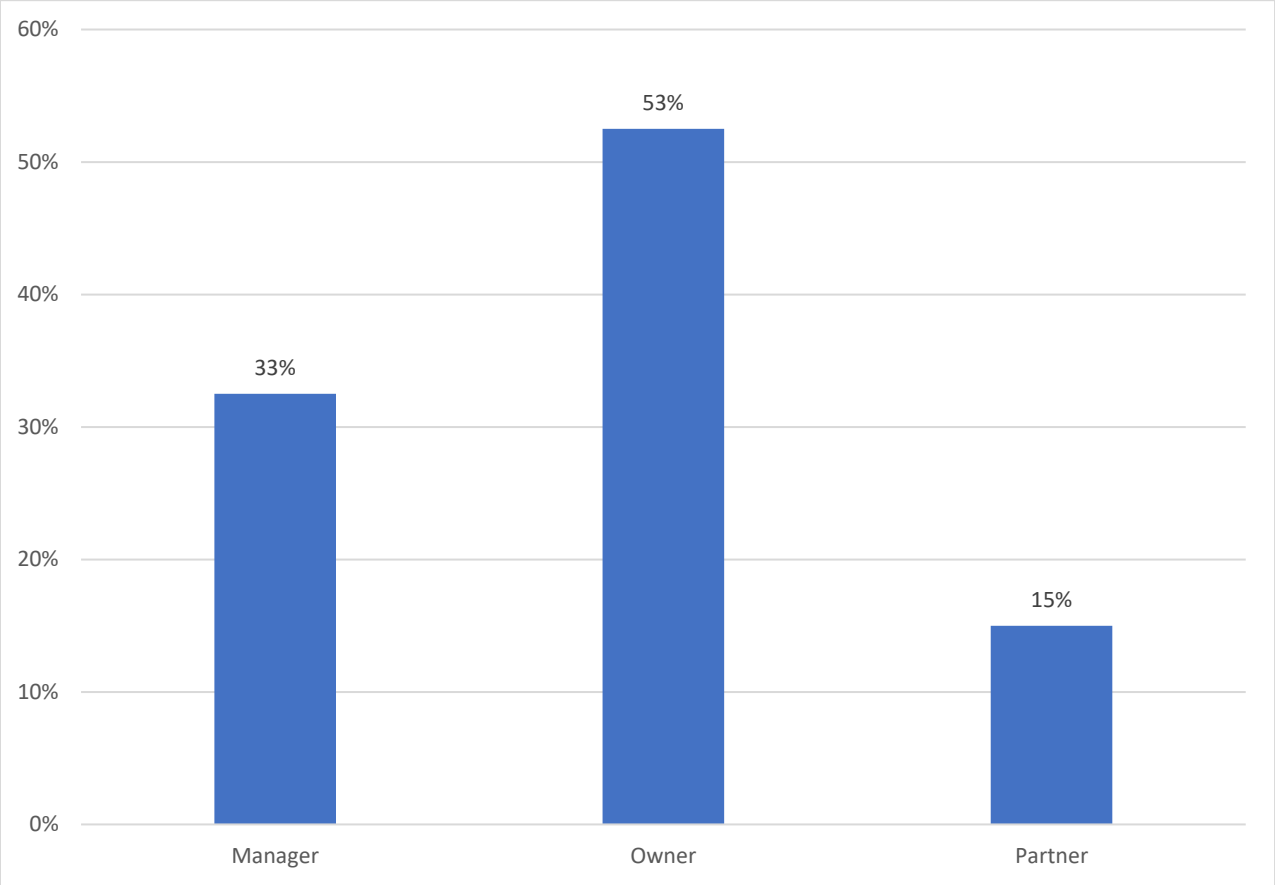

Figure 3 Respondents Position

4.2.5 Age of SME

On the length the grocery shops had been operational, the study established that, 49% had been operational for a period of 1 to 2 years, 35% had been operational for less than a year and the remaining 16% had been operational for more than 3 years as shown in Table 6. This indicates that majority of the grocery shops had been operational for at least a year (75%).

Table 6 Age of SME

Duration	Frequency	Percent
1-2 years	39	49
More than 3 years	13	16
Less than 1 year	28	35
Total	**80**	**100**

4.2.6 Number of Employees

On the number of employees in the SMEs, the study established that majority of the SMEs had less than 10 employees (81%) an indication of their small size of operaations as shown below.

Table 7 Number of Employees

Number	Frequency	Percent
Less than 10	69	81
Between 11 and 50	21	29
Total	**80**	**100**

4.2.7 Frequency of Utilization of Mobile Money

The study further assessed whether the grocery shops utilized mobile money frequently. As per figure 6, 85% of the grocery shops utilized mobile money on a daily basis, 9% on a weekly basis and the remaining 6% on a monthly basis. This affirms that all the grocery shops used mobile money in undertaking various transactions.

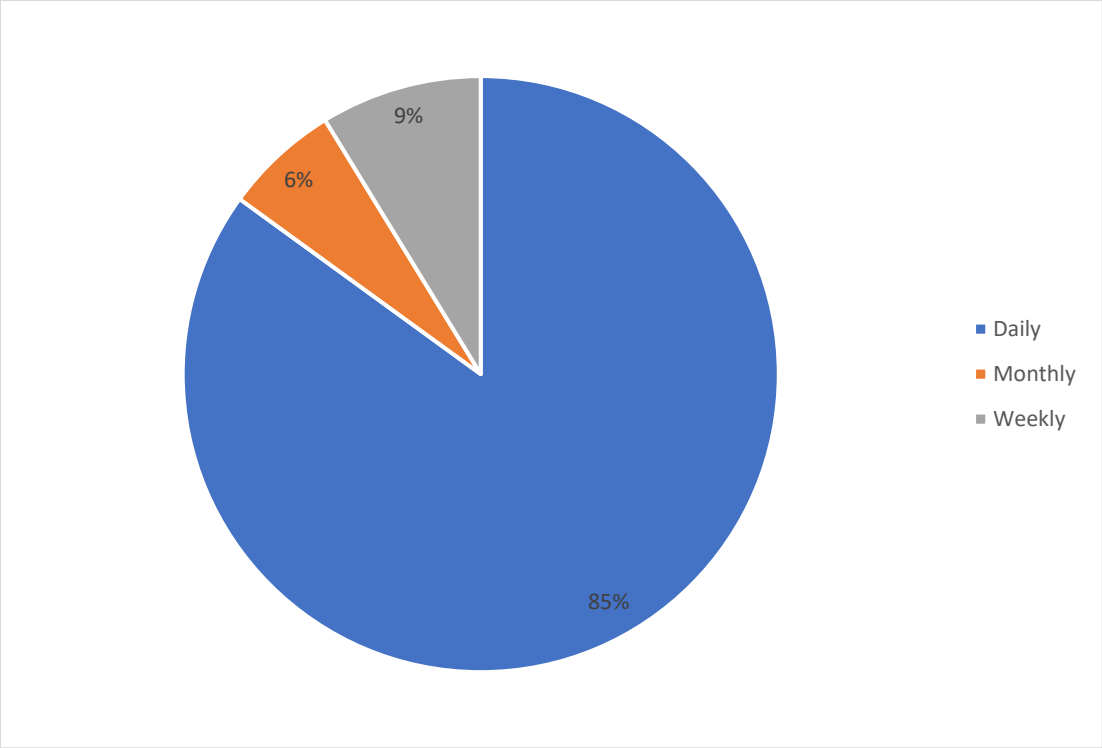

Figure 4 Frequency of Utilization of Mobile Money Services

4.3 Empirical findings

This section presents the empirical findings on the effect of mobile money services on financial sustainability.

4.3.1 Mobile Money Usage

The first objective of the study was to establish mobile money usage's effect on grocery retail shops' financial sustainability in Nairobi County. To achieve this, a Likert Scale (5-point) was used in rating the responses. The results are shown below.

Table 8 Mobile Money Usage

Statement	Mean	Std. Dev
Receiving payments from customers through mobile money services.	4.55	1.509
Payment of bills such as utilities, rent, or taxes.	4.05	1.190

Purchase of goods and services from other businesses or individuals.	4.00	1.253
Application for loan and credit facilities.	3.96	1.177
Payment of employees' wages or salaries.	3.75	1.238
Transferring funds between different accounts or to other businesses or individuals	3.75	1.394
Average Meanscore	**4.01**	**1.293**

As shown by Table 8, the grocery shops utilized mobile money to a very large extent; receiving payments from customers through mobile money services, payment of bills such as utilities, rent, or taxes and purchase of goods and services from other businesses or individuals with respective means of 4.55, 4.05 and 4.00 respectively. A large extent was also noted on using mobile money for loan and credit facilities, payment of employees' wages or salaries and transferring funds between different accounts or to other businesses or individuals with respective means of 3.96, 3.75 and 3.75. This therefore implies that the respondent were in agreement on the usage of mobile money among the grocery shops to a very large extent as indicated by a mean of 4.01.

4.3.2 Mobile Money Attributes

The second objective of the study was to examine the effect of mobile money attributes among grocery retail shops in Nairobi County. To achieve this, a Likert Scale (5-point) was used in rating the responses. The results are shown below.

Table 9 Mobile Money Attributes

Statement	Mean	Std. Dev
The cost of using mobile money services including fees and charges.	4.41	1.260
The ease of use of mobile money services, including the simplicity of registration and user interface.	3.75	1.193

The level of customer support offered including the availability of helplines and agents	3.80	1.143
The range of services offered.	3.83	1.339
The level of interoperability between different mobile money services.	3.73	1.079
The level of security provided.	4.13	1.023
Average Meanscore	**3.94**	**1.173**

The results obtained showed that the respondents agreed to a very large extent on the cost of using mobile money services including fees and charges and level of security provided affecting the usage of mobile money with means of 4.41 and 4.13 respectively. A large extent was also stated on the ease of use of mobile money services, including the simplicity of registration and user interface, the level of customer support offered including the availability of helplines and agents, the range of services offered and the level of interoperability between different mobile money services affecting the utilization of mobile money with respective means of 3.75, 3.80, 3.83 and 3.73. Based on these responses, the respondents were in agreement that the attributes of mobile money greatly affecting its acceptance and use among the grocery shops with an average mean of 3.94.

4.3.3 Mobile Money Regulations

The third objective of the study was to determine the effects of mobile money regulations on financial sustainability of grocery retail shops in Nairobi County. To achieve this, a Likert Scale (5-point) was used in rating the responses. The results are shown below.

Table 10 Mobile Money Regulations

Statement	Mean	Std. Dev
The level of compliance with mobile money regulations among grocery retail shops may vary depending on their level of awareness of the regulations and their perceived benefits.	3.95	1.085
The imposition of transaction fees and charges increase your grocery retail shop's operational costs.	3.80	1.247
Your grocery retail faces challenges complying with mobile money regulations, such as the registration process and fees.	3.25	1.281
The set mobile money transaction limits affect the number of transactions that grocery retail shops can carry out	3.76	1.314
The regulatory framework governing mobile money services may need to be periodically updated to address emerging challenges	3.75	1.298
Your SME adheres to the set policies pertaining to data privacy of customers	4.06	1.656
Average Meanscore	**3.76**	**1.359**

The results as per Table 10, the respondents agreed to a very large extent that their SME adhere to the set policies pertaining to data privacy of customers having a mean of 3.76. The respondents also agreed on the level of compliance with mobile money regulations among grocery retail shops may vary depending on their level of awareness of the regulations and their perceived benefits, the imposition of transaction fees and charges increase your grocery retail shop's operational costs, the set mobile money transaction limits affect the number of transactions that grocery retail shops can carry out and the regulatory framework governing mobile money services may need to be periodically updated to address emerging challenges with means of 3.95, 3.80, 3.76 and 3.75 respectively. However, a moderate extent was indicated on the grocery retail shops facing challenges complying with mobile money regulations, such as the registration process and

fees.This affirms that mobile money regulations was an area of main concern among the grocery shops in Nairobi as an average meanscore of 3.76 was obtained.

4.3.4 Organizational Size

The fourth objective of the study aimed at determining the moderating effect of organizational size on the relationship between mobile money and financial sustainability of grocery retail shops in Nairobi County. To achieve this, a Likert Scale (5-point) was used in rating the responses. The results are shown below.

Table 11 Organizational Size

Statement	Mean	Std. Dev
Size of your SME influences the number and size of transactions you carry out through mobile money services	4.00	1.359
The choice of your mobile money service provider is influenced by the size of the SME.	3.53	1.414
SMEs with larger sizes tend to carry out larger transactions through mobile money services.	4.15	1.351
SMEs with larger sizes tend to use mobile money services more frequently than SMEs with smaller sizes.	4.19	1.502
SMEs of different sizes may have varying usage patterns of mobile money services.	4.26	1.177
Mobile money service providers can tailor their services to meet the needs of SMEs of different sizes.	3.04	1.174
Average Meanscore	**3.86**	**1.330**

As shown, the respondents agreed to a very large extent on size of SME influencing the number and size of transactions you carry out through mobile money services, SMEs with larger sizes tending to carry out larger transactions through mobile money services, SMEs with larger sizes

tending to use mobile money services more frequently than SMEs with smaller sizes and SMEs of different sizes may have varying usage patterns of mobile money services with means of 4.00, 4.15, 4.19 and 4.26 respectively. The respondents also agreed on the choice of mobile money service provider being influenced by the size of the SME with a mean of 3.53. However, on mobile money service providers can tailor their services to meet the needs of SMEs of different sizes, a moderate extent was noted with a mean of 3.04. This therefore indicates that respondents were in agreement that organizational size on the relationship between mobile money and financial sustainability of grocery retail shops in Nairobi County with an average mean of 3.86.

4.3.5 Financial Sustainability of Grocery Retail Shops

The study also examined the level of financial sustainability of grocery retail Shops. The results are shown below indicate that the average annual profits of the SMEs was relatively low as compare to the expenses incurred, which implies that majority of the SMEs were struggling financially. Comparably, the long term and short term debts were also very high as per Figure 7.

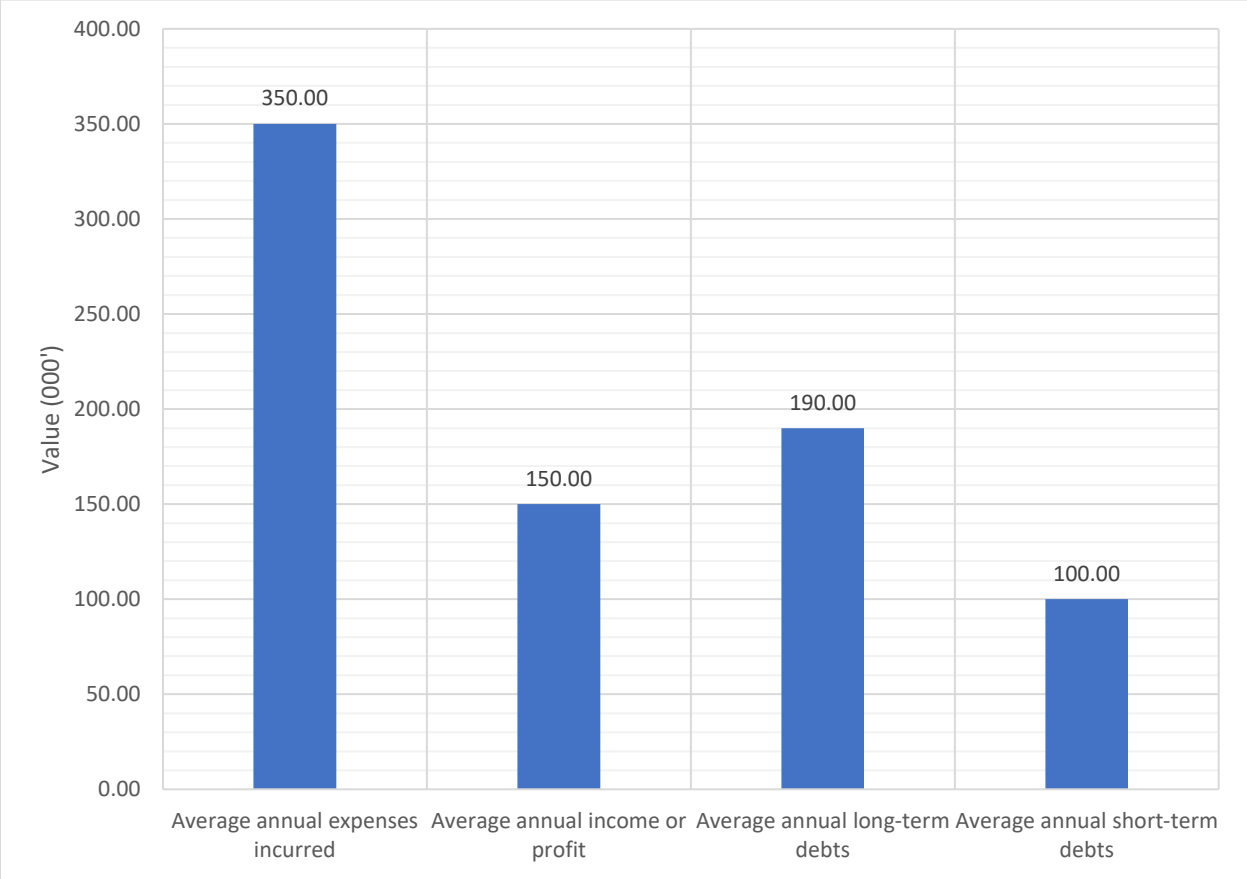

Figure 5 Financial Sustainability of Grocery Retail Shops

Source: Research Data, (2023)

4.3.6 Mobile money and Financial Sustainability of Grocery Retail Shops

The study also examined the extent to which mobile money affected financial sustainability of grocery retail shops. The results are shown below.

Table 12 Mobile money and Financial Sustainability of Grocery Retail Shops

Statement	Mean	Std. Dev
Level of access to credit and advances	4.20	1.344
Processing, retrieval and storage of financial information	4.38	1.297
Sales revenue	3.69	1.289
Customer base	4.18	1.300
Financial independence	3.78	1.331
Transaction processing time	4.34	1.331
Leveraging of technology to improve operations and service delivery	3.64	1.214
Average Meanscore	**4.03**	**1.301**

As shown, the respondents strongly agreed that mobile money affected the level of access to credit and advances processing, retrieval and storage of financial information, customer base and transaction processing time having means of 4.20, 4.38, and 4.18 respectively. The respondents also agreed on sales revenue, financial independence and leveraging of technology to improve operations and service delivery being influenced by mobile money with means of 3.69, 3.78 and 3.64 respectively. Based on the average mean of 4.03, it is deduced that mobile money services affected the financial sustainability of grocery retail shops to a very large extent.

4.4 Diagnostic Tests

Before conducting a regression to ascertain the relationship between mobile money, financial sustainability and organizational size diagnostic tests were performed to ensure that the data was accurate.

4.4.1 Multicollinearity

Variance Inflation Factor (VIF) and tolerance degree were used to indicate presence of multicollinearity test. The findings obtained as presented by Table 13 showed that all the research variables had tolerance of greater than 0.1 and VIF less than 10 and thus implying there was no multicollinearity problem.

Table 13 Test for Multicollinearity

Variable	Tolerance	VIF
Financial sustainability	0.1267	1.69
Mobile money usage	0.8182	1.481
Mobile money attributes	0.5097	1.272
Mobile money regulations	0.7012	1.063
Organizational Size	0.8927	0.854

4.4.2 Test for Heteroscedasticity

This study used Breusch-Pagan/ Cook-Weisberg to test for heteroscedasticity. The findings obtained as presented by Table 14 indicate that the variables were not heteroscedastic and thus reliable.

Table 14 Test for Heteroscedasticity

Model	H0	Variables	Chi2 (4)	Prop>Chi2
1	Constant variance	Financial sustainability	1.9207	1.026

2	Constant variance	Mobile money usage	1.0322	0.917
3	Constant variance	Mobile money attributes	1.1437	0.8080
4	Constant variance	Mobile money regulations	1.2552	0.6990
5	Constant variance	Organizational Size	1.4667	0.9959

4.4.3 Test for Auto Correlation

The study used the Durbin Watson (DW) to test for serial correlation. As shown below, the durbin Watson was 1.889 which is within the critical 1.5<d<2.5 and there is was no linear serial correlation in the multiple regression model.

Table 15 Test for Auto Correlation

Variables	Durbin-Watson
Predictors: (Constant), Mobile money regulations, Mobile money usage, Mobile money attributes, Organizational Size ; Dependent Variable: Financial sustainability	1.889

4.5 Inferential Analysis

4.5.1 Correlation Analysis

To establish the relationship that existed between the research variables, Karl Pearson's coefficient of correlation was employed by the study and the results obtained are as per Table 16.

Table 16 Correlation Analysis

	Financial sustainability	Mobile money usage	Mobile money attributes	Mobile money regulations	Organizational Size

Financial sustainability	Pearson Correlation	1				
	Sig. (2-tailed)					
Mobile money usage	Pearson Correlation	.704**	1			
	Sig. (2-tailed)	.000				
Mobile money attributes	Pearson Correlation	.614**	.781**	1		
	Sig. (2-tailed)	.000	.000			
Mobile money regulations	Pearson Correlation	.239**	.153	.257*	1	
	Sig. (2-tailed)	.003	.176	.021		
Organizational Size	Pearson Correlation	.575**	.682**	.699**	.399**	1
	Sig. (2-tailed)	.000	.000	.000	.000	

N	***80***	***80***	***80***	***80***	***80***

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

The findings reveal significant positive relationships between several variables and the financial sustainability of grocery retail shops in Nairobi County. Mobile money usage showed a strong positive association ($r = 0.704$, $p < 0.01$), suggesting that an increase in mobile money usage is linked to an increase in financial sustainability. Similarly, money attributes ($r = 0.614$, $p < 0.01$) exhibited a positive relationship, indicating that improvements in money attributes contribute positively to financial sustainability. Mobile money regulations ($r = 0.239$, $p < 0.01$) also had a positive impact, signifying that effective regulatory frameworks support financial sustainability. Additionally, organizational size ($r = 5.75$, $p < 0.01$) displayed a positive association, implying that larger organizations tend to have higher financial sustainability levels. The significance level ($p < 0.01$) for all these variables at a 95% confidence level underscores their effectiveness in predicting changes in the financial sustainability of grocery retail shops in Nairobi County. In summary, each of these variables, including mobile money usage, money attributes, mobile money regulations, and organizational size, contributes positively and significantly to the financial sustainability of grocery retail shops in the county.

4.5.2 Multiple Regression Analysis

The study sought to establish the influence of mobile money (predictor variables) and financial sustainability of grocery retail shops (dependent variable). The Regression model summary is presented in Table 17.

Table 17 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.822a	0.676	0.664	0.752

a. Predictors: (Constant), Mobile money regulations, Mobile money usage, Mobile money attributes

From Table 17, the coefficient of correlation was 0.822 indicating that mobile money has a strong positive effect on the financial sustainability of grocery retail shops. The coefficient of determination (Adjusted R^2) was 0.676 implying that that the regression could explain up to 67.6 percent of the variation in the financial sustainability of grocery retail shops. The remaining 32.4 percent of the variation could be due to other predictors not in the model. The model test of fitness results are presented in Table 18 indicating the reliability of the model.

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	89.886	3	29.962	52.955	.000[b]
Residual	43.001	76	.566		
Total	132.888	79			

a. Predictors: (Constant), Mobile money regulations, Mobile money usage, Mobile money attributes

b. Dependent Variable: Financial sustainability

Table 18 ANOVA Analysis

The model result of model fitness indicates an F-statistic of 52.955>29.962and a p-value of 0.000<0.05. This indicates that the model is fit for prediction at 95 percent confidence level (5% level of significance). Thus, mobile money has significant effect on the financial sustainability of grocery retail shops. The multiple regression model coefficients obtained which could be used for prediction are presented in table 19.

Table 19 Model Coefficients

	Unstandardized Coefficients		**Standardized Coefficients**		
	B	**Std. Error**	**Beta**	**T**	**Sig.**

(Constant)	.654	.330		1.980	.051
Mobile money usage	.180	.105	.179	1.710	.091
Mobile money attributes	.662	.107	.664	6.194	.000
Mobile money regulations	.039	.065	.041	.602	.009

0a. *Dependent Variable: Financial sustainability*

As per Table 19, the model coefficients showed that all the independent variables had a positive significant effect on the financial sustainability of grocery retail shops. All the variables have significant effect as the p values are less than 5% ($P < 0.05$) meaning that they are able to effectively explain changes in the financial sustainability of grocery retail shops.

4.5.3 Multiple Regression Analysis with Moderating Variable

The study sought to establish the effect brought about by the Moderating Variable which was organizational size. The regression model summary is presented in Table 20.

Table 20 Model Summary with Moderating Variable

R	R Square	Adjusted R Square	Std. Error of the Estimate
.876a	0.767	0.761	0.634

a. *Predictors: (Constant), Mobile money regulations* Organizational Size, Mobile money usage* Organizational Size, Mobile money attributes* Organizational Size,*

From Table 4.20, the coefficient of determination (R^2 Square) brought about with moderating variable included was 0.767 implying that that the regression could explain up to 76.7 percent of the variation in the financial sustainability of the grocery shops. The remaining 23.3 percent of the variation could be due to other predictors not in the model. This implies that incorporating organization size has a great impact on the relationship that exists between mobile money and financial sustainability of grocery shops as it strengthens the influence obtained by 9.1 percent.

The model test of fitness results are presented in Table 4.21 indicating the reliability of the model in predicting financial sustainability.

Table 21 ANOVA Analysis with Moderating Variable

	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Regression	101.904	2	50.952	126.624	.000[b]
Residual	30.984	77	.402		
Total	132.888	79			

a. Predictors: (Constant), Mobile money regulations Organizational Size, Mobile money usage* Organizational Size, Mobile money attributes* Organizational Size,*

b. Dependent Variable: Financial sustainability

The model result of model fitness indicates an F-statistic of 126.624 and a p-value of 0.000<0.05.This indicates that the model is fit for prediction at 95 percent confidence level. Thus, implying that the model was fit in describing the moderating effect of organizational size. The multiple regression model coefficients for the moderated regression equation are presented in Table 4.22.

Table 22 Model Coefficients with Moderating Variable

	Unstandardized Coefficients		**Standardized Coefficients**		
	B	**Std. Error**	**Beta**	**T**	**Sig.**
(Constant)	.522	.227		2.299	.024
Mobile money usage* Organizational Size	.182	.111	.179	1.639	.000

Mobile money attributes* Organizational Size	0.362	0.122	0.453	2.972	0.000
Mobile money regulations* Organizational Size	.718	.110	.716	6.547	.000

a. *Dependent Variable: Financial sustainability*

As shown, the model coefficients showed that all mobile money usage and organizational size had a positive effect on financial sustainability of the grocery shops. All the variables have significant effect as the p values less than 5% ($P < 0.05$) meaning that they are able to effectively explain changes in the financial sustainability of the grocery shops.

4.6 Hypothesis Testing

The hypotheses were tested at a 95% confidence level, which SPSS determined to be an acceptable scientific significance level. T-test were used to evaluate each of the seven hypotheses and determine whether or not the null hypothesis is accepted. The results shows that all the hypotheses were rejected ($p<0.05$).

Table 23 Hypotheses Testing

Hypotheses Statement	**Hypotheses Test**	**Result**	**Decision**
H_{O1}: Mobile money usage has no significant effect on financial sustainability of grocery retail shops in Nairobi County.	β- test H o: β 1 =0; HA: = β 1 ≠0	*P < 0.05*	Reject Hypothesis
H_{O2}: Mobile money attributes has no significant effect on financial sustainability of	β- test H o:	*P < 0.05*	Reject Hypothesis

grocery retail shops in Nairobi County.	β 2 =0; HA: = β 2 ≠0		
H_{O3}: Mobile money regulations has no significant effect on financial sustainability of grocery retail shops in Nairobi County.	β- test H o: β 3 =0; HA: = β 3 ≠0	*P < 0.05*	Reject Hypothesis
H_{O4}: Organizational Size has no significant moderating effect on the relationship between mobile money services and financial sustainability of grocery retail shops in Nairobi County.	β- test H o: β 4 =0; HA: = β 4 ≠0	*P < 0.05*	Reject Hypothesis

4.7 Summary of research findings

This chapter has discussed key findings as per the specific research objectives that were obtained from the field. The results were followed by interpretation of the findings and their implications to the study. The data was presented in form of charts, bar graphs, and tables. Discussions of the findings, conclusions and study recommendations are presented in the next chapter.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS & RECOMMENDATIONS

5.1 Introduction

This chapter gives discussions of the collected data with reference to the objectives of the study. The conclusion of the findings related to research questions and recommendations derived from the conclusion are also presented.

5.2 Discussion of findings

5.2.1 Effect of mobile money usage on financial sustainability of grocery retail shops in Nairobi County.

The first objective of the study was on the effect of mobile money usage on the financial sustainability of grocery retail shops in Nairobi County. The study established that mobile money usage had a positive effect on the financial sustainability of grocery retail shops in Nairobi County. This means that increase in mobile money usage would improve the financial sustainability of grocery retail shops in Nairobi County. This concurs to Odhiambo and Ndeto (2020) who established that mobile money usage has a significant positive relationship with business performance, with cost reduction being the most significant predictor of business performance among SMEs in Kenya. Hossain and Kaur (2020) also found that mobile money usage has a significant positive relationship with business sustainability, with customer satisfaction being the most significant predictor of business sustainability among SMEs in Malaysia. This relates to Ghani et al. (2020) who found out that mobile money usage has a significant positive impact on business performance, with perceived ease of use being the most significant predictor of business performance among SMEs in Pakistan

5.2.2 Effect of mobile money attributes on financial sustainability of grocery retail shops in Nairobi County.

The second objective of the study was on the effect of mobile money attributes on the financial sustainability of grocery retail shops in Nairobi County. The study established that money attributes had a positive effect on the financial sustainability of grocery retail shops in Nairobi County. This means that favourable mobile money attributes would improve the financial

sustainability of grocery retail shops in Nairobi County. In a similar manner, Owusu and Boakye (2021) established that mobile money attributes significantly influence business performance among MSEs in Ghana. Zhang, Zhang, and Yu (2020) also revealed that mobile payment adoption has a positive impact on firm performance, including financial sustainability, sales growth, and return on assets. Olumide, Adebisi, and Uwazie (2020) further found that mobile money adoption has a positive impact on business sustainability among SMEs in Nigeria, with mobile money convenience and affordability as the most significant drivers.

5.2.3 Effect of mobile money regulations on financial sustainability of grocery retail shops in Nairobi County.

The third objective of the study was on the effect of mobile money regulations on the financial sustainability of grocery retail shops in Nairobi County. The study established that mobile money regulations had a positive effect on the financial sustainability of grocery retail shops in Nairobi County. This means that proper and friendly mobile money regulations would improve the financial sustainability of grocery retail shops in Nairobi County. Kobia and Wang (2020) found out that regulatory compliance has a significant positive relationship with business performance, with customer satisfaction being the most significant predictor of business performance among mobile money agents in Kenya. Gbadamosi and Olufemi (2020) revealed that effective mobile money regulations can enhance the financial sustainability of mobile money businesses in Nigeria by improving profitability and reducing risks. Mndzebele et al. (2021) also showed that effective mobile money regulations can enhance the sustainability of mobile money businesses in Eswatini by improving trust and confidence in transactions.

5.2.4 Effect of mobile money on financial sustainability of SMEs: case of grocery retail shops in Nairobi County.

The main objective of the study was on the effect of mobile money on financial sustainability of SMEs: case of grocery retail shops in Nairobi County. The results of the regression analysis revealed mobile money had a strong relationship with the financial sustainability of grocery retail shops in Nairobi County. This indicates that increased mobile money would translate to increased financial sustainability of grocery retail shops in Nairobi County. The findings of the study align with several existing theories in economics and business management. Firstly, it resonates with the theory of financial inclusion, which posits that access to financial services, such as mobile

money, can enhance economic opportunities and stability for businesses, especially those in underserved areas. Additionally, it supports theories of technology adoption and diffusion, suggesting that the integration of mobile money technology into business operations can lead to improved efficiency, reduced transaction costs, and increased access to capital. Moreover, the study's results are consistent with the resource-based view of the firm, indicating that mobile money can be considered as a valuable resource that contributes to the competitive advantage and sustainability of SMEs by facilitating financial transactions and liquidity management.

Overall, these findings underscore the transformative potential of mobile money in enhancing the financial sustainability and resilience of SMEs, particularly in emerging markets like Nairobi County. This is in line with Mas et al. (2016) and Haji et al. (2019) who conducted a study in Somalia and found that mobile money services had a positive impact on the sustainability of micro and small businesses. Olumide, Adebisi, and Uwazie (2020) also found that mobile money adoption has a positive impact on business sustainability among SMEs in Nigeria, with mobile money convenience and affordability as the most significant drivers. Arinaitwe and Mwebaze (2019) showed that SMEs can improve their sustainability by adopting mobile money as a payment option, which can enhance customer satisfaction, reduce transaction costs, and improve efficiency. However, stakeholders should address issues such as network downtime and service quality to enhance trust in mobile money.

5.2.5 Moderating effect of organizational size on the relationship between mobile money and financial sustainability of grocery retail shops in Nairobi

The study also examined the moderating effect of organizational size on the relationship between mobile money and financial sustainability of grocery retail shops in Nairobi. The study established that organizational size had a positive effect on the financial sustainability of grocery retail shops in Nairobi Count. This implies that incorporating organization size has a great impact on the relationship that exists between mobile money and financial sustainability of grocery shops as it strengthens the influence obtained by 9.1 percent. This means that increase in organizational size would improve the impact of mobile money on of grocery retail shops in Nairobi County. Ahiauzu and Ogbuabor (2020) also concluded that SMEs can improve their performance by adopting mobile money as a payment option, with smaller SMEs benefiting more than larger SMEs. Mugo, Odondo, and Ngugi (2021) further revealed that organizational size moderates the relationship

between mobile money adoption and business performance. However, Owusu and Boakye (2021) found out that organizational size does not significantly moderate the relationship between mobile money adoption and business performance among MSEs in Ghana.

5.3 Conclusions

The study established that mobile money usage, money attributes, and mobile money regulations had a significant effect on the financial sustainability of grocery retail shops. The study concludes that the use of mobile money services contributes to the overall financial stability of these businesses. The study also concludes that factors such as convenience, security, and efficiency of mobile money transactions are crucial for enhancing the financial performance of these shops. The study further concludes that appropriate regulations and policies governing mobile money services can contribute to the overall financial well-being of these businesses. Moreover, the study incorporated organization size as a moderating variable and found that it had a substantial impact on the relationship between mobile money and financial sustainability. The study thus concludes that larger grocery retail shops may benefit even more from the implementation of mobile money services in terms of their financial sustainability. The study also concludes that grocery shops, especially smaller ones, can benefit from mobile money adoption as it can enhance their financial sustainability through increased sales, cost savings, and improved efficiency. These findings underscore the importance of adopting mobile money services, developing favorable regulations, and considering the size of the organization in order to enhance the financial sustainability of grocery retail shops.

5.4 Limitations of the study

While the study provides valuable insights into the relationship between mobile money usage and the financial sustainability of grocery retail shops in Nairobi County, it is not without its limitations. Firstly, the research focused solely on a specific sector (grocery retail) within a particular geographic location (Nairobi County), which may limit the generalizability of the findings to other SMEs or regions. Additionally, the study's reliance on regression analysis to establish causality between mobile money usage and financial sustainability may overlook potential confounding variables or omitted variable bias, raising questions about the robustness of the results. Furthermore, the research design may not fully capture the dynamic nature of mobile money adoption and its impact on SMEs over time, suggesting a need for longitudinal studies to

provide more nuanced insights. Finally, the study did not explore potential moderating or mediating factors that could influence the relationship between mobile money usage and financial sustainability, leaving room for further investigation into the mechanisms underlying this association.

5.5 Recommendations

5.5.1 Recommendations for practice

The study recommends promotion of the adoption and usage of mobile money services among shop owners and customers. This can be achieved through awareness campaigns, incentives, and training programs that highlight the benefits and convenience of mobile money. Furthermore, enhancing the attributes associated with mobile money services is crucial. The study recommends the mobile service providers to improve on aspects such as security, reliability, convenience, and transparency in mobile money transactions. Transparency in fees and transaction processes should be emphasized to build trust among shop owners and customers. Mobile service providers should also actively seek customer feedback and continuously work on improving these attributes to build trust and confidence among shop owners and customers.

Additionally, mobile money regulations play a significant role in ensuring the financial sustainability of grocery shops. The study recommends that policymakers and regulators should establish clear and supportive regulations that facilitate the growth and operation of mobile money services. This may involve streamlining licensing processes, reducing transaction costs, and implementing consumer protection measures. Collaboration between relevant stakeholders, including financial institutions, mobile network operators, and regulatory bodies, is crucial in creating an enabling regulatory environment. The study also recommends collaboration and partnerships among shop owners, mobile money service providers, financial institutions, and regulatory bodies can lead to mutual benefits and improved financial sustainability. Joint marketing initiatives, loyalty programs, and data sharing can enhance the overall ecosystem and create synergistic effects.

The study also highlighted the importance of considering organizational size. The study recommends that businesses should assess their size and develop appropriate strategies accordingly. Larger organizations can explore opportunities for expansion, partnerships, or diversification, leveraging their economies of scale. Smaller organizations, on the other hand, can

focus on optimizing operations, exploring niche markets, and utilizing mobile money services to enhance their financial sustainability. The study also recommends maintaining accurate records, monitoring cash flows, controlling expenses, and conducting regular financial analyses are recommended. Additionally, financial literacy programs is recommended to help enhance the financial management skills of shop owners. The study further recommends regular data collection, analysis, and feedback mechanisms so as to assess the effectiveness of the recommendations

5.5.2 Recommendations for policy

To enhance the financial sustainability of grocery retail shops, the study recommends policymakers should focus on promoting the adoption of mobile money and improving financial literacy among shop owners. Initiatives should be launched to educate and encourage grocery retail shop owners about the advantages of incorporating mobile money into their business operations. Workshops, training sessions, and resources should be provided in collaboration with mobile network operators, aiming to simplify the process of integrating mobile money transactions. Policymakers are also recommended to introduce financial literacy programs tailored specifically to the needs of grocery retail shop owners. These programs should cover essential topics such as effective financial management, budgeting, and the benefits of utilizing mobile money platforms for transactions. By offering practical training on using mobile money tools effectively, shop owners can be empowered to make the most of these services for their financial sustainability.

Creating a favorable regulatory environment and investing in digital infrastructure are key components for fostering the financial sustainability of grocery retail shops.To achieve this, the study recommends that policymakers should work closely with regulatory bodies to streamline mobile money regulations. Clear and transparent regulations should be developed to simplify compliance processes related to mobile money transactions for businesses. This will eliminate unnecessary hurdles and encourage more grocery retail shops to adopt mobile money as a reliable payment option. Additionally, policymakers should allocate resources to expand access to stable internet connections and mobile network coverage, ensuring that both urban and rural areas have reliable access to mobile money services. This would allow grocery retail shop owners to seamlessly conduct transactions and encourage broader adoption of mobile money.

5.5.3 Recommendations for theory

The study recommends further studies on the factors that influence customers' perceptions, attitudes, and motivations towards mobile money, as well as the barriers they face in adopting these services, would be valuable. This will provide insights into strategies to overcome these barriers and increase adoption rates. While the study established a positive relationship between mobile money usage and financial sustainability, further research can delve into the specific mechanisms through which mobile money enhances operational efficiency. This could involve analyzing its effects on inventory management, cash flow optimization, cost reduction, and overall business performance. The study also suggests comparative analysis across different counties or regions in Kenya could provide valuable insights into the variations in the impact of mobile money on the financial sustainability of grocery retail shops. Given that mobile money regulations were found to have a positive effect on financial sustainability, further research is recommended to assess the specific impact of regulatory updates, policy shifts, or new initiatives on the adoption, usage, and financial outcomes of mobile money services. Further research is also suggested to analyze the operational advantages and challenges faced by different-sized organizations, and how these factors impact the integration and effectiveness of mobile money.

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APPENDICES

Appendix I: Introduction Letter

Strathmore University,
P.O Box 59857, 00200,

Nairobi, Kenya

Dear Respondent,

RE: DATA COLLECTION FOR ACADEMIC RESEARCH

I am a masters student at the Strathmore University, pursuing Degree of Master of Commerce. In partial fulfillment of the requirements of the degree, I am required to submit a project. In response to this, I am therefore conducting research on ***"EFFECT OF MOBILE MONEY ON FINANCIAL SUSTAINABILITY OF SMES: CASE OF GROCERY RETAIL SHOPS IN NAIROBI COUNTY "***

It is in this light that I hereby request for your assistance by filling the attached questionnaire with the most appropriate responses for all the questions as much as you can. The information you provide will be used for purely academic purpose and held and treated confidentially and thus will not be disclosed without prior permission from you. Codes shall be used instead of your names.

Thank you in advance as I look forward to your cooperation and assistance.

Yours sincerely,

OSORE DAVID OPARO

Appendix II: Research Questionnaire

The purpose of this research is to learn more about the effect of effect of mobile money on financial sustainability of SMEs: case of grocery retail shops in Nairobi County. Please offer information as openly and truthfully as possible. All given information will be kept strictly private and used exclusively for academic reasons.

Kindy respond by ticking (√) or writing in the spaces provided.

SECTION A: BACKGROUND INFORMATION

1. Please indicate your gender

   a) **Male** **[ ]**

   b) **Female** **[ ]**

2. Please indicate your highest level of education attained.

   a) University [ ]

   b) Tertiary [ ]

   c) Primary/ Secondary [ ]

3. For how long have you been in this SME?

   a) Less than 5 years [ ]

   b) Between 6 and 10 years [ ]

   c) More than 10 years [ ]

4. What is your position in the SME?

   a) Owner [ ]

   b) Manager [ ]

   c) Partner [ ]

   d) Other, please specify…….

5. How long have you been running your grocery business?

a) Less than 1 year [ ]

b) 1-2 years [ ]

c) 3-5 years [ ]

d) More than 5 years [ ]

6. What is the number of employees in your organization?

a) Less than 10 [ ]

b) Between 11 and 50 [ ]

c) More than 50 [ ]

7. How often do you use mobile money services to transact business?

a) Daily [ ]

b) Weekly [ ]

c) Monthly [ ]

d) Occasionally [ ]

e) Never c [ ]

SECTION B: EFFECT OF Mobile Money Usage ON FINANCIAL SUSTAINABILITY OF GROCERY RETAIL SHOPS IN NAIROBI COUNTY

8. **Please rate the extent to which your SME utilizes the following mobile money services. Use a scale of 1 to 5 where 1 is very small extent, 2 is small extent, 3 is moderate extent, 4 is large extent and 5 is very large extent.**

Statement	**1**	**2**	**3**	**4**	**5**
Receiving payments from customers through mobile money services.					
Payment of bills such as utilities, rent, or taxes.					
Purchase of goods and services from other businesses or individuals.					
Application for loan and credit facilities.					
Payment of employees' wages or salaries.					

Transferring funds between different accounts or to other businesses or individuals					
Other, (Specify)……					

SECTION C: EFFECT OF Mobile Money Attributes ON FINANCIAL SUSTAINABILITY OF GROCERY RETAIL SHOPS IN NAIROBI COUNTY.

9. **Please rate the extent to which following attributes of mobile money affects your decision in utilization as pertains to your SMEs. Use a scale of 1 to 5 where 1 is very small extent, 2 is small extent, 3 is moderate extent, 4 is large extent and 5 is very large extent.**

Statement	**1**	**2**	**3**	**4**	**5**
The cost of using mobile money services including fees and charges.					
The ease of use of mobile money services, including the simplicity of registration and user interface.					
The level of customer support offered including the availability of helplines and agents					
The range of services offered.					
The level of interoperability between different mobile money services.					
The level of security provided.					
Other, (Specify)……					

SECTION D: EFFECT OF Mobile Money Regulations ON FINANCIAL SUSTAINABILITY OF GROCERY RETAIL SHOPS IN NAIROBI COUNTY.

10. **Please rate the extent to which the following aspects of mobile money regulations affect the operations of your SME. Use a scale of 1 to 5 where 1 is very small extent, 2 is small extent, 3 is moderate extent, 4 is large extent and 5 is very large extent.**

Statement	**1**	**2**	**3**	**4**	**5**

The level of compliance with mobile money regulations among grocery retail shops may vary depending on their level of awareness of the regulations and their perceived benefits.					
The imposition of transaction fees and charges increase your grocery retail shop's operational costs.					
Your grocery retail faces challenges complying with mobile money regulations, such as the registration process and fees.					
The set mobile money transaction limits affect the number of transactions that grocery retail shops can carry out					
The regulatory framework governing mobile money services may need to be periodically updated to address emerging challenges					
Your SME adheres to the set policies pertaining to data privacy of customers					
Other, (Specify)……					

SECTION E: MODERATING EFFECT OF ORGANIZATIONAL SIZE ON THE RELATIONSHIP BETWEEN MOBILE MONEY AND FINANCIAL SUSTAINABILITY OF GROCERY RETAIL SHOPS IN NAIROBI COUNTY.

11. **Please rate the following statements pertaining to the affect moderating effect of organizational size on the relationship between mobile money and financial sustainability of your grocery retail shops. Use a scale of 1 to 5 where 1 is very small extent, 2 is small extent, 3 is moderate extent, 4 is large extent and 5 is very large extent.**

Statement	**1**	**2**	**3**	**4**	**5**
Size of your SME influences the number and size of transactions you carry out through mobile money services					
The choice of your mobile money service provider is influenced by the size of the SME.					
SMEs with larger sizes tend to carry out larger transactions through mobile money services.					

SMEs with larger sizes tend to use mobile money services more frequently than SMEs with smaller sizes.					
SMEs of different sizes may have varying usage patterns of mobile money services.					
Mobile money service providers can tailor their services to meet the needs of SMEs of different sizes.					
Other, (Specify)……					

SECTION F: FINANCIAL SUSTAINABILITY OF GROCERY RETAIL SHOPS IN NAIROBI COUNTY.

12. **Please indicate how your firm has performed in the following aspects for the last five years (2018-2022).**

Measure of Survival	**2018**	**2019**	**2020**	**2021**	**2022**
Total expenses incurred					
Net income or profit					
Long-term debts					
Short-term debts					

SECTION G: MOBILE MONEY SERVICES AND FINANCIAL SUSTAINABILITY OF GROCERY RETAIL SHOPS IN NAIROBI COUNTY.

13. Please indicate the extent to which following aspects of financial sustainability of your SME has been affected by usage of mobile money services. Use a scale of 1 to 5 where 1 is very disagree, 2 is disagree, 3 is not sure, 4 is agree and 5 is strongly agree.

Measure of performance	**1**	**2**	**3**	**4**	**5**
Level of access to credit and advances					
Processing, retrieval and storage of financial information					
Sales revenue					
Customer base					

Measure of performance	**1**	**2**	**3**	**4**	**5**
Financial independence					
Transaction processing time					
Leveraging of technology to improve operations and service delivery					
Others (please specify)					

End

Thank you !

Appendix III: Work Plan

	Jan-Mar 2023	April 2023	May 2023	July 2023
Project writing				
Project presentation and Corrections				
Data collection				
Data analysis and Project Writing				
Thesis submission				

Appendix IV: Study Budget

Item	**Cost** (Kshs)
1 Project Development	
a) Printing of 30 pages @ Kshs 5	150.00/-
b) Reproduction 4 copies @ Kshs. 300	1,200.00/-
c) Binding 4 copies @ Kshs. 100	400.00/-
d) Internet Expenses	5,000.00/-
e) Stationery and typing services	10,000.00/-
f) Miscellaneous/contingency expenses	5,000.00/-
a. Research Assistant expenses	8,000.00/-
b. Internet Expenses	5,000.00/-
c. Stationery and typing services	5,000.00/-
d. Printing 100 pages @ Kshs. 5	5,00.00/-
e. Reproduction 4 copies @ Kshs. 300	1,200.00/-
f. Hard Binding 4 copies @ Kshs. 400/-	1,600.00/-
g. Miscellaneous expenses	5,000.00/-
GRAND TOTAL	**48,050.00/-**

Appendix V: Plagiarism Report

IMPACT OF MOBILE MONEY ON FINANCIAL SUSTAINABILITY OF SMES IN NAIROBI COUNTY: CASE OF GROCERY RETAIL SHOPS

ORIGINALITY REPORT

14%	13%	8%	11%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to Copperbelt University Student Paper	1%
2	hdl.handle.net Internet Source	1%
3	ikesra.kra.go.ke Internet Source	1%
4	erepository.uonbi.ac.ke Internet Source	1%
5	Submitted to Kenyatta University Student Paper	1%
6	repository.kemu.ac.ke:8080 Internet Source	1%
7	Submitted to The University of the West of Scotland Student Paper	1%
8	Roukiya Hassan. "Does Mobile Money Adoption Increase Informal Business	1%

Appendix VI: NACOSTI Research Permit Payment

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

AC **29872**

OFFICIAL RECEIPT

Station:	Nairobi	**Date:**	05/Jun/2023
Received from:		David Oparo Osore	
KES:		*** One Thousand only ***	
On Account of		Research Permit Fees ref 28096	
Vote Head		R-43	

USD	
Kshs	1,000
AC	
NO	

Item A-1-A

Cash/Cheque No BNK0004