

**FINANCIAL INCLUSION AND POVERTY REDUCTION IN MUKURU SLUM,
NAIROBI, KENYA: MODERATING EFFECT OF FINANCIAL LITERACY**

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**A RESEARCH DISSERTATION SUBMITTED TO THE STRATHMORE SCHOOL OF
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DECLARATION

I declare that this work 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 dissertation contains no material previously published or written by another person except where due reference is made in the dissertation itself.

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ABSTRACT

Poverty reduction remains a central development priority across the globe, with African countries experiencing disproportionately high poverty levels. In Kenya's Mukuru Slum, poverty persists as a critical challenge, prompting the need for inclusive financial solutions. This investigation examined how financial inclusion-evaluated through accessibility, utilization and quality dimensions of financial services-affect poverty reduction within Mukuru Slum, with financial literacy functioning as a moderating variable. Employing a cross-sectional research approach, the study analyzed data collected from 357 participants using both descriptive and inferential statistical techniques. The analytical outcomes demonstrated that accessibility, utilization and quality aspects of financial services all exercised significant positive influence on poverty reduction. Additionally, financial literacy was determined to statistically moderate the relationship between financial inclusion components and poverty alleviation, amplifying the effectiveness of all three financial inclusion variables. The research concludes that financial inclusion constitutes a fundamental catalyst for poverty reduction, especially when enhanced by strengthened financial literacy capabilities. The study recommends that policymakers and development actors prioritize expanding financial infrastructure, fostering active usage of financial services through education and innovation, and enhancing the quality and relevance of financial products. A holistic, community-sensitive approach that addresses both access and capability gaps is essential for achieving meaningful and sustainable poverty reduction in informal settlements such as Mukuru Slum.

Keywords: Financial Inclusion, Poverty, Poverty Reduction, Financial Literacy

DEDICATION

This work is dedicated to my parents, Mr. & Mrs. Joseph Ng'eno, who I owe everything that I am today. To my loving wife Ann and to my children Lorraine, Elvis, Mark and Luke. You have all been an inspiration for me and you have been there for me when it mattered most. You all provided moral, spiritual and emotional support. And last but not least, I dedicate this work to God the Almighty, who gave me the wisdom, knowledge, patience, skills, strength and power of the mind to complete this study.



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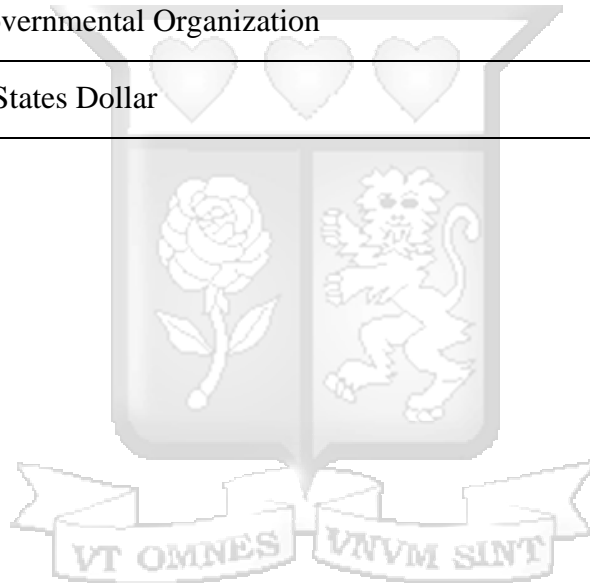
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ABBREVIATIONS AND ACRONYMS

ATM	Automatic Teller Machine
EFA	Exploratory Factor Analysis
FSD	Financial Sector Deepening Kenya
GDP	Gross Domestic Product
KES	Kenya Shillings
NACOSTI	National Commission for Science Technology and Innovation
NGO	Non-Governmental Organization
USD	United States Dollar



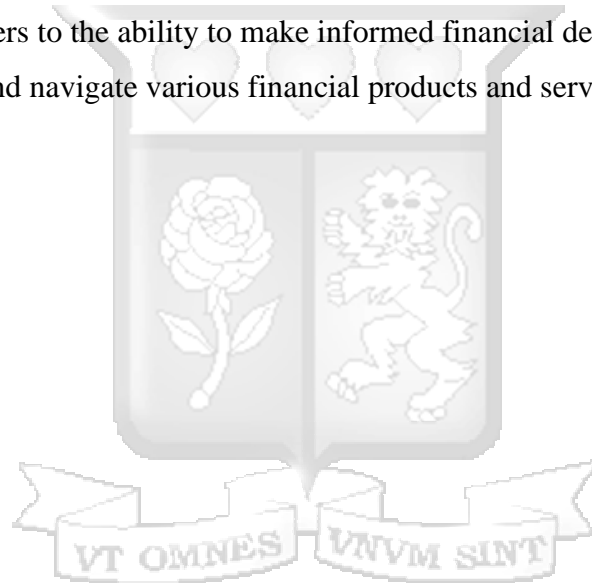
OPERATIONAL DEFINITION OF TERMS

Financial Inclusion: Financial inclusion denotes drives established to make people be able to access finances (Nsiah, Yusif, Tweneboah, Agyei & Baidoo, 2021).

Poverty: Poverty can be characterized as the state where individuals or people lack resources to meet their needs (World Bank, 2018).

Poverty Reduction: Poverty reduction refers to enabling people or individuals to have financial resources to meet their minimum standard of living through sustainable measures (Choudhury & Bagchi, 2016). Notably, the poverty reduction can be based on ensuring individuals living on less than USD1.9 a day are reduced (World Bank, 2022).

Financial Literacy: Refers to the ability to make informed financial decisions, evaluate financial risks and opportunities and navigate various financial products and services (Tran & Le, 2021).



CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Poverty remains a persistent global challenge despite concerted international efforts to eradicate it. According to the World Bank (2024), approximately 711 million people worldwide lived in extreme poverty in 2023, surviving on less than \$2.15 per day, with the highest concentrations in Sub-Saharan Africa and South Asia. This stark reality underscored the need for innovative approaches to poverty reduction across developing economies. The interconnections between poverty and social exclusion have become increasingly evident, with marginalized communities facing multiple, overlapping deprivations that reinforce cycles of disadvantage. The COVID-19 pandemic further exacerbated these disparities, pushing an additional 97 million people into extreme poverty globally between 2020 and 2022, according to the United Nations Development Programme (UNDP, 2024). Reducing poverty in slums is particularly complex, requiring a multi-faceted approach addressing not just financial issues but also education, healthcare, housing, and basic infrastructure (Murage, 2021; Omar & Inaba, 2020).

According to the World Bank's Global Findex Database 2023, approximately 1.4 billion adults globally remain unbanked as of 2023, highlighting a persistent gap despite significant progress since the previous measurement in 2017 when the figure stood at 1.7 billion (World Bank, 2024b). These disparities in financial access mirror broader economic inequalities, with women, rural residents, and those in the lowest income quintiles consistently overrepresented among the financially excluded. The digital revolution in financial services has accelerated inclusion in many regions but has simultaneously created new forms of exclusion based on digital literacy and connectivity, termed the "digital divide" (International Monetary Fund, 2024). The unbanked population is disproportionately concentrated in developing economies, with Sub-Saharan Africa exhibiting the highest exclusion rates at 43% of adults lacking access to formal financial services, compared to South Asia (30%) and Latin America (24%).

In East Africa specifically, financial inclusion has shown varied progress. Rwanda has achieved remarkable growth, increasing formal financial inclusion from 42% in 2016 to 68% in 2023, largely through digital financial services (National Bank of Rwanda, 2024). This progression reflects intentional policy choices, including regulatory frameworks that encourage innovation

while maintaining stability in the financial sector. Mobile money platforms have been particularly transformative across the region, allowing countries to leapfrog traditional banking infrastructure constraints that previously hindered expansion. Tanzania has reached 65% inclusion as of 2023, up from 57% in 2017, while Uganda reports 58% inclusion in 2023, demonstrating slower but steady progress (East African Community Secretariat, 2024). These regional comparisons provide important context for understanding Kenya's position and the potential for further advancement.

Against this backdrop, Kenya has emerged as a regional leader in financial inclusion, with formal financial inclusion among Kenyan adults rising to 83.7% in 2023 from 82.9% in 2019 (FSD Kenya, 2024). This remarkable achievement has been driven primarily by the pioneering M-Pesa mobile money platform, which revolutionized financial services delivery and created a template for digital financial innovation globally. The model has proven particularly effective in extending services to previously excluded populations, with over 30 million active users conducting transactions valued at approximately 50% of Kenya's GDP annually (Central Bank of Kenya, 2024). This progress is particularly noteworthy given the global average of 76% in middle-income countries. However, this aggregate success masks significant disparities across demographic groups and geographic regions within Kenya, with urban slums presenting unique challenges despite their proximity to financial infrastructure.

One of the first steps in addressing urban poverty is to improve living conditions by ensuring access to clean water, sanitation, and stable housing, as these basic needs are often unmet in such communities. Similarly, providing quality education and vocational training can help young people develop skills that are critical for breaking the cycle of poverty (Hayday & Collison, 2020). Access to affordable healthcare can significantly improve quality of life and reduce the financial burden of illness. Collaborative efforts between the community, NGOs, and governmental organizations can make a significant impact. The motivation of the current study was that Kenya National Bureau of Statistics (2024) reports that 17.1% of Kenyans live on less than USD 1.90 a day, showing slight improvement from 19% in 2021 but still painting a challenging picture of economic disparity. These national statistics often fail to capture the depth and multidimensional nature of poverty in urban informal settlements, where residents face compounded disadvantages in housing, sanitation, security, and social services.

Urban poverty in Kenya presents distinctive characteristics compared to rural poverty, with higher monetization of basic needs, greater income volatility, and unique social dynamics that influence financial behaviors and constraints. This is particularly pronounced in urban slums such as Kibera and Mukuru, where poverty is not just prevalent but deeply entrenched. The World Bank's estimation of Kenya's poverty rate at around 33.4% in 2023, with informal settlements in Nairobi being the most affected, further underscores the urgency of addressing this issue (World Bank, 2023). Therefore, this study was specifically motivated to focus on Mukuru Slums to delve into the complexities of urban poverty, where high population density and widespread poverty present a critical case for investigation.

1.1.1 Poverty Reduction

Eradicating poverty is a critical global objective because of its pervasive impact on multiple aspects of human life and societal development. First and foremost, poverty directly affects individuals' health, education, and overall quality of life, limiting their opportunities and potential for growth (Anarfo & Abor, 2020). Moreover, poverty also has significant societal implications. It often leads to increased crime and social unrest, posing challenges to national and international security (Murage, 2021). Additionally, poverty hampers sustainable development. It also exacerbates environmental problems as impoverished communities might prioritize immediate survival over long-term environmental sustainability (Bello & Oladunjoye, 2020).

Poverty is fundamentally about inequality, a condition that undermines the principles of equity and social justice that many societies strive to uphold (Hayday & Collison, 2020). Social stratification resulting from persistent inequality creates barriers to upward mobility and reinforces intergenerational transmission of poverty, making intervention particularly challenging. Systemic factors such as discriminatory practices, unequal resource distribution, and power imbalances continue to entrench poverty in specific communities despite broader economic growth. Hence, the global focus on eradicating poverty stems from the need to enhance individual well-being, societal harmony, and sustainable development. The fight against poverty stands as one of the primary objectives on a global scale (World Bank Group, 2024). Characterized as a condition where individuals lack sufficient resources to meet daily necessities, poverty continues to impede human development (World Bank, 2023). The World Bank delineates this state of destitution as surviving on less than USD 2.15 per day as of 2023, an upward revision from the previous

threshold of USD 1.90 per day. Figure 1.1 summarizes the trend of the poverty rates in Kenya from 2016 to 2023.

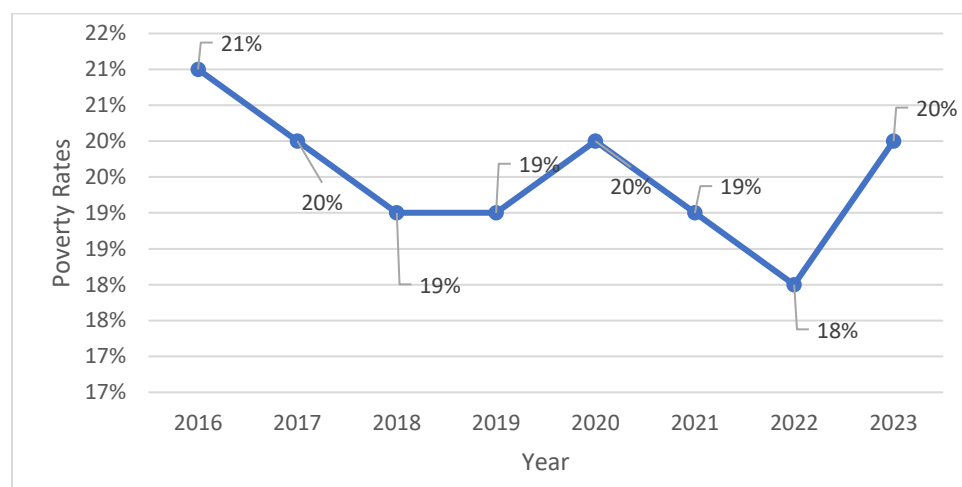


Figure 1.1: Poverty Rates in Kenya from 2016-2023

Source: Statista (2024).

Figure 1.1 shows that extreme poverty levels in Kenya have fluctuated over the period from 2016 to 2023. Beginning at 21% in 2016, the rate experienced a slight decrease in 2017 before stabilizing at 19% for the next two years. However, there was a slight increase in 2020, followed by a decrease in 2021, and a subsequent decline in 2022. Nevertheless, in 2023, the rate increased again to 18.3%. These fluctuations reflect the vulnerability of poverty reduction gains to external shocks, including economic downturns, political transitions, and climate events that disproportionately affect the most vulnerable. The regional distribution of poverty within Kenya remains uneven, with the northeastern counties experiencing rates nearly three times higher than central regions, according to the Kenya Integrated Household Budget Survey (KIHBS, 2023). These fluctuations indicate a dynamic and evolving landscape of poverty within the country, influenced by various socioeconomic factors and external pressures such as the COVID-19 pandemic and climate-related shocks that disproportionately affected vulnerable populations. Extreme poverty is a significant global challenge, particularly prevalent in developing countries and marginalized communities, where access to resources and opportunities is limited (Omar & Inaba, 2020; Churchill & Marisetty, 2020).

Efforts to alleviate extreme poverty typically involve targeted interventions aimed at improving living standards, enhancing access to education and healthcare, and promoting sustainable

economic development. Poverty is a pervasive issue that hampers social development and prosperity across the globe. It impacts multiple aspects of human life and societal development, from education and health to societal harmony and environmental sustainability (Gildas & Wilson, 2022). Overcoming poverty necessitates a multi-faceted approach that not only mitigates its immediate impacts but also addresses its root causes. Some effective mechanisms for reducing poverty include access to quality education, adequate healthcare, and gainful employment opportunities (Eton, Basheka & Mwosi, 2020). Financial inclusion has been recognized as a powerful instrument in the fight against poverty (Ajide, 2021; Nsiah, Tweneboah, Agyei & Baidoo, 2021).

1.1.2 Financial Inclusion

Financial inclusion is making sure everyone has access to financial services and products. This refers to easy ways of sending and receiving money, saving, borrowing or making arrangements for insurance (World Bank, 2021). If everything runs as it should, the system puts people in charge of their money, makes options for investing in the future and offers them stability along the way. It ensures that basic living costs will still be met if an economic downturn happens. Besides, this allows people to work on growing companies or studying which increases the value of the economy and keeps it progressing (Nsiah, Yusif, Tweneboah, Agyei & Baidoo, 2021). The summary of the financial inclusion in Kenya from 2006 to 2021 is presented in Figure 1.2

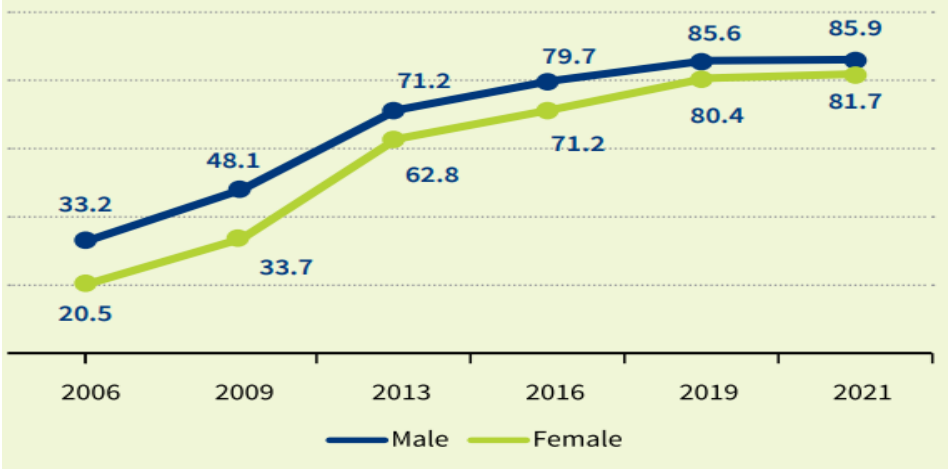


Figure 1.2: Financial Inclusion in Kenya Male vs. Female (%)

Source: Central Bank of Kenya (2022).

Figure 1.2 illustrates a substantial rise in financial inclusion in Kenya from 2006 to 2021, with both males and females showing marked improvement from 33.2% and 20.5% respectively in 2006 to 85.9% and 81.7% by 2021-highlighting a narrowing gender gap and underscoring the role of inclusive financial services in promoting economic empowerment, gender equity, and poverty reduction. The value of financial inclusion lies in its potential to enhance the capacity of economically disadvantaged individuals to augment their savings and escalate investment opportunities, thus facilitating an upward trajectory out of poverty (Omar & Inaba, 2020). For instance, in countries like Indonesia and India, access to finance services has been a game changer for many individuals, enabling them to make investments that directly improve their living standards (Dawood, Pratama, Masbar & Effendi, 2019; Churchill & Marisetty, 2020). This trend is not limited to these countries, as across Asia, increased financial accessibility has made a substantial contribution to mitigating poverty, underlining the importance of financial inclusion in this context (Ratnawati, 2020).

Within the context of Africa, financial inclusion has become a vital catalyst for poverty reduction. The ability of impoverished communities to access financial resources has been directly linked with a decrease in poverty rates (Nsiah, Yusif, Tweneboah, Agyei & Baidoo, 2021). This trend is evident across the continent: in nations such as Ghana, Nigeria, and Zimbabwe, financial inclusion has made a significant contribution to uplifting the socio-economic status of disadvantaged populations (Hussaini & Chibuzo, 2018; Mhlanga, 2021; Umaru & Chibuzo, 2018). More specifically, it has spurred an increase in savings and investments, which in turn, widens income levels, laying the groundwork for sustainable economic growth (Koomson, Villano, & Hadley, 2020). In addition, this broadened access to financial services is also associated with improved literacy rates, as it enables increased investment in education (Umaru & Chibuzo, 2018). Thus, in the African setting, financial inclusion is more than just a financial strategy; it's a comprehensive development approach that impacts multiple aspects of society and life, ultimately serving as a crucial tool in breaking the cycle of poverty.

The infrastructure necessary for financial access extends beyond physical touchpoints to include digital connectivity, reliable electricity, and appropriate identification systems that enable customer verification. Regulatory frameworks also play a critical role in expanding access by creating enabling environments for innovative service delivery models while maintaining system stability and consumer protection. In many low-income contexts, physical distance to financial

institutions, high minimum balance requirements, and extensive documentation procedures create significant barriers to inclusion (Aracil Fernández et al., 2022; Mhlanga, 2021). Digital innovations have helped overcome some of these limitations, particularly in Kenya where mobile banking has expanded access considerably, though challenges persist in informal settlements.

Usage of financial services examines the extent to which individuals actively employ available financial tools for transactions, savings, credit, and insurance. The transition from access to meaningful usage represents a crucial distinction in financial inclusion metrics, as dormant accounts contribute little to economic welfare improvements. Usage patterns are significantly influenced by socio-cultural factors, including trust in financial institutions, financial capability, and social norms regarding money management and gender roles in household finances. Mere account ownership does not guarantee financial inclusion; rather, it is the regular engagement with financial services that generates welfare benefits. Wang and He (2020) demonstrated that when rural households in China frequently used financial services, they experienced greater improvements in living standards compared to those who had accounts but rarely used them. Similarly, Kelikume (2021) found that in African contexts, the consistency and purpose of financial service use significantly influenced economic outcomes.

Quality of financial products and service delivery focuses on whether financial services meet the needs of users through responsiveness, reliability, and relevance. Consumer protection mechanisms, including complaint resolution systems, transparent pricing disclosures, and safeguards against predatory practices, form essential components of quality service delivery. The appropriateness of product design to local economic realities—such as irregular income patterns, seasonal cash flows, and cultural preferences—significantly influences adoption and sustainable usage among marginalized populations. As Mwangi (2017) noted, many individuals disengage from financial platforms not due to lack of access, but because of dissatisfaction with unclear terms, unpredictable costs, or poor user experience. High-quality financial products should be transparent, convenient, secure, and tailored to the economic realities of the target population. Lyons et al. (2020) observed that quality dimensions, including transparency, timeliness, and respectful customer interaction, are vital in building trust and encouraging sustained financial engagement.

Financial inclusion can be a powerful tool for poverty reduction. Poverty reduction is a multifaceted endeavor that encompasses various dimensions aimed at improving the standard of living and well-being of individuals and communities (Omar & Inaba, 2020). One critical aspect of poverty reduction is ensuring access to quality healthcare. By providing adequate healthcare, individuals living in poverty can lead healthier lives, reduce healthcare expenses, and enhance their productivity. Another key element of poverty reduction is improving access to education (Kim, 2020). Education is a powerful tool that empowers individuals, equips them with knowledge and skills, and opens doors to better opportunities (Babu, 2020).

The study was conducted in the informal settlements (slums) in Kenya. Informal settlements in Kenya have sprung up in almost all the cities in the country (Otieno, Wambiya, Mohamed, Mutua, Kibe, Mwangi & Donfouet, 2020). In most cases, the people in slums lack critical necessities for survival (Abuya, Mutisya, Onsomu, Ngware & Oketch, 2019). At times, slums inhabitants are trapped in poverty traps and residing in slums makes it harder for families to break away from poverty. An increase in poverty possesses many challenges, including the growth of gangs, prostitution, poor sanitation, and insecurity, among others. This study aimed to bridge these gaps by adopting a more inclusive research design and focusing specifically on the Mukuru Slum community.

1.1.3 Financial Literacy

The research used financial literacy as the moderating variable. Financial literacy enables individuals by equipping them with the essential resources to effectively access and use financial services. By advocating for financial literacy, society may assist people in escaping the recurring pattern of poverty and attain economic autonomy (Bire, Sauw, & Maria, 2019). Financial literacy programs that provide people with fundamental financial information and skills, such as budgeting, saving, and debt management, may greatly improve their life (Mapuasari, 2020).

1.1.4 Mukuru Slum

The study was conducted in Mukuru slums. Conducting the study on financial inclusion and poverty reduction in Mukuru Slums, the second largest slum in Kenya after Kibera, holds significant importance due to its representative nature and the potential to provide valuable insights into the challenges faced by slum communities. By engaging with local stakeholders and focusing on Mukuru, the study generated context-specific knowledge, informed evidence-based

interventions, and fostered collaborations to address financial exclusion and alleviate poverty in slum areas, thereby making a meaningful impact on the lives of the residents. Furthermore, Ruben Centre (2022) reports that many youths in the Mukuru slum have turned to illicit local brews, drugs, robbery with violence, murder, and radicalization to survive the extreme poverty prevalent in the slum. Wacuka (2022) reports that more than 45 percent of the youth in Mukuru slums are under alcohol and drug influence, and the place has become a crime hotspot. The rapid increase in poverty and insecurity in slums is alarming and needs more attention. Moreover, Mukuru slums are associated with poor housing, drainage, high levels of illiteracy, and high school dropout rates leading to high teenage pregnancies (Kamau & Kabue, 2020).

The study was motivated to provide a thorough grasp of the interaction between culture, socioeconomic circumstances, and financial inclusion programs. This could provide a useful guide for tackling comparable problems in other slum areas, both in Nairobi and abroad. Motivated by the aim to capture the whole range of diversity, difficulties, and opportunities within Mukuru, the thorough approach to researching all the villages guaranteed that the research findings were representative and useful for tackling financial inclusion and poverty reduction across the entire slum community. In addition, challenges in Mukuru slum are expected to extend beyond economic aspects and encompass the behavioral patterns, way of life, and cultural intricacies of its residents. It is essential to consider how residents' behaviors, coping mechanisms and cultural norms interact with the distribution of financial inclusion initiatives by service providers, as this dynamic could shape the effectiveness and acceptance of such interventions. This multifaceted approach aimed to unveil holistic nature of the challenges and opportunities within Mukuru slums, extending beyond traditional financial metrics. Conducting the current study was considered crucial because it addressed the pressing issue of financial inclusion and poverty reduction in Mukuru slums, an urban setting characterized by unique challenges, diverse villages, and a convergence of socio-economic factors, making it a representative and insightful case study with potential applicability to similar contexts in Kenya and other regions.

1.2 Statement of the Problem

Financial inclusion and poverty eradication remain central to global development agendas, yet millions across the world still lack access to formal financial services. According to the World Bank's Global Findex Database 2023, approximately 1.4 billion adults globally remained

unbanked as of 2023, highlighting a persistent gap despite significant progress since the previous measurement in 2017 when the figure stood at 1.7 billion (World Bank, 2024). In Sub-Saharan Africa, the dual challenge of widespread poverty and limited financial access continues to undermine economic progress. The region holds the highest poverty rates globally, with countries like Kenya still grappling with deep income disparities. Despite notable improvements in financial access-with formal financial inclusion among Kenyan adults rising to 83.7% in 2023 from 82.9% in 2019 (FSD Kenya, 2024)-poverty remains a persistent concern, particularly within urban informal settlements. Slums such as Mukuru and Kibera continue to exhibit high poverty rates, with the World Bank estimating Kenya's overall poverty rate at 33.4% in 2023, with informal settlements in Nairobi being the most affected (World Bank, 2023).

These urban slums remain marginalized in terms of service delivery, infrastructure, and financial access, despite being embedded in the heart of economic hubs like Nairobi (Murage, 2021; UN-Habitat, 2023). The UN-Habitat (2023) report on Nairobi's informal settlements documented that residents of slums face significant exclusion from formal financial services. Mukuru Slums, in particular, represented a critical case for understanding how financial inclusion can be leveraged to alleviate urban poverty. The decision to focus this study on Mukuru Slum was informed by its high population density (approximately 700,000 residents), acute poverty levels (with over 65% living below the poverty line), and the diversity of its constituent villages (Kireia & Omwenga, 2023; Kenya National Bureau of Statistics, 2023). By adopting a comprehensive approach, the study aimed to capture the full range of financial behaviors, socio-economic conditions, and local dynamics that shape financial inclusion in the slum context. Mukuru's socio-cultural complexity and economic vulnerability made it a unique setting for examining how financial inclusion strategies can be tailored to reach low-income, underserved urban populations.

This study addressed a knowledge gap in the literature by investigating the specific effect of financial inclusion on poverty reduction within a slum environment-an area often overlooked in existing research. While previous studies have explored aspects of financial inclusion, many rely on secondary data or narrow their focus to digital credit or rural populations, failing to reflect the lived realities of urban slum residents (Momanyi, 2018; Kim, 2020). Primary data was considered more suitable than secondary data for this study for several reasons: it allowed for direct capture of residents' financial behaviors and experiences that are not typically recorded in existing databases (Mutai et al., 2020); it provided contextual understanding of how financial services are

accessed and used within the specific socio-economic environment of Mukuru (Otieno et al., 2020) and it enabled the collection of contemporary information reflecting the rapidly evolving financial landscape, particularly with respect to digital financial services (Abuya et al., 2019; Kariuki & Muturi, 2018).

Another knowledge gap in existing literature is the limited exploration of how financial literacy moderates the relationship between financial inclusion and poverty reduction, particularly in urban informal settlements (Okello et al., 2018; Oluoch et al., 2021). While financial inclusion initiatives have expanded in recent years, their effectiveness may be significantly influenced by individuals' ability to understand and navigate financial services effectively. Financial literacy represents a critical yet understudied dimension that potentially enhances or constrains the poverty-reducing effects of financial access, usage and service quality. This study therefore incorporated financial literacy as a moderating variable to provide a more detailed understanding of the conditions under which financial inclusion can most effectively contribute to poverty alleviation in the Mukuru Slum context. This research, therefore, contributed new knowledge by using primary data to explore a holistic view of financial inclusion in Mukuru Slum.

1.3 Objectives of the Study

The research objectives included general and specific objectives.

1.3.1 General Objective

The general objective of the study was to determine the effect of financial inclusion on poverty reduction in Mukuru Slum, Nairobi, Kenya, with a moderating effect of financial literacy.

1.3.2 Specific Objectives

- i. To examine the effect of access to financial services on poverty reduction in Mukuru Slum Community, Kenya.
- ii. To determine the effect of usage of financial services on poverty reduction in Mukuru Slum Community, Kenya.
- iii. To establish the effect of quality of the financial products and service delivery on poverty reduction in Mukuru Slum Community, Kenya.
- iv. To examine the moderating effect of the financial literacy on the relationship between financial inclusion and poverty reduction in Mukuru Slum Community, Kenya.

1.3.3 Research Questions

- i. Does access to financial services affect poverty reduction in the Mukuru Slum Community in Kenya?
- ii. Does usage of financial services affect poverty reduction in the Mukuru Slum Community in Kenya?
- iii. Does the quality of financial products and service delivery affect poverty reduction in the Mukuru Slum Community in Kenya?
- iv. Does financial literacy moderate the relationship between financial inclusion and poverty reduction in the Mukuru Slum Community in Kenya?

1.4 Scope of the Study

This research analyzed how financial inclusion affects poverty levels in Mukuru Slum, Nairobi, Kenya, examining financial literacy's role as a moderating factor. The work focused specifically on evaluating poverty reduction outcomes related to how people use financial services, their ability to access these services and the quality of available digital financial products. The theoretical framework combined social inclusion theory, the Grameen lending model, and human capital theory. Geographically, the study concentrated within the Mukuru Slum Community and the project ran from January 2024 to June 2025. The methodology employed a cross-sectional approach.

1.5 Significance of the Study

1.5.1 Management of Financial Institutions

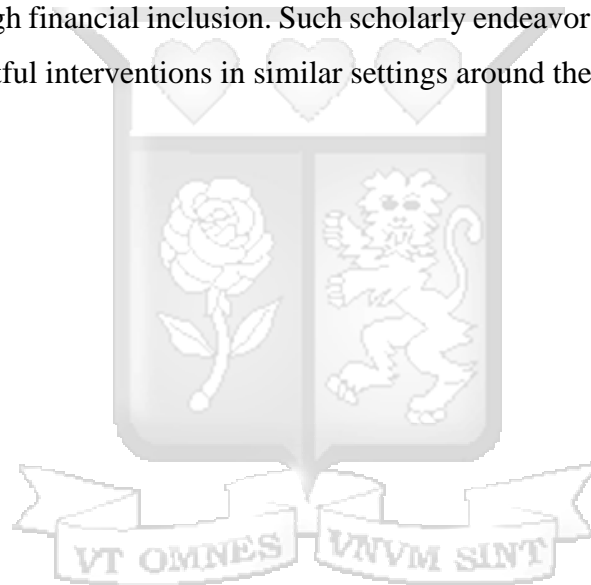
The findings of this study hold significant implications for the management of financial institutions and non-governmental organizations (NGOs) that offer financial services in impoverished areas like Mukuru. The study can guide decision-making processes related to expanding branch networks, designing appropriate financial products, and enhancing service delivery mechanisms specifically tailored for slum communities.

1.5.2 Government and Policy Makers

Government and policymakers can use the study's results to develop targeted interventions aimed at promoting financial access, improving service quality, and enhancing financial literacy in slum areas. The study can contribute to evidence-based policy decisions and guide resource allocation to maximize the effectiveness of poverty reduction efforts.

1.5.3 Academicians and Scholars

This research holds considerable importance for academics and scholars interested in finance and development studies. The study findings can serve as a foundational reference for future research, facilitating further discoveries and improving the understanding of effective strategies for combating poverty through financial inclusion. Such scholarly endeavors are essential for devising more targeted and impactful interventions in similar settings around the world.



CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter is organized into sections that present a comprehensive literature review. Each section is discussed in depth to provide a detailed understanding of the key concepts, theories, and empirical studies relevant to the study.

2.2 Theoretical Review

The review is discussed in sections.

2.2.1 Social Inclusion Theory

David Pocock developed the theory in 1957. This theory suggests that social inclusion involves empowering individuals and groups in society to participate in the country's development process (Hayday & Collison, 2020). Social inclusion encompasses enhancing the ability, opportunity, and dignity of disadvantaged members of society to access and benefit from fundamental services and goods (Gidley, Hampson, Wheeler & Bereded, 2010). The theory indicates that social exclusion prevents certain people from fully participating in political, economic, and social spheres (Bennett, 2002). Reducing extreme poverty and promoting commonwealth need social inclusion. Social inequities can be reduced, and a nation's growth accelerated by including underprivileged people in society (Cordier, Milbourn, Martin, Buchanan, Chung & Speyer, 2017).

Social inclusion means raising chances, giving individuals with less resources access, voice, and respect for their rights so that they may participate in society more fully (Hall, 2009). As to the notion, social exclusion is a condition in which people have specific restrictions that prevent them from fully engaging in the political, social, economic, and cultural spheres of life (Hayday & Collison, 2020). Lack of access to financial resources, such as money, work, land, and housing, may impede the involvement of particular groups in society. Social participation and integration can lower poverty rates and hence contribute to the cohesiveness of societies (Kohon, 2018). Given that it offers a framework for comprehending the idea of financial inclusion and its contribution to reducing poverty, Pocock's theory of social inclusion is rather pertinent to the present study.

The theory was relevant to financial inclusion aspects of this study as it provided a solid framework for understanding the importance of integrating marginalized populations-such as those in Mukuru Slum-into the broader financial system. The theory suggests that when economically excluded

populations gain access to financial services, they become empowered to participate more actively in economic activities, which can lead to improved living standards and reduced poverty. This perspective directly aligns with the study's first objective of examining how access to financial services affects poverty reduction, as it emphasizes that creating pathways for financial participation is a crucial dimension of meaningful social inclusion. The theory explains that true inclusion encompasses not just physical access but also the quality and usability of services. This aspect of the theory supports the study's focus on examining both access to and quality of financial services, recognizing that genuine financial inclusion requires services that are accessible, affordable, and appropriate for the needs of marginalized populations. By applying social inclusion theory to the Mukuru Slum context, the study was able to examine how barriers to financial services access-whether physical, procedural, or attitudinal constrain the full participation of residents in economic activities and perpetuate cycles of poverty and exclusion. Hence, the theory

2.2.2 Grameen Lending Model

The Grameen Model, developed by Nobel Prize winner Muhammad Yunus in Bangladesh during the 1970s, introduced a groundbreaking way of offering financial support to low-income individuals. Its main focus is on extending small loans also known as microcredit to people who lack access to conventional banking services. This model is predicated on the belief that given the right opportunities, even individuals with very little can work their way out of poverty (Yunus & Morduch, 2007). Unlike traditional banking, which relies heavily on collateral to secure loans, the Grameen model adopts a group-based credit approach (Hulme & Mosley, 2008). Here, small groups of individuals, often women, come together to apply for loans (Khandker, 2005). The success of one member positively impacts the others, fostering a sense of community and mutual accountability (Armendáriz & Morduch, 2010).

This model not only facilitates access to capital for those who would otherwise be excluded from the banking system but also encourages a culture of financial responsibility and entrepreneurship (Banerjee et al., 2015). The impact of the Grameen model has been profound, not just in Bangladesh but around the world, inspiring a global microfinance movement aimed at empowering the poorest of the poor to improve their circumstances through self-employment and entrepreneurship (Morduch & Haley, 2002). Its emphasis on social capital and trust as substitutes for physical collateral has challenged conventional banking wisdom and demonstrated that

financial services, when innovatively tailored, can be a powerful tool for poverty alleviation (Karlan & Zinman, 2011). The model's focus on community development and its recognition of the potential of the poor make it particularly applicable to the context of urban slums, where traditional financial systems often fail to reach residents effectively.

The theory was relevant to poverty reduction aspects of this study because it provided a practical framework for understanding how appropriately designed financial services can effectively lift people out of poverty. The Grameen model demonstrates that when financial services are tailored to the specific needs and circumstances of low-income populations, they can serve as effective tools for poverty alleviation by enabling income generation, asset building, and risk management (Yunus & Morduch, 2007). This directly addresses the study's central aim of examining the relationship between financial inclusion and poverty reduction in Mukuru Slum, offering a proven approach that has successfully reduced poverty in various contexts worldwide.

The theory emphasizes that poverty reduction through financial inclusion requires more than just providing access to capital—it requires creating supportive ecosystems that include financial education, peer support, and appropriate service design. This holistic perspective aligns with the study's examination of financial literacy as a moderating factor, recognizing that the impact of financial access on poverty reduction may be enhanced when complemented by improved financial knowledge and capabilities. The Grameen model's success in reaching populations traditionally excluded from formal financial systems offers valuable lessons for understanding how financial inclusion initiatives can be designed to effectively serve residents of urban informal settlements like Mukuru. Hence, the model was relevant to inform poverty reduction in the study.

2.2.3 Human Capital Theory

The Human Capital Theory, pioneered by Schultz (1961) and extensively developed by Becker (1964), establishes that investments in human capabilities, such as education, skills, and knowledge, yield economic returns by enhancing productivity and earning potential. Just as physical capital contributes to economic production, human capital—embodied in individuals' knowledge and abilities—serves as a critical factor in economic development and poverty alleviation (Becker, 1993). The theory posits that education and training are not merely consumption goods but investments that generate returns over time through increased earnings and improved economic opportunities (Mincer, 1974). This perspective transformed understanding of

economic growth by highlighting the role of knowledge and skills acquisition in driving productivity and prosperity at both individual and societal levels.

It is believed that learning about finances and skills helps people use their human capital to make good financial decisions and use financial services (Lusardi & Mitchell, 2014). It points out that learning about money can make individuals feel secure about their decisions, avoid dangers, build their wealth and benefit from economic situations (Jappelli & Padula, 2013). The theory explains that some people are able to save more money with the same pay because of what they know and how they apply it (Lusardi & Mitchell, 2014). Modigliani and Brumberg (1954) proved this by introducing the life-cycle hypothesis which suggests that a person must learn about compound interest, manage risks and understand the significance of timing to manage their money well.

This theory was relevant to the current study. Learning about finances is as crucial as having capital, so everyone can use the resources they can get. The study's perspective is reflected here, as those with financial knowledge can make good decisions, use the services correctly and gain financial benefits. It means that simply having the tools is not enough; people must learn how to use them to gain benefits. This is why learning about money is as important as having it, especially in places like Mukuru Slum. Because of the theory, the study looked at how literacy affects the use and benefits of financial services in the fight against poverty. That is why it was appropriate to examine the study's focus on literacy.

2.3 Financial Inclusion and Poverty Reduction

The section is discussed based on the objectives of the study.

2.3.1 Access to Financial Services and Poverty Reduction

Having access to financial services is widely seen as a powerful tool in addressing poverty, especially in underdeveloped and low-income regions. According to Aracil Fernández, Gómez Bengoechea, and Moreno De Tejada (2022), when vulnerable communities are given access to credit, savings, and insurance, it creates opportunities for them to improve their lives. These financial options help people manage day-to-day expenses, grow small businesses, and shield themselves from unexpected economic challenges. Mhlanga (2021) also points out that in Sub-Saharan Africa, financial inclusion has taken a big leap forward thanks to mobile money services. These innovations have broken down traditional barriers, giving even the unbanked a chance to

participate in the broader economy. The focus has shifted from simply opening bank branches to ensuring that digital financial services are affordable, trustworthy, and actively used to improve the lives of the poor.

Looking at the policy and infrastructure side, several researchers have found a strong link between financial service access and economic uplift. For instance, Wang and He (2020) noted that in rural parts of China, making financial services accessible helped households rise above poverty by supporting farming and small business efforts. Likewise, Mora-Rivera and García-Mora (2021) discovered that rural families with access to formal financial institutions were more likely to put their money into ventures that increased income, improved housing, and supported better education and health. These findings suggest that it's not just about making financial tools available, but also about ensuring they are suited to the realities of the people using them. Effendi and Sunani (2020) add that in Indonesia, microfinance programs made a notable difference in raising household incomes and promoting savings—especially when participants were also taught financial literacy skills.

However, not all interventions yield uniform outcomes, especially when structural and behavioral constraints exist. Ndlovu and Toerien (2020) revealed that in South Africa, small enterprises in impoverished areas often remained excluded from formal financial systems due to lack of collateral, low financial literacy, and systemic discrimination. Their findings raise critical questions about the depth of financial inclusion—mere account ownership does not always translate to meaningful financial engagement. Similarly, Bello and Oladunjoye (2022) noted that despite Nigeria's extensive financial inclusion campaigns, rural dwellers often face persistent challenges related to distance, mistrust, and technological illiteracy, thereby limiting the poverty-reducing potential of financial services. These disparities show that while access is foundational, sustained usage and effective service design are essential for genuine impact.

Finally, the role of digital finance and government regulation in shaping access has become more pronounced in recent years. Kimani (2022) explored Kenya's mobile banking revolution, illustrating how services like M-Pesa not only increased financial access but also spurred innovation in savings, credit, and insurance tailored for low-income populations. Meanwhile, Kundu (2016) emphasized that the effectiveness of financial access initiatives depends largely on institutional support, such as regulatory frameworks, public-private partnerships, and targeted

subsidies for underserved populations. These findings align with Wang and He's (2020) additional argument that to reduce poverty sustainably, financial inclusion must be embedded in broader economic development strategies—integrating infrastructure, education, and social protection programs. In sum, access to financial services is a powerful enabler of poverty reduction, but its success hinges on holistic implementation that goes beyond access to meaningful engagement, adaptability, and inclusion.

2.3.2 Usage of Financial Services and Poverty Reduction

The multidimensional nature of the relationship between financial services and poverty reduction is supported by numerous studies conducted in diverse geographical areas. The meaningful use of financial services—beyond simple account ownership—has emerged as a vital determinant of poverty alleviation. Financial inclusion efforts that solely focus on extending access fall short if people do not actively engage with available services to improve their financial outcomes. Wang and He (2020) highlighted this distinction, noting that households in rural China only experienced substantial improvements in their livelihoods when they utilized financial services such as microcredit for farming inputs or small business ventures. Rather than being passive account holders, individuals who frequently transacted, borrowed for investment, or maintained regular savings habits demonstrated higher levels of economic resilience. Kelikume (2021) also emphasized that the consistency and purpose of financial service use among vulnerable groups significantly influenced outcomes, particularly where individuals integrated mobile financial tools into their daily financial routines.

Financial engagement—when deliberate and consistent—can foster behavioral shifts that translate into long-term financial stability. Appiah-Otoo and Song (2021) found that in many parts of Africa, individuals who actively used formal financial products were more likely to escape cycles of consumption-driven debt and redirect funds toward productive activities such as education and enterprise development. Their work also revealed how active usage supported household planning, reduced reliance on informal lenders, and improved access to utilities and health care. In Indonesia, Shofawati (2019) observed similar patterns within Islamic microfinance schemes, where religiously compliant financial services attracted trust and fostered sustained participation, particularly among women. These findings reinforce the idea that financial services become

powerful instruments against poverty only when they align with users' values, needs, and economic behaviors.

In entrepreneurial contexts, frequent use of financial tools can drive business growth and household income security. Seng (2020) demonstrated that small-scale traders who routinely used mobile money and microloans in Cambodia were able to increase inventory turnover, access wider markets, and reduce cash-handling risks. This usage not only boosted revenue but also built credit histories that opened doors to more formal financial products. Ratnawati (2020) similarly documented how Indonesian women entrepreneurs who regularly interacted with savings and credit schemes reported higher income diversification and greater control over household finances. In Kenya, Mwangi (2017) emphasized that digital platforms such as M-Pesa and M-Shwari were not just facilitators of cash flow—they also nurtured financial habits like goal-setting and emergency planning, which are essential for poverty reduction.

Despite these advantages, usage remains constrained by various social and structural factors. Omar and Inaba (2020) cautioned that financial literacy gaps, cultural mistrust of banks, and gender norms continue to limit the depth of usage in many Sub-Saharan African regions. Lee, Lou, and Wang (2023) further pointed out that digital divides across age and education levels mean that while mobile-based financial innovations are expanding rapidly, they do not reach or serve everyone equally. To unlock the full poverty-reducing potential of financial services, interventions must therefore go beyond access metrics and invest in financial education, user-centered design, and mechanisms that encourage habitual, beneficial use. Ultimately, it is not the availability of financial services that transforms lives—but how individuals engage with them over time to create pathways out of poverty.

2.3.3 Quality of Financial Products and Service Delivery and Poverty Reduction

The quality of financial products and how they are delivered significantly shapes their impact on poverty reduction. Simply having financial services available is not enough; the services must be relevant, reliable, and responsive to users' needs. Mwangi (2017) emphasized that in Kenya, many individuals disengage from financial platforms not because they lack access, but due to dissatisfaction with the clarity of terms, unpredictable costs, and poor user experiences. When financial products are designed without considering the socio-economic realities of low-income clients—such as irregular income flows or limited digital literacy—uptake remains low, and

benefits are minimal. Lyons et al. (2020) further observed that quality in service delivery, including transparency, timeliness, and respectful customer interaction, plays a vital role in building user trust and encouraging long-term financial engagement.

Equally, well-designed products tailored to local realities tend to generate stronger welfare outcomes. Dawood et al. (2019) highlighted that in underserved communities, clients were more likely to adopt and consistently use financial tools when services were easy to understand, featured flexible repayment schedules, and were delivered with personal attention. Aracil Fernández, Gómez Bengoechea, and Moreno De Tejada (2022) extended this argument by showing how effective financial services often emerge from a participatory design process, where community feedback is incorporated to fine-tune offerings. This human-centered approach helps address the disconnect that often exists between formal financial institutions and marginalized populations. Greenlee, Kass-Hanna, and Lyons (2020) further stressed the importance of ethical service practices, noting that exploitative lending or hidden fees can trap users in cycles of debt—undermining the very purpose of inclusion efforts.

Moreover, technological innovations in financial service delivery have created new possibilities for improving both quality and outreach. Chen and Zhao (2021) argued that digital financial platforms, when thoughtfully designed, can dramatically enhance service efficiency, personalization, and client satisfaction. For instance, adaptive credit scoring algorithms and real-time account notifications have helped users in remote areas better manage finances and make informed decisions. Cheng et al. (2019) observed similar outcomes in China, where fintech platforms enhanced credit access for rural entrepreneurs by streamlining loan application processes and minimizing paperwork. However, Inoue (2019) warned that the rapid expansion of digital finance can also lead to exclusion if service quality is not matched with user education and support infrastructure. Thus, digitalization must go hand in hand with simplicity, transparency, and support mechanisms to maintain quality service delivery.

Lastly, the institutional environment plays a critical role in ensuring product and service quality. Zhou and Wang (2021) pointed out that weak consumer protection frameworks can leave low-income users vulnerable to predatory practices and misinformation. Kaidi, Mensi, and Ben Amor (2019) emphasized that effective regulation, combined with market competition, helps drive improvements in service standards and product innovation. Sewell et al. (2019) added that training

frontline staff, enhancing grievance redress mechanisms, and monitoring service quality are essential to building an inclusive financial ecosystem that genuinely supports poverty alleviation. In sum, high-quality financial products and respectful, responsive service delivery are not luxuries—they are foundational to unlocking the full potential of financial inclusion as a strategy for poverty reduction.

2.3.4 Moderating Effect of Financial Literacy

Financial literacy plays a key role in shaping how effectively people can use financial services to lift themselves out of poverty. Simply having access to loans, savings accounts, or insurance does not guarantee improved financial outcomes. What truly makes a difference is whether individuals have the knowledge and confidence to use these tools wisely. Mapuasari (2020) demonstrated this in the Indonesian context, where microfinance clients who received basic financial training were more likely to manage their loans responsibly, grow their savings, and steer clear of excessive debt. In this way, financial literacy acts as a vital link between having access to financial services and actually benefiting from them. It helps people understand financial risks, make smart money choices, and set practical goals that support their long-term well-being.

Tran and Le (2021) provided compelling evidence from Vietnam, where financial literacy significantly enhanced the impact of financial inclusion on household welfare. Their study found that financially literate individuals were more confident in engaging with banking services, planning for long-term needs, and navigating unexpected economic shocks. Without such foundational knowledge, individuals often misuse financial tools or fall prey to misinformation and exploitative practices. Similarly, Kim, Lee, and Lee (2019) examined low-income households in South Korea and found that those with higher financial literacy levels demonstrated better saving behavior, more effective debt management, and increased participation in formal financial institutions. These findings emphasize that literacy does not merely improve access—it enhances the quality and outcome of financial participation.

Importantly, financial literacy also serves to narrow disparities in financial inclusion, particularly across gender, age, and geographic lines. Bire, Sauw, and Maria (2019) focused on rural communities in East Nusa Tenggara, Indonesia, and discovered that women and youth with financial training showed greater financial independence and entrepreneurial activity than their counterparts without such training. Their research suggested that financial knowledge can

moderate structural inequalities by equipping disadvantaged groups with the capacity to use financial services confidently and sustainably. Angeles (2022), studying Latin American contexts, highlighted similar trends, showing that interventions aimed at increasing financial literacy among marginalized populations amplified the benefits of digital banking and microcredit programs in reducing poverty and promoting social mobility.

In summary, financial literacy is not just an add-on but a critical moderator that determines the success or failure of financial inclusion initiatives in addressing poverty. Without it, individuals may either underutilize or mismanage financial services, leading to missed opportunities or even financial harm. With it, however, people can take full advantage of available services to plan, invest, and build resilience. The implication for policymakers and financial institutions is clear: integrating financial education into inclusion strategies is essential for maximizing impact. As shown across the reviewed studies, financial literacy unlocks the full potential of financial services and ensures they contribute meaningfully to long-term poverty reduction.

2.4 Summary of Literature and Research Gaps

The influence of financial inclusion on the decline in poverty in Nairobi County's Mukuru Slum Community was not particularly explored in any of the analyzed research. Financial inclusion has been shown to be an effective means of reducing poverty, however it would be incorrect to extrapolate these results to the Mukuru Slum Community. Scholars have only provided evidence for the theoretical understanding of how financial inclusion reduces poverty; they have not discussed how financial inclusion is used in the Mukuru Slum Community. Consequently, further investigation is needed. The matrix that represents the research gaps is shown in Table 2.1.

Table 2.1 Research Gap Matrix

Author	Focus	Findings	Gaps	Addressing the Gaps
Ratnawati (2020)	Financial inclusion on economic growth in Asia	Financial inclusion significantly affects economic growth, poverty	Contextual gap. The study focused on the general population	The study focused on the slum people of Mukuru Slum Community.
Koomson, Villano and Hadley (2020)	Financial inclusion on poverty reduction in Ghanaian households	Financial inclusion influences reducing the poverty levels	Methodological gap. The study used secondary data: Ghana Living standard survey	The study used primary data

Babu (2020)	Digital credit on poverty reduction in Kenya	Digital credit has a positive effect on poverty reduction	Conceptual gap. The study only focused on the digital credit	The study focused on financial inclusion as a whole
Hussaini and Chibuzo (2018)	Financial inclusion on poverty reduction in Nigeria	A positive relationship exists	Contextual gap. The study focused on the general population	The study focused on the slum people of Mukuru Slum Community. Focus shifted to informal settlements in Kenya
Wang and He (2020)	Access and use of financial services in rural China	Access and usage helped households rise above poverty	Contextual gap. Study conducted in rural China	
Mora-Rivera and Garc�a-Mora (2021)	Access to formal financial services in rural areas	Led to increased income, better housing, and education	Contextual gap. Study done in Latin America	Current study targets low-income urban settlements
Effendi and Sunani (2020)	Microfinance and financial literacy in Indonesia	Improved income and savings	Conceptual gap. Focused on microfinance clients only	Study incorporates broader financial services
Ndlovu and Toerien (2020)	Exclusion from financial services in South Africa	Barriers include discrimination and lack of collateral	Conceptual gap. Highlighted depth of exclusion but not solutions	Current study includes literacy and service quality
Bello and Oladunjoye (2022)	Challenges of financial inclusion in Nigeria	Persistent access barriers limit impact	Contextual gap. Study focused on Nigerian rural areas	Focus on Kenyan urban informal settings
Kimani (2022)	Mobile banking and financial access in Kenya	M-Pesa services increased inclusion and innovation	Methodological gap. Focused on digital only	The study covers both digital and non-digital tools
Kelikume (2021)	Use of mobile financial tools by vulnerable groups	Higher engagement improves poverty outcomes	Conceptual gap. Focused on mobile users only	Covers multiple access and use dimensions
Shofawati (2019)	Islamic microfinance in Indonesia	Encouraged savings and financial discipline	Conceptual gap. Focused on religious compliance	Broader analysis of service delivery quality
Mapuasari (2020)	Financial literacy and microfinance in Indonesia	Training improved loan use and savings	Conceptual gap. Emphasized training but ignored access	Study includes financial literacy as moderator
Angeles (2022)	Financial literacy and digital banking in Latin America	Amplified benefits of microcredit and mobility	Contextual gap. No focus on Africa	Kenya-focused analysis of literacy effects

2.5 Conceptual Framework

The presentation of the conceptual Framework is illustrated in Figure 2.1.

Financial Inclusion (Independent Variables)

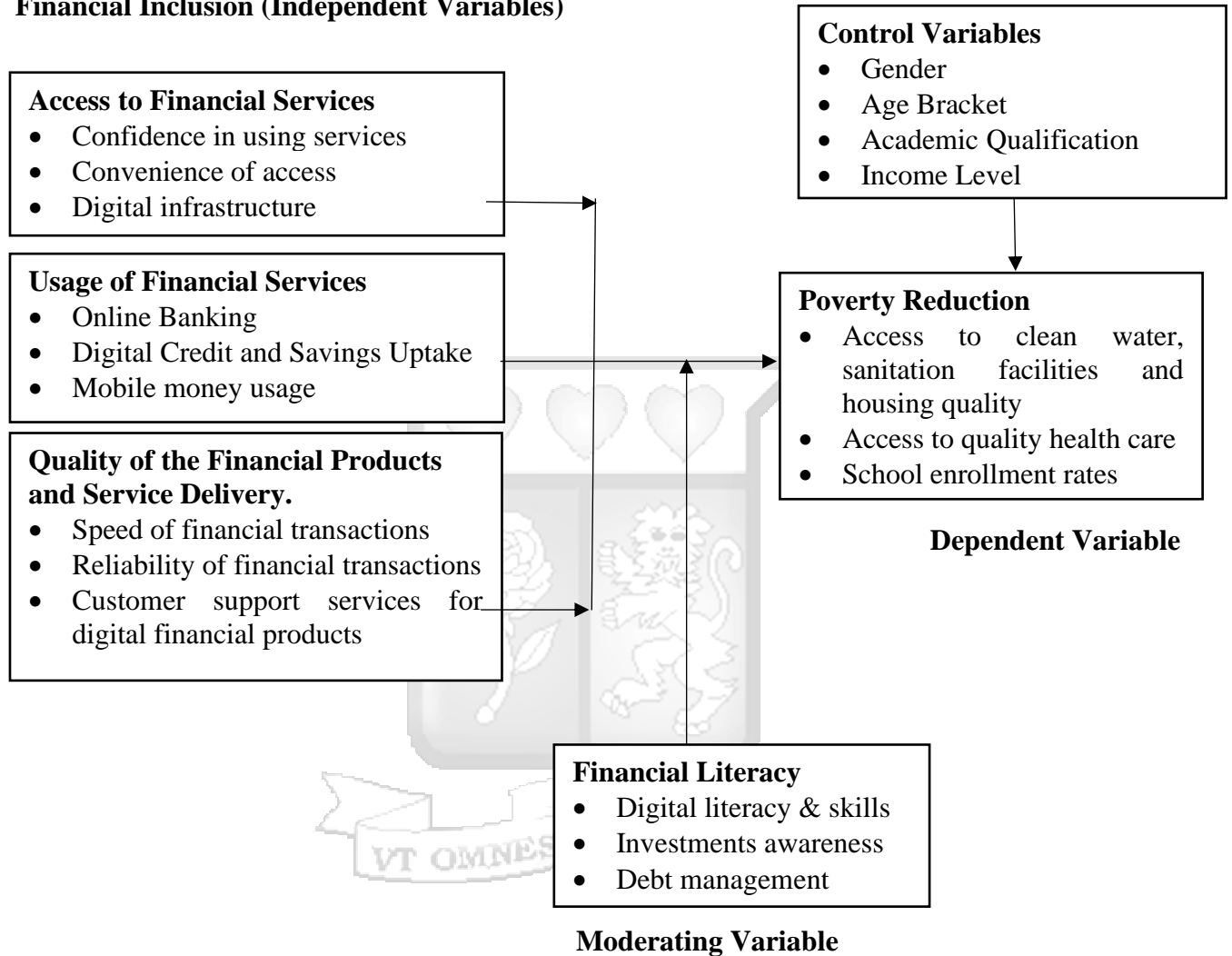


Figure 2.1: Conceptual Framework

Source: Author (2025)

2.6 Operationalization of Variables

Operationalizing key variables in this study allowed for a systematic examination of the relationship between financial inclusion, financial literacy, and poverty reduction. Poverty reduction was measured through tangible indicators such as access to clean water, improved sanitation, quality housing, healthcare availability, and school enrollment rates—offering a

multidimensional lens to evaluate socio-economic progress. Financial literacy was broken down into measurable components, including digital literacy & skills, investment awareness, and debt management, enabling a more precise assessment of an individual's financial competence. Importantly, financial literacy was conceptualized not as a mediating factor but as a moderator, influencing the strength and direction of the relationship between financial inclusion and poverty reduction. It shapes how individuals understand, interpret, and utilize available financial services, potentially amplifying or weakening the benefits of financial access. Access to financial services, in turn, was evaluated through variables such as confidence in using services, convenience of access and digital infrastructure. The reliability and efficiency of financial service delivery were also emphasized, highlighting the need for fast, secure, and user-friendly platforms that build trust and facilitate consistent use among underserved populations. Together, these operational definitions ensured the study's ability to empirically assess complex social and economic dynamics within the Mukuru Slum Community. Operationalization of the variables is presented in Table 2.2

Table 2.2 Operationalization of Variables

	Variable	Type of Variable	Measures/Indicators	Theory and literature sources
Financial Inclusion	Access to Financial Services	Independent Variable	<ul style="list-style-type: none"> • Confidence in using services • Convenience of access • Digital infrastructure. 	Social Inclusion Theory and Grameen model. Aracil Fernández, Mhlanga's (2021); Kimani (2022); Ndlovu and Toerien (2020); Wang and He's (2020)
	Usage of Financial Services	Independent Variable	<ul style="list-style-type: none"> • Online Banking • Digital Credit and Savings Uptake • Mobile money usage 	Social Inclusion Theory and Grameen model. Wang and He (2020); Kelikume (2021); Shofawati (2019); Appiah-Otoo and Song (2021); Seng's (2020); Mwangi (2017); Kariuki and Muturi (2018)
	Quality of the products and service delivery.	Independent Variable	<ul style="list-style-type: none"> • Speed of digital transactions • Reliability of digital transactions • Customer support services for financial products 	Social Inclusion Theory and Grameen model. Mwangi (2017); Lyons et al. (2020); Chen and Zhao (2021); Sewell, Desai, Mutsaa & Lottering (2019); Kaidi, Mensi, and Ben Amor (2019); Zhou and Wang (2021)
	Financial Literacy	Moderating variable	<ul style="list-style-type: none"> • Digital literacy & skills • Investments awareness • Debt management 	Social Inclusion Theory. Mapuasari (2020); Kim, Lee, and

	Variable	Type of Variable	Measures/Indicators	Theory and literature sources
				Lee (2019); Bire, Sauw, and Maria (2019); Angeles (2022)
Poverty Reduction		Dependent variable	<ul style="list-style-type: none"> • Access to clean water, sanitation facilities and housing quality • Access to quality health care • School enrollment rates 	Social Inclusion Theory and Grameen model. Shofawati (2019); Appiah-Otoo and Song (2021); Seng's (2020); Mora-Rivera and García-Mora's (2021); Mhlanga's (2021); Kimani (2022); Ndlovu and Toerien (2020); Wang and He's (2020); Sewell, Desai, Mutsaa & Lottering (2019); Kaidi, Mensi, and Ben Amor (2019)



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

A research methodology is a detailed plan for collecting and analyzing research data. The discussions are conducted in sections, and each section is thoroughly examined. An in-depth research methodology enhances the quality of the findings and provides a reliable basis for making recommendations.

3.2 Research Philosophy

The study adopted positivism research philosophy. According to positivist philosophy, information is not dependent on subjective states of people or abstract ideas but rather on observable facts (Singh, 2015). The study's objectives were aligned with positivism as it provided a framework for factual, unbiased, and objective data gathering, analysis, and interpretation. Because the conclusions on the impact of financial inclusion and the role that financial literacy plays in reducing poverty in Nairobi, Kenya's Mukuru Slum were supported by empirical evidence, they were able to have a significant impact on practice and policy.

3.3 Research Design

The study used a cross-sectional research design. By employing this design, the researchers were able to obtain a momentary depiction of the present condition of financial inclusion and its direct association with poverty levels. This eliminated the necessity to monitor temporal progression, which was particularly pertinent given the study's one-year duration. Utilizing this methodology, the research aimed to provide crucial contributions to the current body of knowledge and enlighten policymakers and stakeholders regarding effective approaches to tackle community poverty.

3.4 Target Population

The population for this research comprised individuals residing in the Mukuru Slums. As defined by Kumari and Phrommathed (2005), a population encompasses individuals, groups, or entities from which data is gathered to draw conclusions about a broader phenomenon. In this context, people residing in the Mukuru Slums constituted the population, reflecting the socioeconomic dynamics and diversity of the community. The primary objective of this study was to gain insight into the family-level decision-making processes pertaining to poverty reduction and financial inclusion in the Mukuru Slums. By focusing on specific members of this population, the research

aimed to reveal valuable information regarding the intricacies of financial inclusion and its influence on the mitigation of poverty in the locality.

The rationale for undertaking the research in the Mukuru Slums was rooted in the absence of prior investigations in this particular slum, which ranks second in size only to Kibera, Kenya. Prior research predominantly concentrated on other slum regions, including Mathare in Nairobi County (Kariuki & Muturi, 2018), Kibera (Kyung-ha Kim, 2020; Thuita, 2020), and Kariobangi (Chole, 2017). Given the distinctive circumstances and qualities of the Mukuru settlements, it was critical to investigate the factors influencing financial inclusion and the subsequent effects on poverty alleviation. By addressing this under-researched area, the study aimed to yield significant contributions to the understanding of Mukuru communities and facilitate the formulation of targeted policies and interventions that address the economic hardships endured by their inhabitants, thereby aiding in the fight against poverty.

Mukuru Slum comprises approximately 30 villages and serves as home to over 700,000 individuals (KNBS, 2019), making it the second-largest slum in Kenya after Kibera. Thus, the target population for this study encompassed the 700,000 residents residing in Mukuru Slums. Additionally, Mukuru Slums are characterized by substandard housing conditions, inadequate drainage systems, elevated levels of illiteracy, and a high prevalence of school dropouts, contributing to increased rates of teenage pregnancies (Kamau & Kabue, 2020). A synopsis of the target population is provided in Table 3.1.

Table 3.1: Target Population

Villages	Target Population
Mukuru kwa Reuben	128,000
Mukuru kwa Njenga	151,000
Sinai	67,000
Paradise	40,000
Jamaica	36,000
Kingstone	49,000
Mariguini	34,000
Fuata Nyayo	78,000
Kayaba	117,000
Total	700,000

Source: KNBS (2019)

3.5 Sample Size and Sampling Technique

The sample size of the study was 384, determined using the Krejcie and Morgan Table. A sample size of 384 individuals allowed for a sufficient number of participants to obtain meaningful and reliable data while considering practical constraints such as time, resources, and feasibility and the summary is shown in Table 3.2.

Table 3.2: Sample Size

Villages	Determinations/Calculations	Target Population
Mukuru kwa Reuben	128,000/700000*384	70
Mukuru kwa Njenga	151,000/700000*384	83
Sinai	67,000/700000*384	37
Paradise	40,000/700000*384	22
Jamaica	36,000/700000*384	20
Kingstone	49,000/700000*384	27
Mariguini	34,000/700000*384	19
Fuata Nyayo	78,000/700000*384	43
Kayaba	117,000/700000*384	64
Total	700,000	384

The study employed a multi-stage sampling approach to select 384 respondents from the approximately 700,000 inhabitants of Mukuru Slum. The sample size was determined using the Krejcie and Morgan (1970) table, which provides appropriate sample sizes for different population sizes at a 95% confidence level with a 5% margin of error. For populations over 100,000, a sample size of 384 is recommended as statistically representative. To ensure proportional representation across the nine villages of Mukuru Slum, stratified random sampling was implemented in the first stage. Each village constituted a distinct stratum, and respondents were allocated proportionally based on village population size. This resulted in specific allocations: Mukuru kwa Reuben (70), Mukuru kwa Njenga (84), Sinai (37), Paradise (22), Jamaica (20), Kingstone (27), Mariguini (19), Fuata Nyayo (43), and Kayaba (62), totaling the required 384 respondents.

Participant identification employed systematic random sampling within each village, using household lists obtained from local administrative offices and community leaders as sampling frames. For each village, a sampling interval (k) was calculated by dividing the village population by the required sample from that village. Starting points were randomly selected using random number tables, and interviewers then approached every k^{th} household on the list. This systematic approach ensured geographic dispersion of the sample within each village while

maintaining randomness. Within selected households, only adult members (18 years or older) who were knowledgeable about household finances were eligible for participation. When multiple eligible respondents were present in a household, a simple random selection method (drawing of lots) was used to select one participant, thus maintaining equal selection probability. In cases where selected households declined participation or were unavailable after three documented attempts, the next immediate household on the list served as a replacement to maintain the required sample size.

The distribution of participants across demographic characteristics occurred naturally through this probability-based selection process rather than through intentional quota sampling. The resulting sample captured the diversity of the Mukuru Slum population, with representation across gender, age groups, education levels, income brackets, and occupation types. This methodology eliminated researcher bias in participant selection while ensuring sufficient representation across all geographic areas of Mukuru Slum. The approach aligned with the study's objectives by providing a representative cross-section of residents whose experiences with financial services and poverty could be meaningfully analyzed. The clearly defined, replicable sampling procedure enhanced the scientific rigor of the study and the generalizability of findings to the broader Mukuru Slum population.

3.6 Data Collection Instrument

The study utilized a questionnaire as the data collection method. With the help of questionnaires, participants' viewpoints, actions, and experiences regarding financial inclusion and poverty reduction in the Mukuru Slums were systematically investigated. This approach allowed the study to effectively collect a broad spectrum of data from a sizable number of community respondents. The standardization of questionnaires helped ensure uniformity in data collection and facilitated comparisons between respondents. Additionally, the anonymity and confidentiality provided by using a questionnaire encouraged respondents to give frank and honest answers.

3.7 Pilot Test

A pilot study, often known as a test or trial run, is a scaled-down version of the major research (Husni, Meyer, Cohen, Mody, & Qureshi, 2007). Pilot research can be conducted with a sample size that represents 10 percent of the total sample size (Petersen, Schmidt, & Bullinger, 2004). Therefore, the research used 10 percent of 384 for the purpose of conducting the pilot, resulting in

a total of 39 individuals being used for piloting in Mathare slum, another informal settlement in Nairobi with socioeconomic characteristics comparable to Mukuru Slum. This location was selected to prevent contamination of the main study sample while ensuring pilot participants represented a population similar to the target study group.

3.7.1 Research Instrument Validity

The supervisor monitoring the thesis development thoroughly examined the questionnaire to confirm its validity. The supervisor carefully reviewed each question to ensure it was clear, relevant, and aligned with the study goals. Based on pilot feedback, several key modifications were made to the instrument: technical financial terms were simplified, question sequencing was adjusted to improve flow, and data collection protocols were adapted to address privacy concerns in densely populated areas. Moreover, the study employed factor analysis to evaluate the validity of measurement instruments across all key variables in the research. According to Comrey and Lee (2013), factor analysis is instrumental in determining which items best represent the underlying constructs in a study. Cooper and Schindler (2014) argue that factor analysis helps researchers identify patterns of correlation among variables and reduces them to a manageable number of factors. Following the guidelines of Comrey and Lee (2013) and Cooper and Schindler (2014), factor loadings below 0.4 are deemed unacceptable for inclusion in the study. Additionally, based on Mabert, Soni, and Venkataramanan's (2003) recommendation, statements with extraction values greater than 0.4 are retained, while those below this threshold are excluded from further analysis.

Table 3.3: Factor Analysis on Access to Financial Services

	Extraction
I feel confident in my ability to use financial services effectively.	0.594
Accessing financial services in my area is convenient and hassle-free.	0.695
I own a digital device (such as a smartphone or computer) that allows me to access financial services	0.528
I have received adequate training and education on how to use financial services.	0.684
I actively use financial services, such as mobile banking or digital wallets, in my financial transactions.	0.604

The prevalence of digital devices and internet access in my community has improved my ability to manage my finances effectively through digital means.

0.756

The study found that the factor analysis for access to financial services, as presented in Table 3.3, revealed robust extraction values for all six indicators. The strongest extraction was observed for the statement regarding the prevalence of digital devices and internet access (0.756), indicating its substantial contribution to explaining the variance in financial access. This was followed by convenience of accessing financial services (0.695) and adequate training on using financial services (0.684). The statement about actively using services like mobile banking scored 0.604, while confidence in using financial services effectively extracted at 0.594. Digital device ownership showed the lowest yet still acceptable extraction at 0.528. All extractions exceeded the recommended threshold of 0.4, confirming the validity of these indicators in measuring access to financial services.

Table 3.4: Factor Analysis on Usage of Financial Service

	Extraction
I regularly use online banking services to manage my financial transactions.	0.568
Online banking has enabled me to conveniently control my bank accounts.	0.648
I have taken advantage of digital credit services to meet my financial needs	0.780
Digital savings options have helped me save money more effectively.	0.796
I frequently use mobile money services for various financial transactions.	0.729
Mobile money has enhanced my ability to send and receive money securely	0.722

The study found that the factor analysis for usage of financial services, shown in Table 3.4, demonstrated strong extraction values across all indicators. Digital savings options had the highest extraction at 0.796, followed closely by digital credit services at 0.780, indicating these elements strongly explain the variance in financial service usage. Mobile money usage for various transactions and secure money transfers showed substantial extractions at 0.729 and 0.722 respectively. Online banking for controlling bank accounts extracted at 0.648, while regular use of online banking for managing financial transactions showed the lowest but still significant

extraction at 0.568. All extraction values substantially exceeded the 0.4 threshold, confirming these indicators' importance in measuring financial service usage.

Table 3.5: Factor Analysis on Quality of the Financial Products

	Extraction
Financial transactions of any financial products are processed quickly and efficiently.	0.657
I trust the reliability of financial transactions of the financial products	0.533
Customer support services for financial products are responsive and helpful.	0.830
Financial products offer a wide range of features to meet my needs.	0.799
The user interface of financial services is user-friendly.	0.706
Financial services provide clear and transparent information about fees and charges.	0.750

The study found that the factor analysis for quality of financial products, presented in Table 3.5, yielded strong extraction values for all six indicators. Customer support responsiveness showed the highest extraction at 0.830, followed closely by the range of features offered by financial products at 0.799. The user-friendliness of financial services' interface extracted at 0.706, while transparency regarding fees and charges showed an extraction of 0.750. Transaction efficiency extracted at 0.657, and reliability of financial transactions showed the lowest yet acceptable extraction at 0.533. All extractions were considerably above the 0.4 threshold recommended by Comrey and Lee (2013), confirming the validity of these indicators in measuring the quality dimension of financial services.

Table 3.6: Factor Analysis on Financial Literacy

	Extraction
I possess the necessary digital literacy & skills to manage my personal finances effectively.	0.661
I have a good understanding of different investment options and their potential risks and returns.	0.623
I am knowledgeable about debt management strategies and techniques to avoid excessive debt.	0.502
I am confident in making informed financial decisions based on my understanding of financial concepts and principles.	0.664

I actively seek opportunities to enhance my financial knowledge and stay updated on financial trends and developments. 0.634

The study found that the factor analysis for financial literacy, as shown in Table 3.6, demonstrated substantial extraction values for all five indicators. Confidence in making informed financial decisions based on understanding financial concepts showed the highest extraction at 0.664, closely followed by possessing necessary digital literacy & skills at 0.661. Actively seeking opportunities to enhance financial knowledge extracted at 0.634, while understanding investment options and their risks extracted at 0.623. Knowledge about debt management strategies showed the lowest extraction at 0.502, though still exceeding the recommended threshold of 0.4.

Table 3.7: Factor Analysis on Poverty Reduction

	Extraction
Access to clean water and sanitation facilities has improved in my community	0.727
Housing quality has improved, with more people having access to better housing conditions.	0.754
The availability and quality of healthcare services have increased in our area.	0.629
School enrollment rates for children have improved, ensuring better access to education.	0.524
Access to vocational training and skill development programs has increased economic opportunities.	0.718
Social safety nets and support programs have been effective in reducing poverty in our community.	0.551

The study found that the factor analysis for poverty reduction, presented in Table 3.7, revealed strong extraction values across all six indicators. Housing quality improvement showed the highest extraction at 0.754, followed closely by improved access to clean water and sanitation facilities at 0.727. Access to vocational training and skill development programs extracted at 0.718, while availability and quality of healthcare services showed an extraction of 0.629. Social safety nets and support programs extracted at 0.551, and improved school enrollment rates showed the lowest extraction at 0.524. All extraction values significantly exceeded the 0.4 threshold, confirming these indicators' validity in measuring poverty reduction within the Mukuru Slum community.

3.7.2 The Reliability of the Instrument

To confirm the reliability of the results, the researcher computed the Cronbach's alpha coefficient. A high Cronbach's alpha score indicated robust internal consistency among the questionnaire questions, showing that they accurately measured the target variables with reliability. If the Cronbach's alpha coefficient was lower than the acceptable threshold of 0.7, the researcher modified or eliminated certain questions to enhance the questionnaire's reliability before continuing with data collection. Thus, only variables that had a Cronbach's alpha of 0.7 or above were considered for this study. Table 3.8 presents reliability results.

Table 3.8: Reliability Results

Variable	Number of Items	Cronbach alpha	Comments
Poverty Reduction	6	0.765	Reliable
Access to Financial Services	6	0.862	Reliable
Usage of Financial Services	6	0.788	Reliable
Quality of Financial Services and Products	6	0.801	Reliable
Financial Literacy	5	0.840	Reliable

The analysis discovered that all variables had Cronbach's alpha values more than the 0.7 level indicated by Taber (2018), Golafshani (2003), and Gliem and Gliem (2003), indicating their reliability in the study. Specifically, the reliability coefficients were as follows: Poverty reduction ($\alpha = 0.765$), access to financial services ($\alpha = 0.862$), usage of financial services ($\alpha = 0.788$), quality of financial services and products ($\alpha = 0.801$), and financial literacy ($\alpha = 0.840$). These results confirmed that the questionnaire items reliably measured their respective constructs and provided a statistically sound basis for proceeding with the main study.

3.8 Data Collection Procedure

The surveys were disseminated with the aid of two research assistants. Given the substantial sample size, it was necessary to recruit and train these research assistants prior to starting the data collection phase. The particulars of the respondents, such as names and telephone numbers, were noted separately to avoid repetition of the same respondents. The data collection process took approximately two months.

3.9 Data Processing and Analysis

The study comprised descriptive and inferential statistics in the analysis, which was conducted using SPSS version 26. The collected data underwent thorough cleaning, coding, and organization before analysis. Descriptive statistics including frequencies, percentages, means, and standard deviations were calculated to provide a clear profile of respondents and summarize the key characteristics of the variables under study. These descriptive measures allowed for an initial understanding of the patterns and central tendencies in respondents' perceptions regarding financial inclusion, financial literacy, and poverty reduction. For inferential analysis, the study employed correlation and multiple regression techniques to test the research hypotheses and examine the relationships between variables. While the initial research plan considered using a composite measure for financial inclusion, the final analysis approach treated each dimension of financial inclusion (access to financial services, usage of financial services, and quality of financial products and service delivery) as separate independent variables. This disaggregated approach was chosen to provide more detailed and actionable insights into how specific aspects of financial inclusion affect poverty reduction. Therefore, the regression models were structured as follows:

For examining the direct relationships between financial inclusion dimensions and poverty reduction:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4\text{Gender} + \beta_5\text{Age_bracket} + \beta_6\text{Academic_qualification} + \beta_7\text{Income_level} + \varepsilon$$

Where:

- Y = Poverty reduction
- X₁ = Access to financial services
- X₂ = Usage of financial services
- X₃ = Quality of financial products and service delivery
- β₀ = Constant
- β₁, β₂, β₃, β₄, β₅, β₆ & β₇ = Coefficients
- ε = Error term

For examining the moderating effect of financial literacy, interaction terms were created between financial literacy and each dimension of financial inclusion, resulting in the following model:

$$Y = \beta_0 + \beta_1(X_1 \times M) + \beta_2(X_2 \times M) + \beta_3(X_3 \times M) + \beta_4\text{Gender} + \beta_5\text{Age_bracket} + \beta_6\text{Academic_qualification} + \beta_7\text{Income_level} + \varepsilon$$

Where:

- M = Financial Literacy
- β_0 = Constant
- $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ & β_7 = Coefficients
- ε = Error term

Prior to running the regression analyses, necessary diagnostic tests were conducted as discussed below;

3.10 Diagnostic Tests

The study conducted three key diagnostic tests to ensure the validity and reliability of the regression analysis results: normality tests, multicollinearity tests and heteroscedasticity tests. These specific tests were selected as they address the most critical assumptions underlying multiple regression analysis in the context of this study. Normality tests were conducted to assess whether the data followed a normal distribution. This test was essential because regression analysis assumes that errors (residuals) are normally distributed. The Kolmogorov-Smirnov test was employed, with p-values greater than 0.05 indicating normally distributed data. While regression analysis can be robust to minor deviations from normality with large sample sizes ($n > 30$), checking this assumption was still important for ensuring the validity of statistical inferences, particularly since the study used parametric tests for hypothesis testing. As noted by Ghasemi and Zahediasl (2012), parametric tests can yield misleading results when the assumption of normality is violated, especially in smaller samples or when examining interaction effects, which was relevant for the study's examination of financial literacy as a moderating variable.

Multicollinearity tests were conducted using Variance Inflation Factors (VIF) to detect potentially problematic correlations among the independent variables. This test was particularly crucial given the study's approach of treating different dimensions of financial inclusion (access, usage, and quality) as separate independent variables rather than using a composite measure. As these dimensions are conceptually related, there was a legitimate concern about potential multicollinearity that could lead to unstable regression coefficients and inflated standard errors. According to Katrutsa and Strijov (2017), multicollinearity becomes especially problematic when examining moderating effects, as this study did with financial literacy. By confirming acceptable VIF values (below 10), the study ensured that the separate effects of each dimension could be

reliably estimated and interpreted, enhancing the practical value of the findings for policymakers and practitioners. Heteroscedasticity tests were conducted using the Breusch-Pagan test.

Hence, the study focused on these three fundamental diagnostic tests because they specifically address the most critical assumptions for cross-sectional primary data analysis in a regression context. Additional tests such as stationarity, autocorrelation, and cointegration are primarily applicable to time-series or panel data analysis rather than the cross-sectional primary data collected in this study. The selected tests were sufficient to validate the regression model's appropriateness for the research context, ensuring that the findings provided reliable insights into the relationships between financial inclusion dimensions, financial literacy, and poverty reduction in Mukuru Slum. As Mahadik and Shirke (2011) note, while comprehensive testing is valuable, diagnostic testing should be tailored to the specific data structure and research design to avoid unnecessary complexity while still ensuring statistical validity.

3.11 Reliability and Validity of the Model

The research assessed the reliability and validity of the instruments. Cronbach's alpha was calculated to confirm reliability, and validity was verified using the factorial analysis findings. This was done to guarantee that the tools were reliable and valid for data collecting and inference.

3.12 Ethical Considerations

The research prioritized ethical considerations, ensuring that participants were not subjected to any questions or situations that might cause discomfort or embarrassment. To further reassure participants, the researcher was prepared to furnish them with relevant documentation, including the authorization letter from NACOSTI and the introduction letter from Strathmore University Business School, upon request.

CHAPTER FOUR: PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

This chapter presents the analyzed findings from the data gathered during the research process. It begins by detailing the response rate before progressing to a discussion of the demographic profiles of participants and the statistical analyses conducted.

4.2 Response Rate

Out of the targeted 384 participants from Mukuru slums, 357 respondents returned fully completed questionnaires, forming the basis for the study's analysis as summarized in Table 4.1.

Table 4.1: Response Rate

Villages	Sample	Response	Percentage
Mukuru kwa Reuben	70	64	91.43%
Mukuru kwa Njenga	84	81	96.43%
Sinai	37	30	81.08%
Paradise	22	21	95.45%
Jamaica	20	19	95.00%
Kingstone	27	24	88.89%
Mariguini	19	18	94.74%
Fuata Nyayo	43	42	97.67%
Kayaba	62	58	93.55%
Total	384	357	92.97%

The study results indicate a 92.97% response rate as shown in Table 4.1, surpassing the 60% threshold recommended by Zhao et al. (2020) and Hemani et al. (2017), thereby enhancing the study's credibility, stakeholder confidence, and overall reliability of the findings.

4.3 Demographic Characteristics

The summary of the demographic characteristics is presented in Table 4.2

Table 4.2: Demographic Characteristics

Demographic data	Category	Percent
Gender	Male	58.5
	Female	41.5
	Total	100
Age Bracket	18-25 years	1.4
	26-30 years	3.1
	31-35 years	16.5
	36-40 years	33.1
	41-45 years	21.3
	46-50 years	10.1
	Above 50 years	14.6
Total	100	
Years lived in the area	1-5 Years	5.6
	6-10Years	23.8
	11-15 Years	37.3
	16-20 Years	14
	Above 20 Years	19.3
	Total	100
Highest academic qualification	Primary	14.3
	Secondary	60.2
	Diploma	18.2
	Degree	7.3
	Total	100
Monthly income	Less than Kes 5,000	10.6
	Between Kes 5,000 - Kes 7,500	21.3
	Between Kes 7,501 - Kes 10,000	39.8
	Between Kes 10,001 - Kes 15,000	12.9
	Between Kes 15,000 - Kes 20,000	5.0
	Between Kes 20,001 - Kes 30,000	7.6

	Above Kes 30,000	2.8
	Total	100
How many children do you have	Less than 2	11.8
	Between 2-4	49.6
	Between 5-7	37.3
	Between 8-10	1.4
	Total	100

The study showed that 58.5% of the participants were male, while 41.5% were female, reflecting a modest gender imbalance with a slightly higher number of men represented in the sample from the Mukuru Slum area. Although the difference is not extreme, it highlights the need to pay attention to gender-related challenges that may affect women's participation in financial systems. In many low-income and underserved communities, women often face obstacles such as cultural expectations, limited freedom of movement, and reduced authority over household finances. These factors can limit their access to financial services and reduce their ability to make independent economic decisions or benefit equally from financial inclusion efforts.

In terms of age distribution, most respondents were between 36 and 40 years old, accounting for 33.1% of the sample. This was followed by individuals aged 41 to 45 years at 21.3%, and those between 31 and 35 years making up 16.5%. A smaller proportion was above 50 years (14.6%), between 46-50 years (10.1%), or in the younger age groups of 26-30 years (3.1%) and 18-25 years (1.4%). This age distribution suggests that the sample was predominantly comprised of individuals in their mid-to-late working years, likely representing the economically active population within the Mukuru Slum community. The concentration of respondents in this age range could be indicative of the demographic segment that actively engages with financial services and bears financial responsibilities for their households. However, the relatively low representation of younger individuals may point towards potential barriers or lack of awareness regarding financial inclusion among the youth. Tailored strategies that cater to the specific needs and preferences of different age groups could be beneficial in promoting inclusive financial services across all segments of the community.

The study found over 70% of the respondents have lived in the Mukuru slums for more than 10 years, led by 37.3% who have stayed for 11–15 years, indicating long-term residency that provides

them with deep insight into the area's conditions and significantly shapes their engagement with financial services and poverty reduction efforts. Moreover, the study found that the majority of respondents (60.2%) had secondary education as their highest academic qualification, while 18.2% had a diploma, 14.3% had primary education, and only 7.3% had a degree. This educational profile suggests the Mukuru Slum community may have limited access to higher education and face socioeconomic barriers. While the high proportion of secondary education indicates a reasonable level of basic literacy, the lack of advanced financial knowledge associated with higher education could pose challenges in comprehending complex financial products and making informed financial decisions.

The findings showed that most people in the Mukuru Slum community earn low incomes. It was found that 40% of the respondents reported earnings between Kes 7,501 and Kes 10,000 each month, while about 21% earned between Kes 5,000 and Kes 7,500. A smaller yet significant group, roughly 11%, survived on less than Kes 5,000 monthly—signaling a high level of extreme poverty within the area. On the other end, only a tiny percentage (2.8%) made over Kes 30,000 per month. These figures highlight the widespread financial hardship in the community, where the majority live on earnings that are at or slightly above Kenya's minimum wage. This emphasizes the need for tailored financial programs that can support the low-income population.

The study revealed that 49.6% of the respondents had between 2-4 children, while 37.3% had between 5-7 children. A small portion had less than 2 children (11.8%) or between 8-10 children (1.4%). These results indicate a prevalence of large family sizes within the Mukuru Slum community. Households with numerous children may face greater financial burdens and constraints, as limited resources need to be stretched across more dependents. Moreover, larger family sizes may also limit educational opportunities for children, perpetuating the cycle of poverty across generations. Targeted interventions, such as family planning initiatives, access to affordable healthcare, and financial literacy programs, could be beneficial in managing family sizes and promoting sustainable livelihoods within the community.

4.4 Descriptive Statistics

The descriptive statistics results for each research variable are presented in sections below, focusing on the overall averages rather than individual statement-level analysis.

The summary of the descriptive statistics on access to financial services is presented in Table 4.3

Table 4.3: Descriptive Statistics on Access to Financial Service

Statement	Mean	Median	Standard Deviation
Average	2.18	2.00	1.16

The study revealed a generally low level of access to financial services among Mukuru Slum residents, with an overall mean of 2.18 (SD = 1.16) on a 5-point scale. The median value of 2.00 demonstrates that at least half of all respondents actively disagreed with statements suggesting adequate financial access, revealing a systemic rather than isolated problem. This pattern is particularly concerning given Kenya's reputation as a leader in mobile financial services, suggesting that the benefits of this innovation have not effectively reached all segments of the population. These findings suggest that geographic proximity to financial services in urban areas does not automatically translate to meaningful access for slum residents. The results highlight a disconnect between Kenya's national financial inclusion statistics and the lived realities of residents in urban informal settlements, who experience forms of exclusion that may not be captured in broad national surveys. This disparity points to the need for more targeted and context-specific financial inclusion strategies that address the unique barriers faced by urban poor populations. For financial inclusion initiatives to be effective in communities like Mukuru, they must consider not only physical accessibility but also psychological, economic, and educational factors that influence residents' ability to engage with financial services.

4.4.2 Descriptive Statistics on Usage of Financial Services

The summary of the descriptive statistics on usage of financial services are presented in Table 4.4

Table 4.4: Descriptive Statistics on Usage of Financial Service

Statement	Mean	Median	Standard Deviation
Average	2.25	2.00	1.19

The descriptive analysis revealed that the usage of financial services among Mukuru Slum residents was low, with an overall mean score of 2.25 (SD = 1.19) on a 5-point scale. The median value of 2.00 suggests that at least half of the respondents disagreed with statements about actively using financial services, revealing widespread low usage patterns. The slight variation in means across different service types, with digital savings options scoring highest (2.39) and online banking control lowest (2.15) suggests some services may be marginally more relevant or

accessible than others. These findings suggest that expanding access alone is insufficient, attention must also be paid to the factors that influence regular usage, such as trust, perceived value, cost, and user experience. The low usage of financial services in a country where such services are widely adopted nationally indicates that assumptions about digital financial behavior may not hold true in specific community contexts. This discrepancy points to the importance of developing more nuanced, context-specific approaches to promoting financial service usage that address the particular barriers and preferences of urban slum residents. Effective financial inclusion strategies must consider not only making services available but also ensuring they are perceived as valuable, trustworthy, and relevant to the financial lives and goals of target populations.

4.4.3 Descriptive Statistics on Quality of Financial Products and Service Delivery

The summary of the descriptive statistics on the quality of the financial products are presented in Table 4.5

Table 4.5: Descriptive Statistics on Quality of Financial Products and Service Delivery

Statement	Mean	Median	Standard Deviation
Average	2.22	2.00	1.12

The study found that perceptions of financial service quality among Mukuru Slum residents were generally negative, with an overall mean score of 2.22 (SD = 1.12) on a 5-point scale. The median value of 2.00 reveals that at least half of all respondents disagreed with statements about satisfactory service quality, suggesting widespread quality concerns. Transaction processing speed received the lowest rating (2.09), indicating that service reliability and efficiency are particular pain points for residents, while customer support services received the highest rating (2.40), though still below the scale midpoint. The standard deviation of 1.12 shows moderate consistency in these negative perceptions, suggesting that quality issues are experienced broadly rather than by specific segments of the community.

These findings suggest that quality deficiencies may be as significant a barrier to financial inclusion as access limitations, highlighting the need for a more holistic approach to expanding financial services. The results point to a possible disconnect between how financial services are designed and the specific needs of low-income urban residents—a gap that could be addressed through more participatory product development approaches. This mismatch between service

quality and user needs may contribute to low usage rates and limit the potential poverty-reduction benefits of financial inclusion. For financial services to effectively serve communities like Mukuru Slum, providers must pay greater attention to quality dimensions including reliability, transparency, responsiveness, and appropriateness of features to the local context.

4.4.4 Descriptive Statistics on Financial Literacy

The summary of the results is discussed below.

Table 4.6: Descriptive Statistics on Financial Literacy

Statement	Mean	Median	Standard Deviation
Average	2.19	2.00	1.20

The study established that financial literacy levels among Mukuru Slum residents were generally low, with an overall mean score of 2.19 (SD = 1.20) on a 5-point scale. The median value of 2.00 shows that at least half of all respondents disagreed with statements about possessing adequate financial knowledge and skills. The highest rating was for basic financial skills (2.37), while the lowest were for debt management knowledge (2.09) and investment understanding (2.10), suggesting particular deficiencies in more complex financial concepts. The relatively high standard deviation for decision-making confidence (1.57) compared to other dimensions indicates greater variability in this aspect of financial literacy, possibly reflecting differences in financial experience or education levels among residents. These findings suggest that financial literacy deficiencies may significantly constrain the potential benefits of expanded financial access, highlighting the need for integrated approaches that address both access and capability dimensions simultaneously. The findings point to the importance of incorporating financial education components into financial inclusion initiatives to maximize their poverty-reduction potential in communities like Mukuru Slum.

4.4.5 Descriptive Statistics on Poverty Reduction

The summary of the descriptive statistics on poverty reduction are presented in Table 4.7

Table 4.7: Descriptive Statistics on Poverty Reduction

Statement	Mean	Median	Standard Deviation
Average	2.17	2.00	1.11

The study found that perceptions of poverty reduction in Mukuru Slum were predominantly negative, with an overall mean score of 2.17 (SD = 1.11) on a 5-point scale. The median value of 2.00 reveals that at least half of all respondents disagreed with statements about improvements in basic services and economic conditions. Access to vocational training received the lowest rating (2.01), suggesting a critical lack of skill development opportunities, while clean water and sanitation access received the highest rating (2.30), though still below the scale midpoint. The lower standard deviations for school enrollment (0.95) and vocational training (0.97) compared to other dimensions indicate greater consensus on these issues, suggesting they may represent community-wide rather than individual challenges. These findings suggest that despite Kenya's progress in expanding financial inclusion nationally, this has not translated into perceptible poverty reduction in communities like Mukuru Slum. The low perceptions of poverty reduction across all measured dimensions indicate that financial inclusion alone may be insufficient to address entrenched urban poverty without complementary investments in infrastructure, services, and economic opportunities.

4.5 Diagnostic Tests

To validate the regression model and ensure its reliability, diagnostic tests were conducted to detect issues such as overfitting, underfitting, or model misfit.

4.5.1 Normality Tests

The study results of the normality tests are presented in Table 4.8

Table 4.8: Normality Test

Variable	Kolmogorov-Smirnov Test		
	Statistic	df	Sig.
Poverty Reduction	0.108	357	0.084
Access to Financial Services	0.112	357	0.068
Usage of Financial Services	0.096	357	0.072
Quality of Financial Services and Products	0.092	357	0.903
Financial Literacy	0.097	357	0.208

As shown in Table 4.8, the data was normally distributed since the p-values for all variables exceeded 0.05, indicating no significant deviation from a normal distribution.

4.5.2 Multicollinearity

Table 4.9 presents the multicollinearity results.

Table 4.9: Multicollinearity Results

Variable	VIF
Access to Financial Services	2.330
Usage of Financial Services	2.268
Quality of Financial Services and Products	2.543
Financial Literacy	2.352

Table 4.9 shows that all variables had VIF values below 10, indicating no multicollinearity, in line with Katrutsa and Strijov (2017), thereby ensuring stable and reliable coefficient estimates in the regression model.

4.5.3 Heteroscedasticity

The study results on the heteroscedasticity test is presented in Table 4.10

Table 4.10: Heteroscedasticity Test

chi2(1)	=	1.39
Prob > chi2	=	0.2384

The Breusch-Pagan test, as shown in Table 4.10, did not detect any heteroscedasticity because the p-value was greater than 0.05. Consequently, the residuals are spread out in a way that meets the homoscedasticity condition. As a result, the regression analysis has a better base because the error terms act the same way throughout the model. Hence, the study's findings and conclusions are more reliable because the regression analysis is accurate.

4.5.4 Spearman's Correlation Matrix

The spearman's correlation matrix is summarized in Table 4.11

Table 4.11: Spearman's Correlation Matrix

			Poverty reduction	Access to financial services	Usage of financial services	Quality of the financial products	Financial literacy
Spearman's rho	Poverty Reduction	Correlation Coefficient Sig. (2- tailed)	1.000 . .				
	Access to Financial Services	Correlation Coefficient Sig. (2- tailed)	.729** 0.000	1.000 .			
	Usage of Financial Services	Correlation Coefficient Sig. (2- tailed)	.752** 0.000	.717** 0.000	1.000 .		
	Quality of the Financial Products	Correlation Coefficient Sig. (2- tailed)	.745** 0.000	.734** 0.000	.672** 0.000	1.000 .	
	Financial Literacy	Correlation Coefficient Sig. (2- tailed)	.861** 0.000	.702** 0.000	.705** 0.000	.739** 0.000	1.000 .

The Spearman's correlation matrix in Table 4.11 shows statistically significant associations between financial inclusion indicators and poverty reduction in Mukuru Slum. The strongest positive association was between financial literacy and poverty reduction ($r = 0.861$, $p = 0.000$), suggesting that individuals with higher financial knowledge tend to experience better economic conditions. This outcome emphasizes the value of equipping slum residents with essential financial skills that enable them to plan, save, and invest more effectively. A similarly strong association was recorded between usage of financial services and poverty reduction ($r = 0.752$, $p = 0.000$), which reflects the importance of consistent engagement with financial tools such as mobile money, savings platforms, and credit products in improving household welfare. The quality of financial products was also positively associated with poverty reduction ($r = 0.745$, $p = 0.000$), meaning that when financial services are trustworthy, responsive, and user-friendly, they are more likely to

contribute to positive financial outcomes for the poor. Access to financial services demonstrated a notable association as well ($r = 0.729$, $p = 0.000$), indicating that the availability of affordable and accessible financial channels plays a key role in enabling low-income earners to participate in economic activities that can uplift their livelihoods. All these associations were statistically significant and align with the study's expectations that financial inclusion, when implemented holistically, can be a strong driver of poverty reduction. Furthermore, the matrix indicates that each financial inclusion variable is positively associated with the others, reinforcing their interdependence in shaping economic inclusion among residents in informal urban settlements.

4.6 Regression Analysis

The results were discussed in sections below.

Table 4.12: Model Fitness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.779a	0.607	0.600	0.290745

The model fitness results indicate an R Square value of 0.607, meaning that 60.7% of the variation in poverty reduction in Mukuru Slum is explained by access to financial services, usage of financial services, the quality of financial products and control variables (gender, age bracket, academic qualification, and income). This demonstrates that these predictors collectively play a substantial role in influencing poverty outcomes within the community. However, the remaining 39.3% of the variance is unexplained by the model, suggesting that other factors such as social capital, community networks, infrastructure, or specific government interventions not included in the analysis may also significantly impact poverty reduction.

Table 4.13: Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.653	7	6.522	77.153	.000b
	Residual	29.502	349	0.085		
	Total	75.155	356			

a Dependent Variable: Poverty reduction

b Predictors: Access to financial services, usage of financial services, quality of the financial products, gender, age bracket, academic qualification, income.

The ANOVA results in Table 4.13 shows a p-value of 0.000 and an F-statistics of 77.153, indicating that the regression model comprises access to financial services, usage of financial services, quality of financial products and control variables (gender, age bracket, academic qualification and income) is statistically significant in explaining poverty reduction. This confirms that the relationship between the predictors and poverty reduction is unlikely to be due to chance, highlighting their critical role in advancing financial inclusion and alleviating poverty in Mukuru Slum. The significant F-value further validates the model's explanatory power and goodness of fit.

Table 4.14: Regressions of Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.342	0.125		2.744	0.006
	Access to financial services	0.149	0.043	0.177	3.479	0.001
	Usage of financial services	0.323	0.041	0.377	7.82	0.000
	Quality of the financial products	0.324	0.048	0.329	6.711	0.000
	Gender	-0.005	0.032	-0.005	-0.145	0.885
	Age Bracket	0.016	0.011	0.048	1.43	0.154
	Academic qualification	-0.033	0.02	-0.054	-1.603	0.110
	Income	-0.005	0.011	-0.017	-0.501	0.617

a Dependent Variable: Poverty reduction

The multiple regression model thus becomes:

$$Y = 0.342 + 0.149X_1 + 0.323X_2 + 0.324X_3 - 0.005X_4 + 0.016X_5 - 0.033X_6 - 0.005X_7$$

Where: Y = Poverty reduction; X₁ = Access to financial services; X₂ = Usage of financial services; X₃ = Quality of the financial products; X₄ = Gender; X₅ = Age bracket; X₆ = Academic qualification; X₇ = Income

The regression results in Table 4.14 provide detailed information about the direct effects of financial inclusion dimensions on poverty reduction. Access to financial services shows a positive and significant relationship with poverty reduction ($\beta = 0.149$, $p = 0.001$), indicating that increased access to financial services contributes to poverty reduction in Mukuru Slum. The standardized coefficient (Beta = 0.177) suggests that while access is important, it has a somewhat smaller effect

compared to the other financial inclusion dimensions. Usage of financial services emerges as the strongest predictor of poverty reduction ($\beta = 0.323$, $p = 0.000$, Beta = 0.377), highlighting that active engagement with financial services has a particularly powerful effect on improving economic outcomes. This finding emphasizes that merely having access to financial services is not enough, regular and effective use of these services is crucial for realizing poverty reduction benefits. The quality of financial products also shows a strong positive effect on poverty reduction ($\beta = 0.324$, $p = 0.000$, Beta = 0.329), nearly equal to the effect of usage. This suggests that the appropriateness, reliability, and user-friendliness of financial services play a critical role in determining their poverty-reducing potential.

The demographic control variables—gender ($\beta = -0.005$, $p = 0.885$), age bracket ($\beta = 0.016$, $p = 0.154$), academic qualification ($\beta = -0.033$, $p = 0.110$), and income ($\beta = -0.005$, $p = 0.617$)—all show non-significant effects on poverty reduction. This suggests that the relationship between financial inclusion and poverty reduction operates similarly across different demographic groups within the Mukuru Slum community. The constant term ($\beta = 0.342$, $p = 0.006$) represents the baseline level of poverty reduction when all predictors are at zero. These findings reveal that while access to financial services provides a foundation for poverty reduction, the usage of these services and their quality are even more powerful drivers of improved economic outcomes. The results suggest that financial inclusion initiatives should focus not only on expanding access but also on promoting active usage and ensuring that the services provided are high-quality, appropriate, and responsive to the needs of low-income users. The non-significance of demographic factors indicates that the benefits of financial inclusion can potentially reach across different segments of the population, rather than being confined to particular demographic profiles.

4.7 Moderating Effect of Financial Literacy

The results regarding moderating effect of financial literacy is presented in sections.

Table 4.15: Model Fitness of Moderating Effect of Financial Literacy

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.830a	0.689	0.683	0.25885

a Predictors: Access to financial services*financial literacy, usage of financial services*financial literacy, quality of the financial products*financial literacy, gender, age bracket, academic qualification, income

The model fitness results in Table 4.15 showed a substantial improvement in the explanatory power of the regression model when financial literacy was included as a moderating variable. The R square value improved from 0.607 in the direct effects model to 0.689 in the moderated model, representing an increase of 0.082 or 8.2 percentage points. This indicates that when financial literacy was introduced as a moderator, the model explained an additional 8.2% of the variance in poverty reduction outcomes. Similarly, the Adjusted R Square, which accounts for the number of predictors in the model, increased from 0.600 to 0.683, showing an improvement of 0.083 or 8.3 percentage points. This substantial increase in explanatory power suggests that financial literacy plays a significant moderating role in the relationship between financial inclusion dimensions and poverty reduction. The magnitude of this increase (8.3 percentage points in Adjusted R Square) is practically significant, indicating that financial literacy substantially enhances the poverty-reducing effects of financial inclusion. Additionally, the decreased standard error of the estimate (from 0.290745 in the direct effects model to 0.25885 in the moderated model) indicates improved precision in the model's predictions, further confirming the value of including financial literacy as a moderating variable.

Table 4.16: Analysis of Variance (ANOVA) of Moderating Effect of Financial Literacy

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.771	7	7.396	110.381	.000b
	Residual	23.384	349	0.067		
	Total	75.155	356			

a Dependent Variable: Poverty reduction

The ANOVA results in Table 4.16 ($F = 110.381$, $p < 0.001$) confirm that the model, including interaction terms and control variables, is statistically significant, reinforcing the moderating role of financial literacy in the relationship between financial inclusion and poverty reduction.

Table 4.17: Regressions Coefficients of Moderating Effect of Financial Literacy

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	0.314	0.110		2.863	0.004
Access to financial services*Financial Literacy	0.129	0.018	0.284	7.323	0.000
Usage of financial services*Financial Literacy	0.124	0.021	0.316	5.936	0.000
Quality of the financial products*Financial Literacy	0.146	0.022	0.336	6.589	0.000
Gender	0.010	0.028	0.011	0.364	0.716
Age Bracket	0.002	0.010	0.006	0.197	0.844
Academic qualification	0.007	0.018	0.012	0.402	0.688
Income	0.006	0.010	0.020	0.658	0.511

a Dependent Variable: Poverty reduction

Hence, after introducing the interaction of financial literacy and including the control variables of gender, age bracket, academic qualification, and income, the regression model thus becomes:

$$Y = 0.314 + 0.129X_1 + 0.124X_2 + 0.146X_3 + 0.010X_4 + 0.002X_5 + 0.007X_6 + 0.006X_7$$

Where: Y= Poverty reduction; X₁= Access to financial services*Financial Literacy; X₂= Usage of financial services*Financial Literacy; X₃= Quality of the financial products*Financial Literacy; X₄= Gender, X₅=Age bracket, X₆= Academic qualification; X₇= Income

The regression results in Table 4.17 show that financial literacy significantly moderates the relationship between financial inclusion and poverty reduction, with strong interaction effects recorded for access ($\beta = 0.129$, $p = 0.000$, Beta = 0.284), usage ($\beta = 0.124$, $p = 0.000$, Beta = 0.316), and quality ($\beta = 0.146$, $p = 0.000$, Beta = 0.336) of financial services. These figures confirm that individuals with higher financial literacy benefit more from financial services in reducing poverty. Control variables including gender ($\beta = 0.010$, $p = 0.716$), age bracket ($\beta = 0.002$, $p = 0.844$), academic qualification ($\beta = 0.007$, $p = 0.688$), and income ($\beta = 0.006$, $p = 0.511$) were not

statistically significant, showing that the moderating role of financial literacy is consistent across various demographic groups; the constant term stood at $\beta = 0.314$ ($p = 0.004$).

These results clearly demonstrate that financial literacy serves as a critical factor that strengthens the relationship between all dimensions of financial inclusion and poverty reduction outcomes. When residents possess greater financial knowledge and skills, they become more capable of using available financial services effectively, making informed decisions about financial products, and managing their resources in ways that improve their economic well-being. This moderating effect means that simply expanding financial access or improving service quality may yield limited benefits if residents lack the financial knowledge to use these services optimally. Financial literacy appears to function as an enabling capability that allows individuals to translate financial opportunities into tangible economic improvements.

The practical implication of these findings is that financial inclusion initiatives in Mukuru Slum and similar contexts should incorporate financial education components to maximize their impact on poverty reduction. The non-significance of demographic control variables further suggests that financial education programs could benefit residents across different age groups, education levels, and income brackets, rather than needing to be highly targeted to specific demographic segments. By addressing both supply-side factors (access and quality of financial services) and demand-side capabilities (financial literacy), policymakers and practitioners can develop more effective strategies for using financial inclusion as a tool for poverty alleviation in urban informal settlements.

4.8 Chapter Summary

This chapter presented the findings related to financial inclusion and poverty reduction in Mukuru Slum. The analysis demonstrated a positive association between poverty alleviation and access to financial services, active engagement with financial instruments and quality of financial offerings. The explanatory power of the regression framework proved substantial, yielding an R-squared value of 0.607 in the model, which increased to 0.689 when financial literacy interaction terms were incorporated. ANOVA testing confirmed the statistical significance of these relationships. Notably, demographic factors including gender, age classification, educational attainment, and income level failed to achieve statistical significance in the model, suggesting that the benefits of financial inclusion transcend socioeconomic and demographic boundaries within the community.

CHAPTER FIVE: DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion of findings, conclusions, recommendations for policy and practice, suggestions for further research, and study limitations, all organized thematically based on the study's specific objectives.

5.2 Discussion of Findings

The discussion of findings was done per objective of the study.

5.2.1 Access to Financial Services

The analysis revealed that access to financial services within the Mukuru Slum Community remains limited, pointing to structural and economic barriers that restrict engagement with formal financial institutions. Factors such as distance to service points, high transaction fees, and rigid documentation requirements appear to hinder residents from fully participating in the financial system. Correlation analysis indicated a strong positive relationship between access to financial services and poverty reduction, and regression findings confirmed that access significantly contributes to lowering poverty levels, even when accounting for other variables such as usage, product quality, and demographic factors. These results emphasize that strengthening access is a foundational step toward economic empowerment in low-income urban settings like Mukuru.

The results of the study indicate that improving access to financial services, combined with efforts to raise financial knowledge, is essential in helping families break out of poverty. When people are equipped with basic skills such as how to budget, save, and understand different financial options, they are better able to make informed choices and take full advantage of the services available to them. Aracil Fernández and colleagues (2022) argue that having strong support systems and institutions in place can make financial inclusion more effective, especially in areas that are often overlooked. Similar findings by Mhlanga (2021), Wang and He (2020), and Mora-Rivera and García-Mora (2021) stress that financial services need to be designed to fit the specific needs of different communities to truly make a difference. Research from Kimani (2022), Effendi and Sunani (2020), Ndlovu and Toerien (2020), and Bello and Oladunjoye (2022) also shows that

wider access to financial tools can lead to job opportunities, help people build assets, and play a major role in reducing poverty, particularly in Sub-Saharan Africa and similar regions.

5.2.2 Usage of Financial Services

The descriptive analysis indicated that the overall usage of financial services in the Mukuru Slum Community is low, suggesting limited engagement even among residents with access to such services. This underutilization may be attributed to factors such as low levels of trust in formal financial institutions, insufficient financial literacy, and perceptions of high costs or risks linked to formal financial products. The correlation results revealed a strong positive association between financial service usage and poverty reduction, implying that increased usage contributes to improved economic outcomes. Furthermore, regression analysis confirmed that the usage of financial services has a significant positive impact on poverty reduction, even when controlling for access, product quality, and demographic variables, highlighting the importance of active financial participation.

These findings underscore the need to encourage and facilitate the use of financial services within the community as a pathway to poverty alleviation. Reducing costs, simplifying procedures, and enhancing the convenience of services—particularly through digital platforms like mobile banking and e-wallets—can boost usage rates. Strengthening consumer protection mechanisms and ensuring efficient dispute resolution can also increase public confidence in financial systems. Broader usage enables households to build financial resilience, manage resources better, and invest in long-term assets, education, and health. The results are consistent with global and regional studies, including those by Wang and He (2020), Kelikume (2021), Appiah-Otoo and Song (2021), and Shofawati (2019), who all link financial service adoption with poverty reduction. Other supportive findings include those by Seng (2020), Ratnawati (2020), Mwangi (2017), Omar and Inaba (2020), and Kariuki and Muturi (2018), reinforcing that the effective use of financial services is critical for improving livelihoods and promoting inclusive economic growth.

5.2.3 Quality of the Financial Products and Service Delivery

The descriptive results revealed a relatively low perception of financial service quality, indicating that many residents are dissatisfied with both the features of available financial products and the manner in which services are delivered. This dissatisfaction may stem from poor customer support, limited product diversity, or inefficiencies in service provision. Correlation analysis revealed a

significant and positive relationship between quality of financial services and poverty reduction, and regression analysis confirmed that quality plays a substantial role in reducing poverty, even after controlling for access, usage, and demographic factors. These findings suggest that improving the quality of financial offerings is crucial for enhancing financial inclusion and improving the economic well-being of the community.

The implications point to the need for financial institutions to prioritize service excellence and user satisfaction as core elements of poverty alleviation strategies. Enhancing customer care, ensuring clear communication, providing relevant product features, and leveraging technology to streamline service delivery can significantly boost trust in the financial system. By adopting client-centered approaches and strengthening digital infrastructure, providers can better meet the needs of low-income communities like Mukuru. These findings align with prior research by Mwangi (2017), Lyons et al. (2020), and Dawood et al. (2019), who emphasized the importance of accessible, responsive, and dependable financial services for low-income users. Studies by Chen and Zhao (2021) and Cheng et al. (2019) further support the view that high-quality financial services, especially those enabled by digital platforms, promote entrepreneurship, reduce information barriers, and facilitate access to credit. Likewise, Inoue (2019) and Zhou and Wang (2021) emphasize that financial education, paired with high-quality digital services, can significantly improve financial outcomes, health, education, and overall well-being—particularly in underserved regions.

5.2.4 Moderating Effect of Financial Literacy

The study revealed that financial literacy skills are mostly poor, indicating a restricted ability among people to make prudent financial choices or efficiently use financial services. Nonetheless, regression analysis indicated that financial literacy substantially amplifies the impact of financial inclusion on poverty alleviation. This underscores the need for comprehensive and fair financial education initiatives that empower all community segments. Previous studies have reached similar conclusions, including Mapuasari (2020), who identified financial literacy as a crucial moderator in enhancing savings outcomes; Tran and Le (2021), who associated financial inclusion with diminished poverty through improved education and economic openness; and Kim, Lee, and Lee (2019), who illustrated its function in alleviating inequality in financial access. Other scholars, including Bire, Sauw, and Maria (2019) and Angeles (2022), assert that enhancing financial

literacy improves financial behaviour, mitigates vulnerability, and aids in long-term poverty alleviation—conclusions that underscore the necessity of integrating financial education into inclusive development initiatives.

The findings revealed that financial literacy significantly moderates the relationship between all dimensions of financial inclusion and poverty reduction. When residents possess higher levels of financial literacy, the positive effects of access, usage, and quality on poverty reduction are strengthened. This moderating effect is particularly important in the context of Mukuru Slum, where both financial literacy and financial inclusion levels were found to be low. The results suggest that interventions aimed at both expanding financial services and enhancing financial knowledge would be more effective than addressing either aspect in isolation. Financial education may help residents overcome barriers to effective financial service utilization, such as lack of trust, limited understanding of product features, or uncertainty about how to use digital platforms. By equipping individuals with the knowledge and confidence to engage with financial services, financial literacy enables them to derive greater economic benefits from the financial opportunities available to them, ultimately contributing to more substantial poverty reduction.

5.3 Conclusion

The study concludes that access to financial services plays a significant role in reducing poverty in the Mukuru Slum Community. Findings revealed that access remains limited, with many residents facing structural and economic barriers such as high costs, inadequate proximity to financial institutions, and documentation challenges. Although some challenges remain, the data clearly showed that better access to financial services is strongly linked to reduced poverty levels. This finding emphasizes the need to eliminate barriers that prevent people from using formal financial systems. Making these services easier to reach and more inclusive allows individuals to build savings, make small investments, and protect themselves against unexpected financial shocks—strengthening their ability to cope with economic hardship. For this to work effectively, efforts to improve access should go hand in hand with supportive infrastructure and policies that make financial services more affordable, user-friendly, and relevant to the needs of low-income communities.

The study concludes that usage of financial services is a critical determinant of poverty reduction in the community. Although access exists to some extent, active usage remains low due to factors

such as lack of trust, low financial literacy, and perceived risks or costs. However, both correlation and regression analyses confirmed that higher usage of financial services is significantly linked to reductions in poverty. This underscores the need to encourage regular engagement with financial tools by improving affordability, trust, and service convenience through innovations such as mobile banking and digital finance platforms.

The study further concludes that the quality of financial products and service delivery has a direct and positive impact on poverty reduction in the Mukuru Slum Community. Residents reported dissatisfaction with product relevance, customer support, and the usability of services, which negatively affects their financial participation. However, statistical evidence confirmed that when financial products are perceived as high quality and are delivered efficiently, they contribute meaningfully to poverty alleviation. This finding emphasizes the need for financial institutions to prioritize client-centered approaches, responsive service delivery, and the development of financial solutions tailored to low-income populations. A focus on quality not only builds trust in the financial system but also encourages long-term engagement. Therefore, service design must be inclusive, transparent, and responsive to the everyday realities of underserved communities.

Lastly, the study concludes that financial literacy significantly moderates the relationship between financial inclusion and poverty reduction. The findings support the integration of financial education into inclusion efforts and affirm the importance of building financial capability across all population segments to enhance the poverty-reducing potential of financial services. When individuals understand how to effectively use financial tools, they are more empowered to make informed decisions and avoid financial pitfalls. Thus, advancing financial literacy is not just complementary to inclusion-it is a foundational element for sustainable poverty reduction.

5.4 Recommendations

The recommendations include the recommendations for practice and policy.

5.4.1 Recommendations for Practice

Based on the findings, financial institutions and community development actors should prioritize designing outreach strategies that specifically target underserved populations to improve access to financial services in Mukuru Slum. Mobile banking units, agent banking, and community-based financial centers should be established closer to where people live and work to eliminate distance

and accessibility barriers. Additionally, service providers should simplify account opening processes and reduce documentation requirements to encourage more residents to enter the formal financial system. Affordable pricing models and fee structures should be introduced to accommodate low-income earners. A deliberate effort should be made to ensure that financial access is not just available, but truly reachable and inclusive for all community members.

Promoting greater usage of financial services should be a key priority for financial sector stakeholders and development practitioners. Institutions should build trust through transparent communication, user education, and simplified digital platforms that are intuitive and safe to use. Mobile financial services and digital wallets should be tailored to the economic behavior of low-income users, making routine transactions like saving, borrowing, and bill payments more convenient. Additionally, community awareness campaigns should be launched to highlight the benefits of regularly engaging with financial services. To foster sustained usage, financial providers should also implement customer reward programs and usage-based incentives that motivate individuals to maintain active financial habits.

Improving the quality of financial products and service delivery should be at the center of financial inclusion strategies in informal settlements like Mukuru. Financial institutions should invest in training their staff to adopt a customer-first mindset, emphasizing respectful, responsive, and culturally sensitive service. Product development teams should work closely with local communities to co-create financial solutions that reflect their realities, such as flexible savings plans, low-interest microloans, or group-based lending models. Moreover, digital systems should be optimized for reliability and ease of use, ensuring users can complete transactions without delays or technical frustrations. Feedback mechanisms should be institutionalized to allow clients to report challenges and help institutions continuously refine their service delivery.

Given the moderating role of financial literacy, there should be a strong emphasis on integrating financial education into financial inclusion programs. Stakeholders should develop community-based training initiatives that equip residents with practical skills in budgeting, saving, borrowing, and evaluating financial risks. These programs should be delivered in local languages, using relatable examples and interactive formats to enhance engagement. Schools, churches, and local youth centers should be involved as key partners in delivering financial literacy programs across age groups. Ultimately, efforts to improve financial inclusion should be accompanied by

consistent, accessible, and relevant financial literacy initiatives that empower individuals to make informed choices and use financial services to improve their lives.

5.4.2 Recommendations for Policy

To expand access to financial services in low-income urban areas like Mukuru Slum, policymakers should enact supportive frameworks that promote inclusive finance infrastructure. Regulations should encourage the licensing and growth of alternative delivery channels such as agent banking, mobile money operators, and community microfinance initiatives. Government-led financial inclusion strategies should mandate the presence of financial touchpoints within underserved areas to reduce geographic exclusion. In addition, policymakers should work with stakeholders to streamline Know Your Customer (KYC) requirements, making it easier for individuals without formal identification or address documentation to open and maintain financial accounts. By removing structural entry barriers, policy can play a pivotal role in democratizing access to financial services for vulnerable populations.

To increase the usage of financial services, public policy should support the integration of digital technologies and expand digital literacy across informal settlements. Incentivizing financial service providers to develop low-cost, high-impact digital products can help make formal finance more appealing to the urban poor. Policies should also promote interoperability between mobile platforms to enable seamless transactions, regardless of the provider. Moreover, regulations should ensure consumer protection laws are not only in place but also enforced, so users feel safe engaging with financial products. When trust is backed by supportive policy, residents are more likely to actively use financial services as part of their daily lives.

Enhancing the quality of financial products and service delivery requires regulatory oversight that prioritizes consumer welfare. Policies should require financial institutions to regularly assess and report on client satisfaction, product suitability, and service responsiveness, particularly in marginalized areas. Regulatory frameworks should promote financial product innovation that reflects the needs of diverse income groups, including low-income earners and informal workers. Additionally, policies should enforce transparency standards that require clear disclosure of fees, terms, and conditions to prevent exploitation or misinformation. Strengthening these areas through targeted policy action ensures that financial inclusion is not only widespread but also meaningful and equitable.

Finally, given a moderating effect of financial literacy, national financial inclusion policies should embed financial education as a core component. Governments should collaborate with education ministries, local authorities, and financial institutions to roll out structured financial literacy programs in schools, community centers, and through digital platforms. These programs should be designed with input from local communities to ensure cultural and contextual relevance. Financial literacy should also be integrated into adult education and vocational training programs to reach a wider audience, particularly those outside the formal education system. Ultimately, policy must recognize that financial access without understanding limits impact—empowering citizens through education is essential for sustainable poverty reduction.

5.4.3 Contribution to Knowledge

This study contributes to the body of knowledge by offering empirical evidence on how access to financial services influences poverty reduction in informal urban settlements, specifically within the Mukuru Slum Community in Kenya. While previous studies have generally focused on rural contexts or national-level data, this research provides localized insights into the barriers and opportunities faced by low-income urban populations. By highlighting the importance of proximity, affordability, and simplified account requirements, the study fills a gap in understanding how structural access limitations affect financial inclusion in densely populated informal settlements.

The study further extends the literature on financial inclusion by demonstrating that usage—not just access—is a critical factor in poverty alleviation. It adds to current knowledge by showing that residents in informal urban settings may have access to financial services but still refrain from using them due to trust issues, perceived risk, or financial illiteracy. The findings support the view that usage is a behavioral and systemic outcome that must be nurtured through user-centered financial solutions and supportive institutional environments. This distinction between access and usage offers new avenues for future research on the behavioral dimensions of financial inclusion.

Additionally, the research contributes to the understanding of how service quality impacts financial inclusion outcomes. It provides new insights into how the responsiveness, relevance, and transparency of financial services influence poverty reduction in marginalized communities. Unlike many studies that focus on quantity of access, this study emphasizes the qualitative aspects that drive meaningful engagement with financial services. The findings underscore that product

design, user experience, and customer support are not peripheral issues but central drivers of inclusion and empowerment.

Finally, since financial literacy plays a vital role in how people use financial services, it is important that national financial inclusion strategies make financial education a central focus. Governments should work hand-in-hand with education ministries, local leaders, and financial institutions to introduce well-structured financial literacy programs. These programs can be delivered in schools, community spaces, and online, making them accessible to all. To be effective, the content should reflect the local context, language, and culture, ensuring it resonates with the people it is meant to serve. It's also important to include financial education in adult learning and vocational training so that even those who didn't go through the formal school system can benefit.

5.5 Areas for Further Research

The study established that access to financial services, the extent to which these services are used, and the quality of financial products collectively account for 60.7 percent of the changes observed in poverty reduction within the Mukuru Slum Community in Kenya. This indicates that these three factors significantly contribute to improving the economic well-being of residents in low-income urban areas. However, it also implies that 39.3 percent of the variation in poverty levels is influenced by other factors not captured in this research. This gap points to the need for further investigation to identify additional variables that may play a role in poverty alleviation. Moreover, since the study focused solely on Mukuru Slum, its findings may not be directly applicable to other informal settlements or low-income communities with different characteristics. Future research should be carried out in diverse settings, allowing for a broader understanding of how financial services interact with poverty across different regions.

5.6 Limitations of the Study

The study experienced several real limitations during its execution. First, data collection in Mukuru Slum was affected by security concerns and poor accessibility in certain sections, which limited the ability to reach some targeted households. To address this, the research team worked closely with local community leaders and used guided transect walks to safely access high-risk zones. Secondly, low literacy levels among some respondents posed a challenge in completing the questionnaires, particularly for items requiring interpretation of financial terms. To mitigate this, trained research assistants were deployed to verbally administer the questionnaires in Kiswahili

and simplified English, ensuring clarity and consistency in responses. Third, some participants were hesitant to disclose sensitive financial information such as income or savings habits, resulting in partial responses or skipped items. The study responded by assuring anonymity, building rapport with participants, and incorporating non-threatening phrasing in the questionnaire to encourage openness. Additionally, cases with significant missing data were systematically excluded, and a final verification step was used to clean and validate the dataset. Finally, while financial and time constraints prevented comparative analysis with other informal settlements, the study employed stratified sampling across all villages within Mukuru to ensure representativeness and enhance the reliability of findings within the chosen context.



REFERENCES

- Abuya, B. A., Mutisya, M., Onsomu, E. O., Ngware, M., & Oketch, M. (2019). Family structure and child educational attainment in the slums of Nairobi, Kenya. *Sage Open*, 9(2), 215-218.
- Adam, F. (2014). *Methodological and Epistemic Framework: From Positivism to Post-positivism*. Penguin Random House, London
- Adomako, S., & Danso, A. (2014). Financial literacy and firm performance: The moderating role of financial capital availability and resource flexibility. *International Journal of Management & Organizational Studies*, 3(4), 1-15.
- Agyekum, F., Locke, S., & Hewa-Wellalage, N. (2016). Financial inclusion and digital financial services: Empirical evidence from Ghana. MPRA Paper No. 82885. Munich, Germany: Munich Personal RePEc Archive. Retrieved from <https://mpra.ub.uni-muenchen.de/82885/>
- Ajide, F. (2021). Financial inclusion and rural poverty reduction: Evidence from Nigeria. *International Journal of Management Sciences and Humanities*, 3(2), 45-63.
- Anarfo, E. B., & Abor, J. Y. (2020). Financial regulation and financial inclusion in Sub-Saharan Africa: Do financial stability play a moderating role? *Research in International Business and Finance*, 5(1), 101-107.
- Angeles, I. T. (2022). The Moderating effect of Digital and Financial Literacy on the Digital Financial Services and Financial Behavior of MSMEs. *Review of Economics and Finance*, 20(20), 505-515.
- Appiah-Otoo, I., & Song, N. (2021). The impact of fintech on poverty reduction: Evidence from China. *Sustainability*, 13(9), 5225.
- Aracil Fernández, E. M., Gómez Bengoechea, G., & Moreno De Tejada, O. (2022). Institutional quality and the financial inclusion-poverty alleviation link: Empirical evidence across countries. *Journal of Economic Studies*, 49(5), 824-846.
- Armendáriz, B., Morduch, J. (2010). *The Economics of Microfinance, Second Edition*. MIT Press.
- Arnold, L. G., & Riley, J. G. (2009). On the possibility of credit rationing in the stiglitz-weiss model. *American Economic Review*, 99(5), 2012-21.
- Babu, N. (2020). *Effect of Digital Credit on Poverty Reduction among Low Income Borrowers in Kenya: A Case of Major Digital Credit Providers in Kenya* (Doctoral dissertation, United States International University-Africa).
- Banerjee, A., Duflo, E., Glennerster, R., Kinnan, C. (2015). The Miracle of Microfinance? Evidence from a Randomized Evaluation. *American Economic Journal: Applied Economics*, 7(1), 22-53.
- Beck, T., Demirgüç-Kunt, A., & Levine, R. (2007). Finance, inequality and the poor. *Journal of Economic Growth*, 12(1), 27-49.
- Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. New York: National Bureau of Economic Research.

- Becker, G. S. (1993). *Human capital: A theoretical and empirical analysis with special reference to education* (3rd ed.). Chicago: University of Chicago Press.
- Bello, T. W., & Oladunjoye, O. N. (2020). Access To Finance and Rate of Poverty in Sub-Saharan Africa. *Ilorin Journal of Economic Policy*, 7(1), 67-82.
- Bennett, L. (2002). Using empowerment and social inclusion for pro-poor growth: a theory of social change. *Working draft of background paper for the social development strategy paper*. Washington, DC: World Bank.
- Bire, A. R., Sauw, H. M., & Maria, M. (2019). The effect of financial literacy towards financial inclusion through financial training. *International Journal of Social Sciences and Humanities*, 3(1), 186-192.
- Bojuwon, M., Olaleye, B. R., & Ojebode, A. A. (2023). Financial Inclusion and Financial Condition: The Mediating Effect of Financial Self-efficacy and Financial Literacy. *Vision*, 4(2), 37-45.
- Bonnet, J., Cieply, S., & Dejardin, M. (2016). Credit rationing or overlending? An exploration into financing imperfection. *Applied Economics*, 48(57), 5563-5580.
- Buteau, S. & Valenti, F. (2021). Emerging insights from digital solutions in financial inclusion. *CSI Transactions on ICT*, 9(2), 105-114.
- Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment*. Sage publications. California
- Central Bank of Kenya (2020). FinAccess National Survey 2019: Financial Inclusion for Wealth Creation. Retrieved from <https://www.centralbank.go.ke/wp-content/uploads/2020/04/FinAccess-Survey-2019.pdf>
- Central Bank of Kenya (2021). 2021 FinAccess Household Survey. Retrieved from <https://www.centralbank.go.ke/wp-content/uploads/2022/08/2021-Finaccesss-Survey-Report.pdf>
- Central Bank of Kenya. (2024). *Annual Report and Financial Statements 2023/2024*. Nairobi: CBK Publications. Retrieved from <https://www.centralbank.go.ke/reports/annual-reports/>
- Chen, B., & Zhao, C. (2021). Poverty reduction in rural China: Does the digital finance matter? *Plos one*, 16(12), e0261214.
- Cheng, S. H., MacLeod, K., Ahlroth, S., Onder, S., Perge, E., Shyamsundar, P., ... & Miller, D. C. (2019). A systematic map of evidence on the contribution of forests to poverty alleviation. *Environmental Evidence*, 8, 1-22.
- Chole, L. (2017). *Effect Of Services Offered By Microfinance Institutions On Performance Of Micro And Small Enterprises In Kariobangi Light Industry In Nairobi, Kenya* (Doctoral dissertation, KCA University).
- Churchill, S. A., & Marisetty, V. B. (2020). Financial inclusion and poverty: A tale of forty-five thousand households. *Applied Economics*, 52(16), 1777–1788
- Cole, S., Sampson, T., & Zia, B. (2011). Prices or knowledge? What drives demand for financial services in emerging markets? *Journal of Finance*, 66(6), 1933-1967.
- Comrey, A. L., & Lee, H. B. (2013). *A first course in factor analysis*. Psychology press.

- Cooper, D. R., & Schindler, P. S. (2014). *Business Research Methods. Data Preparation and Description*. McGraw-Hill Irwi. Boston
- Cordier, R., Milbourn, B., Martin, R., Buchanan, A., Chung, D., & Speyer, R. (2017). A systematic review evaluating the psychometric properties of measures of social inclusion. *PloS one*, *12*(6), 17-29
- Creswell, J. W. (2014). *A concise introduction to mixed methods research*. SAGE publications.
- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications. California
- Cronbach, L., J. (1951). Coefficient alpha and the internal structure of tests. *psychometrika*, *16*(3), 297-334.
- Cull, R., Ehrbeck, T., & Holle, N. (2014). *Financial inclusion and development: Recent impact evidence*. Washington, DC: CGAP.
- Danisman, G. O., & Tarazi, A. (2020). Financial inclusion and bank stability: Evidence from Europe. *The European Journal of Finance*, *26*(18), 1842-1855.
- Dawood, T. C., Pratama, H., Masbar, R., & Effendi, R. (2019). Does financial inclusion alleviate household poverty? Empirical evidence from Indonesia. *Economics & Sociology*, *12*(2), 235–252
- Demirgüç-Kunt, A., & Klapper, L. (2013). Measuring financial inclusion: Explaining variation in use of financial services across and within countries. *Brookings Papers on Economic Activity*, *2013*(1), 279-340.
- Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). *The Global Findex Database 2017: Measuring financial inclusion and the fintech revolution*. Washington, D.C.: The World Bank
- East African Community Secretariat. (2024). *East African Community Financial Sector Development and Regionalization Project: Annual Progress Report 2023*. Arusha: EAC Publications.
- Effendi, M. B., & Sunani, A. (2020). Analysis of Access to Financial Services on Poverty Alleviation with MARS Approach. *Journal of Economics, Business, & Accountancy Ventura*, *23*(1), 125-137.
- Eton, M., Basheka, B. C., & Mwosi, F. (2020). Co-operative and saving societies (SACCOS) and poverty reduction in Lango and Kigezi sub-regions of Uganda: A comparative empirical study. *International Journal of Regional Development*, *7*(1), 63-82.
- Fama, E. F. (1998). Market efficiency, long-term returns, and behavioral finance. *Journal of Financial Economics*, *49*(3), 283-306.
- FSD Kenya. (2024). *State of Financial Inclusion in Kenya 2023*. Nairobi: FSD Kenya. Retrieved from <https://www.fsdkenya.org/publications/state-of-financial-inclusion-kenya-2023/>
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-statisticians. *International journal of endocrinology and metabolism*, *10*(2), 486.

- Gidley, J. M., Hampson, G. P., Wheeler, L., & Bereded, S., E. (2010). From access to success: An integrated approach to quality higher education informed by Grameen model and practice. *Higher Education Policy*, 23(1), 123-147.
- Gildas, I., & Wilson, N. D. (2022). The Role of Financial Inclusion and its Gender Patterns in Poverty Reduction among Rice Farmers of Gihanga District in Burundi. *Journal of Agricultural Economics and Development*, 11(1), 16-29.
- Gliem, J. A., & Gliem, R. R. (2003). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. Midwest Research to-Practice Conference in Adult, Continuing, and Community Education.
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, 8(4), 597-606.
- Grohmann, A., Klühs, T., & Menkhoff, L. (2018). Does financial literacy improve financial inclusion? Cross country evidence. *World Development*, 11(1), 84-96.
- Gubbins, P., & Heyer, A. (2022). *The State of Financial Health in Kenya: Evidence from FinAccess*. Nairobi: FSD Kenya.
- Gurley, J. G., & Shaw, E. S. (1960). *Money in a theory of finance*. Washington, DC: Brookings Institution.
- Hall, S. A. (2009). The social inclusion of people with disabilities: a qualitative meta-analysis. *Journal of ethnographic & qualitative research*, 3(3), 17-31
- Hannig, A., & Jansen, S. (2010). *Financial inclusion and financial stability: Current policy issues*. ADBI Working Paper 259. Tokyo: Asian Development Bank Institute.
- Hayday, E. J., & Collison, H. (2020). Exploring the contested notion of social inclusion and gender inclusivity within esports spaces. *Social Inclusion*, 8(3), 197-208.
- Hemani, G., Tilling, K., & Smith, G. (2017). Orienting the causal relationship between imprecisely measured traits using GWAS summary data. *PLoS genetics*, 13(11), e1007081.
- Hill, R. (1998). What sample size is "enough" in internet survey research. *Interpersonal Computing and Technology: An electronic journal for the 21st century*, 6(3-4), 1-12.
- Hulme, D., Mosley, P. (2008). *Microfinance and Poverty Reduction*. Oxfam.
- Husni, M. E., Meyer, K. H., Cohen, D. S., Mody, E., & Qureshi, A. A. (2007). The PASE questionnaire: pilot-testing a psoriatic arthritis screening and evaluation tool. *Journal of the American Academy of Dermatology*, 57(4), 581-587.
- Hussaini, U., & Chibuzo, I. C. (2018). The effects of financial inclusion on poverty reduction: The moderating effects of microfinance. *International Journal of Multidisciplinary Research and Development*, 5(12), 188-198.
- Ibrahim, H. B., Manu, D., Adamu, I., Jediel, E. H., Kasima, W., Hajara, B., & Yusrah, I. (2019). An examination of the Impact of Financial Inclusion on Poverty Reduction: An Empirical Evidence from Sub-Saharan Africa. *International Journal of Scientific and Research Publications*, 9(1), 239-252.
- Inoue, T. (2019). Financial inclusion and poverty reduction in India. *Journal of Financial Economic Policy*, 11(1), 21-33.

- International Monetary Fund. (2024). *Financial Access Survey 2023: Trends and Developments*. Washington, DC: IMF Publications.
- Iyortsuun, A. S., Angahar, J. S., & Lukden, R. W. (2018). The Moderating Roles of Government in Poverty Reduction in Nigerian. *Archives of Business Research*, 6(12), 345-357.
- Jain, N. (2021). Survey versus interviews: Comparing data collection tools for exploratory research. *The Qualitative Report*, 26(2), 541-554.
- Jappelli, T., & Padula, M. (2013). Investment in financial literacy and saving decisions. *Journal of Banking & Finance*, 37(8), 2779-2792.
- Kaidi, N., Mensi, S., & Ben Amor, M. (2019). Financial development, institutional quality and poverty reduction: worldwide evidence. *Social Indicators Research*, 141, 131-156.
- Kaluwa, B., & Kunyenje, C. A. (2019). The Paradox of the Financial Inclusion-Poverty Nexus in Malawi. *African Review of Economics and Finance*, 38-66.
- Kamau, C. W., & Kabue, H. (2020). Influence of Motivation of Community Health Volunteers on Implementation of Community Health Projects: A Case of Mukuru Slum Community, Nairobi County, Kenya. *Journal of Entrepreneurship & Project Management*, 4(5), 1-16.
- Kariuki, M. P., & Muturi, W. (2018). Determinants Of Financial Inclusion in Kenya's Urban Informal Settlements: A Case Study of Mathare in Nairobi County. *International Journal of Social Sciences and Information Technology*, 4(5), 582-603.
- Karlan, D., Zinman, J. (2011). Microcredit in Theory and Practice: Using Randomized Credit Scoring for Impact Evaluation. *Science*, 332(6035), 1278-1284.
- Kass-Hanna, J., Lyons, A. C., & Liu, F. (2022). Building financial resilience through financial and digital literacy in South Asia and Sub-Saharan Africa. *Emerging Markets Review*, 51, 100846.
- Katrutsa, A., & Strijov, V. (2017). Comprehensive study of feature selection methods to solve multicollinearity problem according to evaluation criteria. *Expert Systems with Applications*, 76, 1-11.
- Kelikume, I. (2021). Digital financial inclusion, informal economy and poverty reduction in Africa. *Journal of Enterprising Communities: People and Places in the Global Economy*, 15(4), 626-640.
- Kenya Integrated Household Budget Survey (KIHBS). (2023). *Comprehensive Poverty Analysis Report*. Nairobi: Kenya National Bureau of Statistics.
- Kenya National Bureau of Statistics. (2023). *Economic Survey 2023*. Nairobi: Government Printer.
- Kenya National Bureau of Statistics. (2024). *Statistical Abstract 2024*. Nairobi: Government Printer.
- Khandker, S. R. (2005). Microfinance and Poverty: Evidence Using Panel Data from Bangladesh. *The World Bank Economic Review*, 19(2), 263-286.
- Kim, K. H. (2020). The role of mobile money in improving the financial inclusion of Nairobi's urban poor. *African Journal of Science, Technology, Innovation and Development*, 12(7), 855-865.

- Kim, K. T., Lee, J., & Lee, J. M. (2019). Exploring racial/ethnic disparities in the use of alternative financial services: the moderating role of financial knowledge. *Race and Social Problems*, 11(2), 149-160.
- Kimani, H. K. (2022). The Role of Access to Finances and Poverty Reduction in Developing Countries. A Critical Literature Review. *International Journal of Poverty, Investment and Development*, 2(2), 1-9.
- Kirea, E. M., & Omwenga, J. Q. (2023). Determinants of Waste Management Programmes on Sustainable Environmental Conservation in Mukuru Slums in Kenya. *International Journal of Social Science and Humanities Research*, 1(1), 137-150.
- Kirea, E. M., & Omwenga, J. Q. (2023). Determinants of Waste Management Programmes on Sustainable Environmental Conservation in Mukuru Slums in Kenya. *International Journal of Social Science and Humanities Research (IJSSHR) ISSN 2959-7056 (o); 2959-7048 (p)*, 1(1), 137-150.
- Kohon, J. (2018). Social inclusion in the sustainable neighborhood? Idealism of urban social sustainability theory complicated by realities of community planning practice. *City, culture and society*, 15, 14-22.
- Koomson, I., Villano, R. A., & Hadley, D. (2020). Effect of financial inclusion on poverty and vulnerability to poverty: Evidence using a multidimensional measure of financial inclusion. *Social Indicators Research*, 149(1), 613–639.
- Kotrlik, J. W., & Higgins, C. C. H. C. C. (2001). Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information technology, learning, and performance journal*, 19(1), 43-47
- Kouladoum, J. C., Wirajing, M. A. K., & Nchofoung, T. N. (2022). Digital technologies and financial inclusion in Sub-Saharan Africa. *Telecommunications Policy*, 46(9), 102387.
- Krejcie, R.V., & Morgan, D.W., (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*. Retrieved from <https://www.kenpro.org/sample-size-determination-using-krejcie-and-morgan-table/>
- Krosnick, J. A. (2018). Questionnaire design. In *The Palgrave handbook of survey research* (pp. 439-455). Palgrave Macmillan, Cham.
- Kundu, J. M. (2016). *Effect Of Micro-Finance Services In Poverty Alleviation In Slum Areas In Nairobi County* (Doctoral dissertation, University of Nairobi).
- Kyung-ha Kim (2020): The role of mobile money in improving the financial inclusion of Nairobi's urban poor, *African Journal of Science, Technology, Innovation and Development*, DOI: 10.1080/20421338.2020.1733281
- Lee, C. C., Lou, R., & Wang, F. (2023). Digital financial inclusion and poverty alleviation: Evidence from the sustainable development of China. *Economic Analysis and Policy*, 77, 418-434.
- Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, 35(2), 688-726.

- Llanto, G. M., Rosellon, M. A. D., & Ortiz, M. K. P. (2018). E-Finance in the Philippines: Status and prospects for digital financial inclusion (Discussion Paper Series No. 2018-22). Quezon City, Philippines: Research Information Department, Philippine Institute for Development Studies
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature*, 52(1), 5-44.
- Luukkonen, R., Saikkonen, P., & Teräsvirta, T. (2008). Testing linearity against smooth transition autoregressive models. *Biometrika*, 75(3), 491-499.
- Lyons, A. C., Grable, J. E., & Zeng, T. (2019). Impacts of financial literacy on loan demand of financially excluded households in China. ADBI Working Paper Series No. 923. Tokyo, Japan: Asian Development Bank Institute.
- Lyons, A., Kass-Hanna, J., & Greenlee, A. (2020). Impacts of financial and digital inclusion on poverty in South Asia and Sub-Saharan Africa. *Financial Planning Review*, 3(4), e1095.
- Mabert, V. A., Soni, A., & Venkataramanan, M. A. (2003). Maximum likelihood" confirmatory" factor analysis. *International Economic Review*, 4(1), 37-54.
- Mahadik, S. B., & Shirke, D. T. (2011). A special variable sample size and sampling interval Hotelling's T² chart. *The International Journal of Advanced Manufacturing Technology*, 53(1), 379-384.
- Mapuasari, S. A. (2020, May). How Does Financial Inclusion Optimize Bank Savings? A Moderating Function of Financial Literacy. In *5th Sriwijaya Economics, Accounting, and Business Conference (SEABC 2019)* (pp. 322-328). Atlantis Press.
- Mhlanga, D. (2021). *Financial inclusion and poverty reduction: evidence from small scale agricultural sector in Manicaland Province of Zimbabwe* (Doctoral dissertation, North-West University (South Africa)).
- Mincer, J. (1974). *Schooling, experience, and earnings*. New York: Columbia University Press.
- Modigliani, F., & Brumberg, R. (1954). Utility analysis and the consumption function: An interpretation of cross-section data. In K. K. Kurihara (Ed.), *Post Keynesian Economics* (pp. 388-436). New Brunswick, NJ: Rutgers University Press.
- Momanyi, D. K. (2018). *Influence of financial regulation in Kenya on financial inclusion: A case study of the banking industry in Kenya* (No. 25). KBA Centre for Research on Financial Markets and Policy Working Paper Series.
- Mora-Rivera, J., & García-Mora, F. (2021). Internet access and poverty reduction: Evidence from rural and urban Mexico. *Telecommunications Policy*, 45(2), 102076.
- Morduch, J., Haley, B. (2002). Analysis of the Effects of Microfinance on Poverty Reduction. NYU Wagner Working Paper No. 1014.
- Mugo, M., & Kilonzo, E. (2017). Community-Level Impacts of Financial Inclusion in Kenya with Particular Focus on Poverty Eradication and Employment Creation. *Central Bank of Kenya*, 13.

- Mukalayi, N. M., & Inglesi, R. (2023). Digital financial inclusion and energy and environment: global positioning of sub-Saharan African countries. *Renewable and Sustainable Energy Reviews*, 173, 113069.
- Murage, M. (2021). Financial Inclusion and Poverty Alleviation in Kenya: Effects of Mobile Loan Interest Rates on the Financial Performance of SMEs in Urban Informal Settlements. *Science Mundi*, 1(1), 96-104.
- Mutai, C., Ombachi, N., Simiyu, R., & Mutai, C. (2020). Public Health in Urban Spaces; Vulnerability of Youth to Drug Abuse in Nairobi's Mukuru Kwa Njenga Informal Settlements, Kenya. *A qualitative study exploring the views on tobacco use and cessation support among patients in Kenya. African Journal of Alcohol & Drug Abuse* 4(2), 27-38
- Mwangi, I. W. (2017). *Dynamics of financial inclusion and welfare in Kenya* (Doctoral dissertation, University of Nairobi).
- National Bank of Rwanda. (2024). *Financial Inclusion Report 2023*. Kigali: NBR Publications.
- Naumenkova, S., Mishchenko, S., & Dorofeiev, D. (2019). Digital financial inclusion: Evidence from Ukraine. *Investment Management & Financial Innovations*, 16(3), 194.
- Ndlovu, G., & Toerien, F. (2020). The distributional impact of access to finance on poverty: Evidence from selected countries in Sub-Saharan Africa. *Research in International Business and Finance*, 52, 101477.
- Nsiah, A. Y., Yusif, H., Tweneboah, G., Agyei, K., & Baidoo, S. T. (2021). The effect of financial inclusion on poverty reduction in Sub-Saharan Africa: Does threshold matter? *Cogent Social Sciences*, 7(1), 1903138.
- Nsiah, A. Y., Yusif, H., Tweneboah, G., Agyei, K., & Baidoo, S. T. (2021). The effect of financial inclusion on poverty reduction in Sub-Saharan Africa: Does threshold matter? *Cogent Social Sciences*, 7(1), 1903138.
- Okello, G., Ntayi, J. M., Munene, J. C., & Malinga, C. A. (2018). Mobile money and financial inclusion in sub-Saharan Africa: the moderating role of social networks. *Journal of African Business*, 19(3), 361-384.
- Oluoch, F. O., K'Aol, G., & Kosha, J. (2021). Moderating Influence of Financial literacy on the Relationship between Strategic Leadership and Financial Sustainability of NGOs in Kenya. *The University Journal*, 3(2), 78-96.
- Omar, M. A., & Inaba, K. (2020). Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis. *Journal of economic structures*, 9(1), 1-25.
- Otieno, P. O., Wambiya, E. O., Mohamed, S. M., Mutua, M. K., Kibe, P. M., Mwangi, B., & Donfouet, H. P. P. (2020). Access to primary healthcare services and associated factors in urban slums in Nairobi-Kenya. *BMC Public Health*, 20(1), 1-9.
- Petersen, C., Schmidt, S., & Bullinger, M. (2004). Brief report: development and pilot testing of a coping questionnaire for children and adolescents with chronic health conditions. *Journal of Pediatric Psychology*, 29(8), 635-640.
- Pocock, D. (1957). The bases of faction in Gujerat. *The British Journal of Sociology*, 8(4), 295-306.

- Pompian, M. M. (2012). *Behavioral finance and wealth management: how to build investment strategies that account for investor biases* (Vol. 667). John Wiley & Sons
- Rahi, S. (2017). Research design and methods: A systematic review of research paradigms, sampling issues and instruments development. *International Journal of Economics & Management Sciences*, 6(2), 1-5.
- Rahman, H., Shafique, M. N., Khurshid, M. M., Asghar, M. S., & Ghafoor, S. (2020). Factors influencing Digital Payments adoption in Pakistan. *Sarhad Journal of Management Sciences*, 6(1), 69-80.
- Rao, T. S., & Gabr, M. M. (2010). A test for linearity of stationary time series. *Journal of time series analysis*, 1(2), 145-158.
- Ratnawati, K. (2020). The impact of financial inclusion on economic growth, poverty, income inequality, and financial stability in Asia. *The Journal of Asian Finance, Economics, and Business*, 7(10), 73-85.
- Ruben Centre (2022). Mukuru: The Situation & Our Response. [https://www.rubencentre.org/mukuru-the-situation-our-response#:~:text=The percent20majority percent20is percent20jobless.,and percent2049.7 percent25 percent20for percent20the percent20women.](https://www.rubencentre.org/mukuru-the-situation-our-response#:~:text=The%20majority%20is%20jobless.,and%2049.7%20for%20the%20women.)
- Saisi, H., Makobe, C., Kangongo, M., & Kariuki, S. (2019). Prevalence of CTXM, SHV, TEM AND OXA Genes among Extended-Spectrum Beta-Lactamase Producing Klebsiella pneumoniae from Mukuru Slum, Kenya. *Advances in Microbiology*, 9(10), 853-862.
- Sarmah, H. K., Hazarika, B. B., & Choudhury, G. (2013). An investigation on effect of bias on determination of sample size on the basis of data related to the students of schools of Guwahati. *International Journal of Applied Mathematics and Statistical Sciences*, 2(1), 33-48.
- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students*. Harlow: Pearson. London
- Scholtens, B., & van Wensveen, D. (2000). A critique on the theory of financial intermediation. *Journal of Banking & Finance*, 24(8), 1243-1251.
- Schultz, T. W. (1961). Investment in human capital. *The American Economic Review*, 51(1), 1-17.
- Seng, K. (2020). The poverty-reducing effects of financial inclusion: Evidence from Cambodia.
- Sewell, S. J., Desai, S. A., Mutsaa, E., & Lottering, R. T. (2019). A comparative study of community perceptions regarding the role of roads as a poverty alleviation strategy in rural areas. *Journal of rural studies*, 71, 73-84.
- Sherraden, M. S. (2013). Building blocks of financial capability. In J. Birkenmaier, M. Sherraden, & J. Curley (Eds.), *Financial capability and asset development: Research, education, policy, and practice* (pp. 3-43). New York, NY: Oxford University Press.
- Shleifer, A. (2000). *Inefficient markets: An introduction to behavioural finance*. Oup Oxford.
- Shofawati, A. (2019). The role of digital finance to strengthen financial inclusion and the growth of SME in Indonesia. *KnE Social Sciences*, 389-407.

- Sibley, C. G., & Duckitt, J. (2008). Personality and prejudice: A meta-analysis and theoretical review. *Personality and Social Psychology Review*, 12(3), 248-279.
- Singh, D., Barreda, A. A., Kageyama, Y., & Singh, N. (2019). The mediating effect of financial self-efficacy on the financial literacy-behavior relationship: A case of Generation Y professionals. *The Economics and Finance Letters*, 6(2), 120-133.
- Singh, K. D. (2015). Creating your own qualitative research approach: Selecting, integrating and operationalizing philosophy, methodology and methods. *Vision*, 19(2), 132-146.
- Singh, K., & Misra, M. (2020). Linking harmonious CSR and financial inclusion: The moderating effects of financial literacy and income. *The Singapore Economic Review*, 1-22.
- Statista (2024). Extreme poverty rate in Kenya. Retrieved from <https://www.statista.com/statistics/1227076/extreme-poverty-rate-in-kenya/>
- Stiglitz, J. E., & Weiss, A. (1981). Credit rationing in markets with imperfect information. *The American economic review*, 71(3), 393-410.
- Subedi, D. (2016). Cross-sectional sequential mixed method design as the third research community of knowledge claim. *American Journal of Educational Research*, 4(7), 570-577.
- Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48(6), 1273-1296.
- Taherdoost, H. (2016). Sampling methods in research methodology; how to choose a sampling technique for research. *How to Choose a Sampling Technique for Research (April 10, 2016)*.
- Tay, L. Y., Tai, H. T., & Tan, G. S. (2022). Digital financial inclusion: A gateway to sustainable development. *Heliyon*.
- Thaler, R. H. (1993). *Advances in Behavioral Finance*. Russell Sage Foundation.
- Thuita, G. W. (2020). Impact of Mobile Payment Applications and Transfers on Business: Financial Inclusion and Innovation–The Case of Mpesa in Kibera Slum, Kenya. In *Impact of Mobile Payment Applications and Transfers on Business* (pp. 173-189). IGI Global.
- Tran, H. T. T., & Le, H. T. T. (2021). The impact of financial inclusion on poverty reduction. *Asian Journal of Law and Economics*, 12(1), 95-119.
- Trovato, G., & Alfò, M. (2006). Credit rationing and the financial structure of Italian small and medium enterprises. *Journal of Applied Economics*, 9(1), 167-184.
- Umaru, H., & Chibuzo, I. C. (2018). The effects of financial inclusion on poverty reduction: The moderating effects of microfinance. *International Journal of Multidisciplinary Research and Development*, 5(12), 188–198.
- Umaru, H., & Chibuzo, I. C. (2018). The effects of financial inclusion on poverty reduction: The moderating effects of microfinance. *International Journal of Multidisciplinary Research and Development*, 5(12), 188–198
- UNDP. (2024). *Human Development Report 2023/2024: Building Human Resilience in a Changing World*. New York: United Nations Development Programme.

- UN-Habitat (2016). UN-Habitat Support to Sustainable Urban Development in Kenya. Retrieved from https://unhabitat.org/sites/default/files/download-manager-files/UN-Habitat_percent20SSUDK_percent20Report_Vol_percent204_final.LowRes.pdf
- UN-Habitat. (2023). *Nairobi Informal Settlements: Services and Inclusion Report 2023*. Nairobi: UN-Habitat.
- United Nations (2015). Department of Economic and Social Affairs Sustainable Development. Retrieved from <https://sdgs.un.org/goals/goal1>
- Vitt, L. A., Anderson, C., Kent, J., Lyter, D. M., Siegenthaler, J. K., & Ward, J. (2000). *Personal finance and the rush to competence: Financial literacy education in the U.S.* Middleburg, VA: Institute for Socio-Financial Studies.
- Wacuka, C. (2017). *An investigation on alcohol and drug abuse among vulnerable groups in Kenya: The case of families in Mukuru Kwa Njenga slums in Nairobi* (Doctoral dissertation, University of Nairobi).
- Wacuka, C. (2022). An investigation on alcohol and drug abuse among vulnerable groups in Kenya: The case of families in Mukuru Kwa Njenga slums in Nairobi (Updated Report). *International Journal of Social Research*, 6(2), 45-58.
- Wang, X., & He, G. (2020). Digital financial inclusion and farmers' vulnerability to poverty: Evidence from rural China. *Sustainability*, 12(4), 1668.
- Wang, X., & He, G. (2020). Digital financial inclusion and farmers' vulnerability to poverty: Evidence from rural China. *Sustainability*, 12(4), 1668.
- Wieser, C., Bruhn, M., Kinzinger, J., Ruckteschler, C., & Heitmann, S. (2019). The impact of mobile money on poor rural households: Experimental evidence from Uganda (Policy Research Working Paper 8913). Washington, D.C.: The World Bank
- World Bank (2018). The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. Retrieved from <https://globalfindex.worldbank.org/>
- World Bank (2022). Poverty Rate by Country 2022. Retrieved from <https://worldpopulationreview.com/country-rankings/poverty-rate-by-country>
- World Bank Group. (2024). *The State of Economic Inclusion Report 2024: Joining Forces to Combat Poverty and Inequality*. Washington, DC: International Bank for Reconstruction and Development.
- World Bank. (2023). *Kenya Economic Update, Edition No. 26*. Washington, DC: World Bank Publications.
- World Economic Forum. (2015). *Why we Need to Rethink Our Approach to Financial inclusion*. New York: World Economic Forum.
- Yunus, M. (2003). *Banker to the Poor: Micro-Lending and the Battle Against World Poverty*. PublicAffairs.
- Yunus, M., Morduch, J. (2007). *Building Social Business: The New Kind of Capitalism that Serves Humanity's Most Pressing Needs*. PublicAffairs.
- Zhao, Q., Wang, J., G., & Bowden, J., (2020). Statistical inference in two-sample summary-data Mendelian randomization using robust adjusted profile score.
- Zhou, L., & Wang, H. (2021). An approach to study the poverty reduction effect of digital inclusive finance from a multidimensional perspective based on clustering algorithms. *Scientific Programming*, 20(2), 1-11.

APPENDICES

Appendix I: Introduction Letter



21st September 2023

TO WHOM IT MAY CONCERN

Academic Reference for Hillary Kiplang'at Rotich Student No. 113011

This letter is to introduce Mr. Hillary Kiplang'at Rotich, Admission No. 113011 who is a Master of Science in Development Finance student at Strathmore University Business School. As part of the Strathmore University Business School MSc Programme, Hillary is required to do carry out a research project and write a proposal on a contemporary subject within his area of study. This requirement is in partial fulfillment of the requirements of the Master of Science in Development Finance. The outcome of the research will be of immense importance to people living in poverty as well as the policy makers. Hillary is undertaking a study entitled “**Financial Inclusion and Poverty Reduction in Mukuru Slum, Nairobi Kenya: Moderating Effect of Financial Literacy**”. The information obtained from you shall be treated with utmost confidentiality and will be used for academic purposes only. The results of the study will be in summary form and will not disclose the name of any participant in the research. The survey data will be used solely for this study and no other parties will be given access to the information without the consent of the participants.

Thanking you in advance for your help and co-operation.

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Mathuva".

Dr. David Mathuva,

Programme Director

Development Finance

Appendix II: Questionnaire

SECTION A: GENERAL INFORMATION

The responses you provide will be used for academic purposes and will be strictly confidential.

1. Kindly indicate your gender
 - a) Male () b) Female ()
2. Please tick your age bracket below
 - a) Below 18 years () b) 18-25 years () c) 26-30 years ()
 - d) 31-35 years () e) 36-40 years () f) 41-45 years ()
 - g) 46-50 years () h) Above 50 years ()
3. How many years have you lived in the area?.....
4. What is your highest academic qualification?
 - a) Primary () b) Secondary () c) Diploma () d) Degree () e) Masters ()
 - Any other
5. What is your monthly income?
 - a) Less than Kes 5,000
 - b) Between Kes 5,000-Kes 7,500
 - c) Between Kes 7,501- Kes 10,000
 - d) Between Kes 10,001- Kes 15,000
 - e) Between Kes 15,000 - Kes 20,000
 - f) Between Kes 20,001 – 30,000
 - g) Above Kes 30,000
6. How many children do you have?
 - a) Less than 2
 - b) Between 2-4
 - c) Between 5-7
 - d) Between 8-10
 - e) Above 10

SECTION B: ACCESS TO FINANCIAL SERVICE

Please rate the following statements of access to financial service where, 1= Strongly Disagree, 2= Disagree, 3=Neutral, 4= Agree, 5= Strongly Agree

Statement	1	2	3	4	5
I feel confident in my ability to use financial services effectively.					
Accessing financial services in my area is convenient and hassle-free.					
I own a digital device (such as a smartphone or computer) that allows me to access financial services					
I have received adequate training and education on how to use financial services.					
I actively use financial services, such as mobile banking or digital wallets, in my financial transactions.					
The prevalence of digital devices and internet access in my community has improved my ability to manage my finances effectively through digital means.					

Based on your opinion, to what extent has access to financial service reduced the poverty levels in the community? Please explain

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SECTION C: USAGE OF FINANCIAL SERVICE

Please rate the following statements of usage of financial services

Statement	1	2	3	4	5
I regularly use online banking services to manage my financial transactions.					

Online banking has enabled me to conveniently control my bank accounts.					
I have taken advantage of digital credit services to meet my financial needs					
Digital savings options have helped me save money more effectively.					
I frequently use mobile money services for various financial transactions.					
Mobile money has enhanced my ability to send and receive money securely					

Based on your opinion, to what extent has usage of financial services reduced the poverty levels in the community? Please explain

.....

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SECTION D: QUALITY OF THE FINANCIAL PRODUCTS AND SERVICE DELIVERY

Please rate the following statements of quality of the products and service delivery

Statement	1	2	3	4	5
Financial transactions of any financial products are processed quickly and efficiently.					
I trust the reliability of financial transactions of the financial products					
Customer support services for financial products are responsive and helpful.					
Financial products offer a wide range of features to meet my needs.					

The user interface of financial services is user-friendly.					
Financial services provide clear and transparent information about fees and charges.					

Does the quality of the products and service delivery influence financial inclusion? Kindly explain

.....

.....

SECTION E: FINANCIAL LITERACY

Please rate the following statements of financial literacy

Statement	1	2	3	4	5
I possess the necessary digital literacy & skills to manage my personal finances effectively.					
I have a good understanding of different investment options and their potential risks and returns.					
I am knowledgeable about debt management strategies and techniques to avoid excessive debt.					
I am confident in making informed financial decisions based on my understanding of financial concepts and principles.					
I actively seek opportunities to enhance my financial knowledge and stay updated on financial trends and developments.					

In your opinion, how does the financial literacy influence financial inclusion among the people in the area?

SECTION F: POVERTY REDUCTION

Please rate the following statements of poverty reduction

Statement	1	2	3	4	5
Access to clean water and sanitation facilities has improved in my community					
Housing quality has improved, with more people having access to better housing conditions.					
The availability and quality of healthcare services have increased in our area.					
School enrollment rates for children have improved, ensuring better access to education.					
Access to vocational training and skill development programs has increased economic opportunities.					
Social safety nets and support programs have been effective in reducing poverty in our community.					

Kindly elaborate on the magnitude of poverty reduction due to financial inclusion in the area in the last five years

.....

.....

Appendix III: Ethical Clearance



19th June 2024

Mr Rotich Hillary,
hillary.rotich@strathmore.edu

Dear Mr Rotich,

**RE: Financial Inclusion and Poverty Reduction in Muru Slum, Nairobi, Kenya:
Effect of Financial Literacy**

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2306/24**. The approval period is from **19th June 2024 to 18th June 2025**.

This approval is subject to compliance with the following requirements:


- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
- iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
- v. Clearance for the export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke/> and obtain other clearances needed.

Yours sincerely,

**Mr Ambrose Rachier,
Chairperson; SU-ISERC**

Appendix IV: NACOSTI Research License




REPUBLIC OF KENYA
National Commission for Science, Technology and Innovation



**NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY & INNOVATION**

RESEARCH LICENSE




This is to Certify that Mr. Hillary Kiplang'at Rotich of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2015 (Rev. 2016) in Nairobi on the topic: Financial Inclusion and Poverty Reduction in Makara Slum, Nairobi Kenya: Moderating Effect of Financial Literacy for the period ending : 13/May/2025.

License No: **SACOSTI/P/24/35412**

Applicant Identification Number
616262

Director General
**NATIONAL COMMISSION FOR
SCIENCE, TECHNOLOGY &
INNOVATION**

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See overleaf for conditions