THE EFFECTS OF MICRO INSURANCE PRODUCTS ON THE BUSINESS SUSTAINABILITY OF INFORMAL ENTERPRISES IN GIKOMBA MARKET

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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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APPROVAL

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ABSTRACT

There is extensive evidence that micro and small businesses, especially those in the informal sector, are facing numerous challenges that are exposing them to risks such as theft, fire and other disasters. Despite studies showing that obtaining microinsurance coverage can protect businesses and improve their performance, local reports have shown that only a small percentage of the informal enterprises are covered by micro insurance. This is despite evidence that microinsurance products availability in the country has been on the rise. However, there is limited understanding into whether they have any actual impact on business sustainability. Hence there is need to critically examine how various microinsurance products can influence business sustainability with an aim of improving the growth of informal businesses in the country. This research sought to examine the effects of micro insurance products on the business sustainability of informal enterprises in Nairobi City with specific inference to Enterprises in Gikomba Market. Specifically, the research analyzed the effect of loan protection, property, business income and health microinsurance and their effect on business sustainability. The survey was based on risk theory and the expected utility theory. The research utilized a positivist and descriptive research approaches with the population of interest drawn from the forty thousand informal businesses operating in Gikomba Market. A sample of three hundred and eighty firms was randomly selected for participation in the research and a structured questionnaire was applied in collection of primary data. The research tool was pilot tested to determine the validity and reliability of the instrument. This was conducted among thirty-eight firms that were not involved in the main research. The collected research data was analyzed using descriptive, correlation and regression tests. Findings of the study are presented using charts and tables. The regression findings established that the businesses are adequately sustainable, and that there is a positive and significant effect of micro insurance products, on the business sustainability of the informal enterprises in Gikomba market. Based on the parameter estimates, the research deduced that loan protection microinsurance has a positive and significant effect on business sustainability, that property micro insurance products have a positive and significant effect on business sustainability, and that health micro insurance products have negative and significant effects in the business sustainability of informal enterprises. Business characteristics were also determined to have significant control effects on the relationship between micro insurance products and the business sustainability of informal enterprises. The findings led to the recommendation that microinsurance providers should increase the entrepreneurial training and sensitization of the various available microinsurance products and their benefits as this would increase their acceptance.

Key words: *micro insurance, business sustainability, business characteristics, loan protection micro insurance, property micro insurance, business income micro insurance, health micro insurance*

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DEFINITION OF TERMS

Business sustainability	Business sustainability refers to an enterprise's ability to sustain its operations for the unforeseen future even after the occurrence of an adverse event (Sasidharan, Ranjith, & Prabhuram, 2021).
Health micro-insurance	According to Md Jadi, Abdul Manab and Ahmad (2014) health microinsurance comprises insurance products designed to cover for medical treatment, drugs, and preventative check-up costs.
Informal enterprises	An informal enterprise is an unregulated entity run by business owners/ entrepreneurs in the informal sector of the economy (Kamau, 2023).
Loan-protection products	Loan protection cover repayment for various types of debts and loans, property micro insurance covers potential loss of business assets, while business income insurance covers for lost income to reduce business interruptions (Wrede, Stegen, & Graf von der Schulenburg, 2020).
Micro-insurance	According to Renuka (2021), micro-insurance refers to bite-sized insurance products introduced in the 1980s with the specific goal of meeting the needs of low-income individuals and businesses.

LIST OF ACRONYMS AND ABBREVIATIONS

ARDL	Autoregressive Distributed Lag
EU	Expected Utility
GNP	Gross National Product
IRA	Insurance Regulatory Authority
KNBS	Kenya National Bureau of Statistics
LDCs	Least Developed Countries
MFIs	Micro Finance Institutions
MI	Micro Insurance
MSEs	Micro and Small Enterprises
MSME	Micro, Small and Medium Enterprises
SMEs	Small and Medium Enterprises
SEM-PLS	Structural Equation Model-Partial Least Square
SPSS	Statistical Package for Social Sciences
UNECA	United Nations Economic Commission for Africa
USA	United States of America

CHAPTER ONE

INTRODUCTION

This chapter provided an overview of the study's background where the relationships between the study variables was introduced. The chapter then conceptualizes microinsurance products, business sustainability and informal enterprises before introducing the statement of the problem, the research objectives and questions. It then presented the scope of the study and its significance, before concluding with the chapter summary.

1.1 Background of the Study

Informal business enterprises, which in most cases represent SMEs, form the foundation of the private sector, accounting for approximately 90% of businesses globally and generating over half of employment worldwide (Stuart, Samman, &Hunt, 2018). The World Bank (2022) reports that they contribute up to 50% national income (GDP) in developing countries and as a result, consider their sustained operations to be a sign of stable economic growth and sustainable development. However, despite their value, informal SMEs operate in high-risk environments that are prone to repeated largescale losses such as fires and other risks, resulting in more than 75% shutting down within the first three years of operation (Munguti & Wamugo, 2020). Matsongoni and Mutambara (2021) cite limited access to finances, insufficient entrepreneurial and management skills, as well as infrastructure as the main causes of failure among informal SMEs. Micro-insurance has emerged as an essential instrument for SMEs to protect themselves from such risks and promote these organization's sustainability.

Dror and Eling (2021) note that poor income entrepreneurs face numerous risks that are costly to mitigate. Micro-insurance products were introduced to offer coverage and safeguard the assets of the low-income earners and households against natural disasters, illness, fatalities, accidents and crop failures (Kousky, Wiley, & Shabman, 2021). Kousky et al. (2021 opine that microinsurance products emerged out of the realization that while there is a high demand for insurance services among low-income people, most of them are unable to meet the high premium costs and need differently presented products. They are additional tools to help low-income individuals manage and recover from risks more effectively (Ukpong & Acha, 2019). Dror and Eling (2021) identify innovative microinsurance products such as crop and livestock micro-insurance, theft and fire micro-insurance, health and disaster micro-insurance, as well as

a parametric structure that serves to lower the cost of insurance for low-income customers and significantly improve chances of organizational sustainability.

According to Kousky et al. (2021), in the United States, microinsurance products such as parametric microinsurance are critical to increasing the ability of low income individuals and businesses to withstand, adapt to and recover from financial shocks resulting from natural disasters. The pay out for parametric microinsurance products occurs once the magnitude of a covered event is met (Goda, 2022). Goda's (2022) analysis revealed a significant effect of microinsurance solutions on vulnerable communities' ability to recover after the occurrence of storms, droughts, or floods. Kotharkar and Rane (2022) also associate property micro-insurance with increased resilience and risk management among rural households in India, noting that these products are essential to economic recovery in developing economies.

Goda (2022) observed a strong link between agricultural micro insurance access and sustainability among farmers in developing economies. Despite their contribution to understanding how insurance affects business entities, these studies were either conducted in developed economies such as the US where there is a high degree of insurance penetration and affordability (Kousky et al., (2021), or only focused on one type of insurance product while the current study focused on insurance effects in a nation with less than 2% insurance penetration (Deppuh, 2023), and will evaluate multiple insurance products; not just index-based instruments.

In the region, Sierra Leone's, Bangura, et al. (2020) conducted analysis on the impact of microinsurance and observed that through the cooperative model exclusive to a set of farmers, access to a range of microfinance services covering farming inputs and utilities significantly improves the agricultural productivity of smallholder farmers. In Nigeria, Ukanwa (2021) revealed that lack of access to micro-insurance product covering health and funeral expenses increases chances of business failure, especially among women's microbusinesses after the occurrence of the husband's death, and in Lagos state, Oladipupo, Olanike and Adesunkanmi (2023) conceded that access to rent and payroll covers increases SME's high performing employees. Similarly, Amoah and Mungai (2020) linked microinsurance credit products with improved financial management, while Kimunga (2021) linked micro insurance access with increased resilience of businesses owned by persons with disability.

These studies only evaluated farm-based micro-insurance products (Bangura, et al., 2020), or health insurance products effects on women's businesses (Ukanwa, 2021). Kimunga's (2021) results were also only from businesses owned by persons with disability. This study will evaluate the effect of insurance protection on firms with minimal resources and that are not registered. Moreover, despite these observations, access to microinsurance products remains low, with the Africa Insurance Organization (2018) confirming especially low penetration rate in African countries whose insurance penetration rate stands at just 2.8%, lower than the 3.2% of emerging countries and the global average of 6.1%.

Akokuwebe and Idemudia (2022) concur and reveal an 80% insurance gap for Nigeria and a 70% insurance gap in Ghana. Goda (2022) revealed that although designed for low-income earners, micro-insurance products are still too costly for most people, the coverage insufficient and many people are unaware of their existence and usefulness. Ukanwa (2021) conceded that insurance companies have low payouts and that they often fail to adequately recompense premium holders, especially when the claims become excessive. In the case of parametric insurance, Dror and Eling (2021) argued that most insurance service providers payout is delayed, limiting their effectiveness and ability to impact businesses. With certain micro insurance policies paying only 30% in lumpsum to address a risk event, Noritomo and Takahashi (2020) confirm that the payout may not be enough to enable recovery after occurrence of an adverse event such as fire or floods.

In Kenya, Mose's (2022) analysis on micro-insurance services revealed that challenges with claims management were resulting in delayed or insufficient payouts, resulting in low trust in the services offered by insurance products. Munyao (2021) confirms that despite the amount of micro-insurance products increasing in recent years, there are limited findings on how they impact the businesses they were designed to protect. However, according to the study findings, low income earners access to microinsurance products can give solutions to shield against specific risks that are common. In contrast, according to Mutai, Njoroge and Mwangi (2021) health insurance costs often exceed micro-insurance payouts, leaving motorcyclists with huge hospital bills as well as repair costs after accidents. The researchers called into question the effectiveness of micro-covers for public service vehicles and motorcycle on their recovery after accidents.

Nevertheless, Noritomo and Takahashi (2020) contend that insurance products are designed to ease low-income earners' vulnerability and for farmers it reduces the probability of distress

sales and slaughter of livestock. Gyimah and Boachie (2018) added that besides helping business owners safeguard their resources, manage health risks and avoid going into unsustainable debt, micro-insurance protects the most essential assets owned by low-income earners against predictable perils, which is key to recovery. While microinsurance is considered important to poor business owners in areas such as Gikomba market which have modest incomes and operate in high risk environments, Mhella (2024) confirms that there is insufficient findings into the role of micro-insurance services in safeguarding the operations of small, unregistered businesses. This study aimed to address this gap.

1.1.1 Micro-Insurance Products

According to Renuka (2021), micro-insurance refers to a financial product introduced in the 1980s with the specific goal of meeting the needs of low-income individuals and businesses. Kousky et al. (2021) defines microinsurance products as low premium insurance policies characterized by lower coverage limits and designed for poorer populations. Gyimah and Boachie (2018) note that micro insurance is the packaging of insurance for low-income earners and confirms that micro insurance is designed to enable low-income earners manage illness, theft, death, and property damage. Sujaya (2023) reveals these products have the potential to improve low-income earner's ability to protect themselves against specific risks and given premiums can be paid on annual or monthly terms or can be provided in specific seasons to mitigate against specific risks.

Microinsurance products are tailored for immediate threats and compensation for strategic risks to deprived households and businesses and serve a crucial role of mitigating the risks faced by low-income earners (Goda, 2022). Agboola and Epetimehin (2021) examined the concept of microfinance and deduced that micro-insurance operates on the principle of spreading financial risk across a group of policy holders and is independent of the risk class. The researchers confirmed that micro-insurance is more effective when it targets groups rather than individuals because it is cheaper to sell to groups and to underwrite group risks compared to individual risks. Uptake of microinsurance products can be reflected in the volume of premiums and number of people covered by a product line (Merry, 2021). According to Sujaya (2023) and Munyao (2021) the premium amount paid annually, claims settled in a year and number of insurance products are useful indicators of the most popular microfinance products.

Merry (2021) in analysis of the microinsurance landscape deduced that while life and credit life insurance policies have been the most popular covers in recent years, health microinsurance

emerged as the most popular instrument in both Africa and Asia after the COVID-19 pandemic. The report confirms that more than one million clients are covered by five different health products in Africa. According to Md Jadi, Abdul Manab and Ahmad (2014) health microinsurance comprises insurance products designed to cover against accidents, hospitalization (medical treatment, drugs, and preventative check-up) costs and funeral expenses. Most of the health micro-insurance products were launched from 2018 onwards and are delivered through a range of distribution channels.

Md Jadi et al. (2014) also identified general microinsurance products such as credit life/loan protection covers which are insurance products designed to cover an individual's loan repayments, property micro-insurance which cover ones against property loss or damage through theft, fire or flood, and business interruption insurance products which covers loss of profit or service delivery arising from damage to insured property. Business income insurance covers for interruption and covers liabilities associated with rent, worker's compensation and other utility costs that the insured may encounter (Ramnath, 2020). According to Wrede, Stegen and Graf (2020), business income insurance covers for lost income to reduce business interruptions (payroll cover) and loan protection cover repayment for a diverse types of debts and loans, property micro insurance covers potential loss of business assets.

Health based products, index-based products, business interruption products, theft and fire insurance products are the main types of insurance products offered to small business owners, as highlighted by Renuka (2021) (credit-linked, life and health, savings and investments, and non-life microinsurance products), Merry (2021) (loan protection/credit life, property and agriculture insurance), and Kousky et al. (2021) who confirmed that microinsurance can be offered as life, health or property insurance. According to Merry (2021), health and life insurance products cover the most people in Africa, followed by credit/loan protection and business interruption covers such as agriculture and fidelity insurance. Noritomo and Takahashi (2020) and Mhella (2024) confirm that microinsurance schemes that focus on health, funeral expenses, credit life, life insurance, agricultural risks, business perils, and natural disasters are the most popular microinsurance products in Kenya and Tanzania. Therefore, this study covers these products and examine the effect of loan protection, property, business income and health micro insurance products on businesses sustainability. These products cover both life and general micro-insurance products.

1.1.2 Business Sustainability

Business sustainability refers to an enterprise's ability to sustain its operations into the unforeseen future without depleting the resources it relies upon even after the occurrence of adverse events (Sasidharan, et al., 2021). It is the ability of a business to maintain or support business activity continuously after the occurrence of a threat to their operations (Mann & Gazzarin, 2014). Sustained operational capability after a flood, theft or fire is a sign of an organization's ability to continue its operations over a long period of time (Nanedo & Donleavy, 2018). Research work conducted in least developed countries (LDCs) have revealed that micro-enterprises, whether in the formal or informal sector struggle to grow into medium enterprises (Ferrand, 2013), with a little over 10% of businesses shutting down within one year, 25% closing between one and two years, and another 20% discontinue operations between their third and fifth years (Hamel & Sapienza, 2014).

In the USA and Malaysia, despite the encouragement and support given to informal businesses particularly those owned by women, Kot and Imran (2019) confirm that lack of disaster management training and access to affordable credit resulted in short term success and failure in the long term. Chen (2023) argues that while many SMEs can sustain their profit-generation capability, many are unable to expand their operations and are highly vulnerable to shocks such as accidents or illness. The latest MSME Survey Report published in 2016 revealed that on average, these businesses closed after 3.8 years, with 46.3% shutting down within the first year of operation. Additionally, by the time of closure, the number of employees had only grown by 3.5% compared to when the business was established (KNBS, 2016). This concerning trend in the longevity of informal enterprises has been linked to various unique challenges that they encounter, among them exposure to multiple risks which prevent their growth, profitability and overall sustainability (Okwaroh & Opiyo, 2018).

Business sustainability can be predicted by evaluating the firm's ability to operate in the long term. There are various indicators used to measure business sustainability in literature. Olili-uhrorho (2021) asserts that business sustainability can be determined by assessing the businesses' capability to expand and sustain operations in the long term. This is because while many enterprises managed to sustain their productivity and profitability, few can expand their operations (Atela, Quinn & Minang, 2014). Mann and Gazzarin (2014) identify two main components of business sustainability: business continuity and long-term viability. Nanedo and Donleavy (2018) used the number of new branches and new markets served while according

to Ndungu and Karugu (2018), sustainability should be measured by its rate of product development and length of operation. According to Olili-uhrorho (2021) and Atela, Quinn and Minang (2014) sustainable SMEs achieve competitiveness, remain operational for sustained periods, maintain their market presence and are economically viable for long periods. This study sought to ascertain business sustainability factors and used these indicators to measure the sustainability of informal SMEs in Gikomba Market.

1.1.3 Control Effect of Business Characteristics on Sustainability

From the review, it can be deduced that various firm-and-industry-specific factors can influence businesses' access to microfinance services and the sustainability of business operations. In Sierra Leone, for instance, Bangura et al. (2020) observed that firms in the agricultural sector with owners who are members of cooperatives are more likely to receive financial training and are more aware of available micro-finance services which can be instrumental to their recovery after disaster. Kousky et al. (2021) demonstrated the importance of government-based microinsurance products directed at farming households on their resilience and indicated the effect of industry-specific programs to resilience after natural disasters. Indeed, according to Fadilah, Uzliawati and Mulyasari (2022), business-specific characteristics influence financial decisions and in the case of insurance premiums, should influence its ability to consistently pay insurance premiums.

In Nigeria, Omoniyi (2022) determined that while micro-insurance enhances MSE performance, firm owners must be aware of the different categories of available micro insurance products and select the ones most relevant to their business operations. Firms closer to large towns had easier access to microfinance products. Locally, Obebo, Wawire and Muniu (2018) bemused that despite microinsurance products being promoted to support female and youth entrepreneurs, the services are more significant to male entrepreneurs. Moreover, the study revealed that microfinance products are most effective for firms older than two years. The implication from these findings is that certain firms are better placed to purchase and use micro-insurance products than others, number of years in operation, location and the type of business have been shown to affect insurance effectiveness by Fadilah et al. (2022) and Omoniyi (2022). This study expects that characteristics of the business such as the age, location and the risk exposure should increase access to and use of insurance products and was examined in the current study.

1.1.4 Informal Enterprises in Gikomba Market

An informal enterprise is an unregulated entity run by business owners/ entrepreneurs in the informal sector of the economy (Kamau, 2023). Kamau (2023) confirms that informal businesses account for more than 80 percent of employment in developing economies and Chen (2023) avers that many informal enterprises operate outside of legal bounds and employees in the sector are not insured by social security schemes, minimum wage regulations and social security contributions. As a result, workers in the informal firms do not receive social security benefits such as sick pay and pension, among others. Moreover, owners of informal enterprises have limited knowledge on business continuity management systems, operate in semi-engineered buildings, have smaller cash reserves than larger firms, and are highly reliant on local customers, leaving them highly prone to disruption in operations, asset damage and equipment malfunction (Crick, et al., 2018). This is the state of informal enterprises in Gikomba market.

Informal enterprises in Gikomba market comprise all unregistered businesses with less than 10 employees and whose annual sales do not exceed 1 million (Opondo, Etyang, & Ayieko, 2022). Gikomba market is the largest 'mitumba' or second-hand clothes market in East Africa, with an estimated 65,000 people working there daily. The market also includes wholesalers and traders selling fruits, vegetables and eatery, earning between 400 to 1,000 shillings ($4.50-$11.20) per day, with some of them sharing a physical shop or operating on alternate days of the week (Ongoro & Muiya, 2023). Due to the fact that they are unregistered, these enterprises face numerous challenges relating to compliance issues, restricted financial inclusion, lack of infrastructure and collateral security, as well as risks relating to theft, health of the business owner, and interruptions to their businesses, and rely on various insurance products to protect themselves against unexpected perils (Matsongoni & Mutambara, 2021).

The market is large and open air and according to Wanga (2021), the businesses face numerous risks with insecurity, fire and floods being among the main factors leading to business losses (Ongoro & Muiya, 2023). Ongoro and Muiya (2023) report that a total of thirty major fire incidences have occurred in the market between 2002 and 2022, resulting in loss of life, property, industrial equipment and other valuables. The market also sits within the Nairobi River course way which makes it prone to flooding during the rainy seasons. The SMEs further operate in poor conditions and lack access to clean water, electricity, infrastructure and policing, leaving them highly vulnerable to a variety of shocks (Ongoro & Muiya, 2023). Micro

insurance products are tailored to address the needs of these people. However, there is limited research findings on the actual impact of microinsurance products on the sustainability of these businesses. This study chooses to focus on Gikomba market due to the numerous fire incidents, theft and floodings that have been occurring annually in the market leading to increased demand for micro-insurance products despite limited evidence of these schemes on the sustainability of informal firms.

1.2 Statement of the Problem

SMEs play a crucial role in sustaining a healthy and stable global economy; however, there is extensive evidence that informal micro businesses face numerous challenges and risks such as theft, fire and other disasters that can lead to their collapse if they are not adequately cushioned (Gyimah & Boachie, 2018). The challenge facing businesses is highlighted by the high failure and low survival rates, with approximately 70 percent of SMEs failing within the first three years of operation (Wangui, 2020). Kamau (2023) adds that many are operating with insufficient finances and rely on debts to meet operational expenses. These factors make most of these firms ill-equipped to cope with unexpected losses. According to Gyimah and Boachie (2018), micro-insurance services designed to help this segment manage risks more effectively are essential to their sustainability. However, only between 6% and 14% of the intended population is covered by micro insurance, with empirical evidence pointing to conflicting results regarding their impact on businesses (Ukpong & Acha, 2019).

Various studies have explored the relationship between micro-insurance access and business performance such as Kousky et al. (2021) who associated parametric microinsurance with disaster risk management and recovery, and Mahadi (2023) who confirmed the importance of credit-based micro-insurance on access to finances to cover for expenses after disasters. Kotharkar and Rane (2022) highlighted the influence of accident and funeral microinsurance on household sustainability. Regionally, Oladipupo et al. (2023) confirmed a positive effect of micro insurance access on MSME's ability to compensate and retain quality employees. However, these studies are not from Kenyan microinsurance providers, with Kousky et al. (2021) focusing on Agri-based micro-insurance, Mahadi (2023) specifying credit-based insurance products and was specific to products offered during the COVID-19 pandemic, and Kotharkar and Rane (2022) evaluating the impact of health micro-insurance schemes; this study will examine the effect of multiple micro-insurance products that are designed to cover against specific risks faced by small businesses.

Locally, while there is evidence that microinsurance promotes business performance from Kithae, Nyaga and Gakenia (2019), Koima (2023) concedes that few insurance service providers provide micro-insurance products to low-income earners. Moreover, the sector faces insurance payouts challenges as claims processing remains a top issue among premium holders (Munyao, 2021). Munyao (2021) further argues that claims payouts come late and may be insufficient to enable many of the businesses to completely recover. The study by Kithae et al., (2019) was specific to micro-insurance products accessed by manufacturers. While manufactures can be large and registered, this study examined the impact of micro-insurance products accessed by unregistered businesses. None of the studies explored the influence of firm specific characteristics on the business sustainability on informal enterprises. By focusing on informal enterprises, this study provided evidence on an area with limited research evidence as confirmed by (Mhella, 2024). Therefore, this study evaluated the influence of micro-insurance products on the business sustainability of informal SMEs in Gikomba Market.

1.3 Main Objective

The main objective of this study was to establish the effect of micro insurance products on the business sustainability of informal enterprises in Gikomba Market.

1.3.1 Specific Objectives

The study was guided by the following research objectives:

i. To examine the effect of loan protection micro insurance products on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County.
ii. To determine the effect of property micro insurance products on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County.
iii. To establish the effect of business income micro insurance products on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County.
iv. To assess the effect of health micro insurance products on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County.
v. To evaluate the control effect of business characteristics on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County.

1.4 Research Questions

The study sought to answer the following research questions.

i. What is the effect of loan protection micro insurance products on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County?
ii. What is the effect of property micro insurance products on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County?
iii. What is the effect of effect of business income micro insurance products on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County?
iv. What is the effect of health micro insurance products on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County?
v. Do business characteristics have any effect on the relationship between micro insurance products access and sustainability of informal enterprises in Gikomba Market, Nairobi City County?

1.5 Scope of the Study

This study aimed to assess the effects of micro insurance products on the sustainability of informal enterprises in Gikomba Market, Nairobi County. The study was limited to the most commonly used categories of insurance products comprising loan protection micro-insurance, property micro-insurance, business income insurance and health micro-insurance. Given these micro insurance products fall within the financial intermediation sector, the study was informed by the risk theory and the expected utility theory, a descriptive approach and inferential analysis. The study targeted entrepreneurs of the more than 40,000 informal SMEs located in Gikomba Market, Nairobi County who have previously accessed microinsurance products. These SMEs deal in the hotel, manufacturing, transport, beauty and agricultural sectors. The study ran between April and June 2024 as its time scope.

1.6 Significance of the Study

This research will be of benefit to multiple stakeholders.

1.6.1 To Regulators

First, the study findings provided government institutions such as Insurance Regulatory Authority (IRA) with essential information about inclusive insurance in the informal sector,

specifically to design targeted strategies aimed at boosting the adoption of micro insurance policies. The study's findings played a vital role in providing a detailed analysis of micro insurance products customized for business owners, allowing them to make comparisons on the adoption rates and assess the impact they have on business sustainability. This will help IRA in making informed regulatory guidelines for providing these products. This, in addition will be critical for grounding the products on prudent regulations which is essential to guarantee their viability as tools to advance business sustainability objectives.

The study benefits the Nairobi County management, especially officials from the county trade department, by highlighting the potential risks faced by informal enterprises in Gikomba market. It also sheds more light on the sustainability challenges small businesses are facing and provides insights on how they could intervene to improve the current situation.

1.6.2 To Micro-insurance Providers

The study was valuable to insurance companies and micro finance institutions in Kenya that offer micro-product services. This is by helping them identify key consumer preferences of packages designed for entrepreneurs in the informal sector under various micro insurance policies. This will also guide them in determining priority areas and the optimal combination of services and products to offer. Additionally, this study helps these firms in assessing their current impact and how they can proceed with structuring micro-insurance products to provide more protection to informal enterprises in Kenya.

1.6.3 To the SMEs

The study findings enlighten business owners in the informal sector about various packages available under different micro insurance policies and how acquiring these products can support the sustainability and continuity of their businesses. This study further highlighted the benefits of insurance to the entrepreneurs and their businesses with the aim of increasing their confidence in the products and engender uptake decisions. The study findings are an eye opener to entrepreneurs still suspicious of insurance products and unsure of the business threats they face as it identified the threats these firms are likely to encounter, and the importance of the different types of microinsurance products in keeping business operations going. This will improve their decisions regarding the type of insurance premiums to pay for depending on the type of risk they are likely to face. Lastly, this study was important to entrepreneurs who lack adequate comprehension of micro insurance products.

1.6.4 To Research

The study played a vital role in expanding knowledge around micro insurance in Kenya, particularly by offering a detailed analysis of micro insurance products designed for small businesses operating in the informal sector and what their impact is on business sustainability. This area has not been thoroughly studied, and the research findings will be a useful reference for other researchers keen on exploring the area further.

1.7 Organization of the Study

The proposal was organized into three chapters. The first chapter introduced the study and comprises the study background, a contextualization of the study variables, the research problem, objectives and questions, the significance of the study, its scope and organization. Chapter two comprised a review of existing literature on the study topic which include the theoretical and empirical review sections, followed by the summary of literature and research gaps. The chapter further provided a conceptual framework.

The third chapter presented the research methodology guiding the study and comprised the research design, target population, sample and sampling techniques, data collection instruments and procedures, pilot testing, data analysis and ethical considerations. The fourth chapter presented the research findings, while chapter five presented the conclusions, recommendations and suggestions for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter comprised a comprehensive review of existing empirical literature in the area of micro insurance and its impact on the sustainability of informal enterprises worldwide with a particular focus on Kenya. It explored the theoretical frameworks supporting the study and how they can be applied to the research. In addition, previous empirical studies in this area were analysed and critiqued to identify current research gaps as guided by this study's objectives. Furthermore, the chapter presented the study's conceptual framework illustrating the anticipated relationship between micro-insurance and sustainability of informal enterprises.

2.2 Theoretical Review

2.2.1 Risk Theory

The theory was developed by Lundberg (1903) and was based on the concept of decision making under uncertainty (Kahneman & Tversky, 1982). In this context risk is understood as the likelihood of an event occurring that leads to a negative outcome. The fundamental principle of insurance is rooted in the existence of risk (Criel & Kegels, 1997). This theory seeks to explain how individuals make choices when faced with uncertainty about future outcomes. The costs associated with risk can be analysed from the following point of views; the frequency of risk occurrence, the financial or economic impact and the human cost which comprises of the physical and emotional distress experienced (Dickson 2002). Given these adverse effects, it is essential to have in place strategies for managing risk and different individuals employ diverse mechanisms for coping with these risks.

According to Umair et al. (2019), some individuals have preference for insurance as a way of protecting them from the financial consequences of risk through risk pooling, while others opt for informal risk management strategies. These alternative methods include communal insurance such as savings and welfare groups, loans and family support. In this sense, Mhella (2024) identified two types of risks that can be insured against; idiosyncratic and systematic/covariate risks, whereby idiosyncratic risks affect individuals or families, while systematic risks have negative effects on whole communities, or regions. Moreover, according to Umair, et al., (2019) individuals with limited financial resources suffer more when exposed

to various risks given their lack of access to financial resources, and the risk management approach chosen would depend on whether the expected risk is idiosyncratic or systematic.

Therefore, the theory avers that financially disadvantaged individuals will require alternative formal insurance arrangements such as microinsurance (Yao, Schmit, & Shi, 2018). Umair, et al. (2019) consider this as a key factor in explaining why some entrepreneurs opt for micro insurance products while others rely on alternative methods to protect themselves from the impact of adverse events. The theory was of importantance to this study as it formed a foundation of comprehension on the existence of micro insurance. In this study, it explains how index-based products, business interruption, theft, fire type of insurance products protects informal enterprises in Gikomba Market against idiosyncratic or systematic risks, thus influencing their ability to remain operational in case of losses arising from the occurrence of unfavourable events.

2.2.2 Expected Utility (EU) Theory

The Expected Utility (EU) Theory by Newmann and Morgenstern (1944) (referenced in Umair et al., 2019) is the most common theory explaining the demand for insurance, and it is the standard theory of decision making under uncertainty (Platteau, De Bock, & Gelade, 2017). It is formed on the assumption that consumer preferences remain constant, making utility a non testable concept. According to Friedman and Savage (1948), an individual with a fixed set of preferences in a risky situation will choose the option that offers the highest expected utility. This theory explains demand by linking it to the characteristics of insurance products and assumes that individuals can accurately assess risk probabilities. (Platteau, De Bock, & Gelade, 2017). Additionally, this theory describes demand based on both insurance product features such as premiums and benefits and socio economic factors with the assumption that individuals have the potential to evaluate risk probabilities and selecting their preferred type of risk cover for themselves and their businesses.

According to Oppong, Yu, and Mazonga (2024), microinsurance products are considered important tools that poor individuals and businesses can rely on to protect themselves from unexpected shocks. The Expected Utility (EU) theory, therefore, is useful in comprehending small businesses decision to purchase micro insurance products, with expectations of being indemnified in case an adverse event occurs. According to Platteau, et al., (2017), an individual's willingness to purchase insurance products reflects their risk aversion, is a personal

decision, and is dependent on their preferences; usually revealed in their utility function. Most people are assumed to prefer avoiding in any case some risk level, with risk exposure, price, and income level determining the type of product that will be purchased.

The Expected Utility (EU) theory is pertinent to this study as it provides a framework for analysing the decision making processes of entrepreneurs in the informal sector regarding acquisition of micro insurance products. It helps in evaluating the anticipated utility derived from these products especially on the financial benefits and risk mitigation they offer, hence contributing to the sustainability of their businesses. While the theory has been critiqued for its inability to predict people's behaviour under all conditions of uncertainty Tversky (1969) (referenced in (Haamukwanza, 2019), the theory can be a useful tool that can help understand risk averse people's motivation for taking up insurance products. This is because according to Haamukwanza (2019), the demand for insurance products follows a rational path whereby consumptions are based on the expected value of utility. Torres (2015) notes that another criticism of the theory is the Ellsberg Paradox which confirms that some people prefer known probabilities over unknown ones, an assertion which challenges those of EU that only the final outcomes matter. However, the theory predicts that risk-averse individuals will prefer insurance as a means to protect themselves against possible loss-making events.

In the economic realm, Oppong, Yu, and Mazonga (2024) used the EU Theory in analysis of the factors affecting insurance demand and confirmed that microinsurance uptake is motivated by the need to prepare the business to mitigate against unexpected risks. Mhella (2024) revealed that indeed, by providing a safety net against unforeseen events, diverse types of microinsurance products help SMEs to manage risks more effectively, which can significantly influence their growth and stability. Karanja (2017) opines that micro-insurance products which provide covers for life insurance, health, business income interruption, credit life, agricultural risks, natural disasters and funeral expenses are especially important to businesses operating in high-risk, low-resource environments where formal financial institutions are unwilling to provide access to banking services. Moreover, according to Garba, et al. (2022) there is an increasing recognition that financial inclusion, and in extension, microinsurance, is considered a catalyst for the SME growth in developing economies. In this study, this theory explains the reasons for selecting different types of insurance products under conditions of high risk of the occurrence of adverse effects such as theft, fire and flood which can negatively affect the businesses' ability to remain operational.

2.3 Empirical Literature Review

There is a number of micro insurance products available to help low income individuals in managing various risks. This section will examine past research findings on the link that exists between micro insurance products and business sustainability.

2.3.1 Loan Protection Micro Insurance and Business Sustainability

Loan Protection/microcredit products are designed to protect individuals against debt obligations in case of unforeseen occurrences, such as accidents or loss of employment that could render them unable to repay their loans (Koima, 2023). Loan protection insurance is also known as credit insurance or payment protection insurance (PPI) and acts as a safety net for low-income individuals with loans (Karakaplan, 2021). There exist different types of credit insurance products according to Chen, Wang and Lai (2021) who used autoregressive distributed lag (ARDL) cointegration tests in examining the effectiveness of export credit insurance on export performance of SMEs in Canada. The study used data reported between 2008 and 2017 and findings were that despite being purported to increase businesses' stability, export credit insurance has an exaggerated effect on the export performance of Canadian SMEs. This study provides evidence from formal businesses in Canada, while the current study focuses on informal SMEs.

Confirming that the government increased its provision of Pay check Protection Program (PPP) programs to aid small businesses and their employees in response to the COVID-19 crisis, Karakaplan (2021) examined its effects on commercial and small business' bank loans. The researcher specified PPP loans of up to $1 million availed to the financially constrained smallest firms and OLS regressions applied in analysis. Findings were that PPP loan provision acted as government subsidy programs that stimulated banks to provide specially formulated conventional bank loans to small businesses, increasing their access to loans and boosting their chances of survival. The study evidenced the short-term limits of its findings and called for analysis into the long-term impact of PPP loans on the small businesses. This study was specific to the pandemic period and may not reflect non-crisis periods.

Yu, et al. (2022) also observed a significant association between credit guarantee schemes and access to bank loans in analysis that evaluated the effect of credit guarantee on SMEs performance in China. The research used baseline regressions in analysis which revealed that obtaining credit guarantees and bank loans increases SME's investment into fixed assets,

research and development, and their eventual total factor productivity. In another study that examined credit guarantee schemes, Agnese, Rizzo and Vento (2019) focused on their impact on businesses at the international level, focusing on data reported between 2007 and 2018 by the Organization for Economic Cooperation and Development (OECD). The study performed simple linear regression in analysis of credit guarantee schemes on SMEs bankruptcies internationally and findings were that the schemes have mixed effects and it cannot be ascertained whether they have a positive or negative impact.

The study by Yu, et al. (2022) revealed the importance of credit guarantee schemes on mitigating SMEs financing constraints and increasing productivity but specified Chinese SMEs while as Agnese et al., did not find any reason for the country specific peculiarities observed, the study used panel data from multiple countries while the current is more specific to insurance schemes used in developing economies. Jadi, Manab, and Ahmad (2015) examined insurance as a loan risk transfer mechanism in SMEs in Malaysia using a descriptive survey design and descriptive and inferential analysis. Results were that although insurance was not the last solution to risk management, it was essential to business operations as it was useful in protecting assets and reducing losses.

Arguing that operating micro insurance alongside of microfinance facilities reduces overall portfolio risk, Epetimehin and Agboola (2022) sought after the influence of microinsurance and microinsurance risk control on SMEs performance in Nigeria. The study specified sustainability and continuity of registered businesses and used Structural Equation Model-Partial Least Square (SEM-PLS) in analysis which revealed that while microinsurance promotes SMEs performance, microinsurance risk control have a negative effect on business sustainability and continuity. This study did not evaluate how different micro-insurance products affect SMEs' survival but highlighted the significance of sound risk management practices and sound risk transfer mechanisms on the sustainability of business operations.

Confirming increased efforts to finance SMEs, Munguti and Wamugo (2020) examined the effect of microfinance credit access on SMEs financial performance in Machakos County, specifying the effect of collateral security, loan-income ratio and geographical branch penetration. The study used census survey design and multiple regression analysis and correlation in analysis which found significant positive effects of all three variables on SMEs' financial performance, enabling SMEs to improve their core capital, strengthen their financial

management practices, and foster financial innovation. The study highlighted challenges to microfinance credit access as limiting to SMEs development.

2.3.2 Property Micro Insurance and Business Sustainability

Property insurance is a type of insurance product that offer either protection to property, tools and equipment used in business operations and covers against theft, fire, wind, among others (Leach, Abrams, & Yoder, 2015; Weisbart, 2018). These insurance products are important to businesses which would have to incur out of pocket costs to repair or replace business property if it is damaged by a covered loss. Mose (2022) avers that for property micro insurance, premium costs vary depending on the location of the business, the materials, strategic assets and technologies used by the business. According to Weisbart (2018), businesses with safety systems in place will incur lower costs than businesses without safety features such as smoke detectors and burglar alarms when purchasing insurance products.

Confirming that entrepreneurship and risks go hand in hand, Lamond, et al. (2019) used a case study approach in analysis of the effect of flood risk insurance on the valuation of commercial property. The study collected data through interviews with built environment professionals and analysis findings were that, while there exist numerous challenges in accessing and understanding the efficiency of risk information, commercial property insurance act as effective risk mitigation incentive. Despite highlighting the vulnerability of commercial property, the study used a case study approach hence its findings cannot be generalized. Skouloudis, et al. (2023) also evaluated the influence of flood insurance products but specified Greek SME's preparedness and resilience capacity, also used interview schedules to collect data. Thematic results findings were that despite the very real threat of relevant disasters, there was little uptake of insurance products by Greek owner-managers, resulting in their businesses being ill-prepared for floods and other disasters. The study confirmed that insurance can only be effective under supportive regulatory frameworks and favourable consumers' attitude.

The research by Jazil (2019) was on Islamic financing mechanisms on the sustainability of agribusinesses in Indonesia and used a qualitative approach. The study specified participatory community insurance schemes following the Triangle Microfinance Concept and findings were that Islamic banking schemes can serve as agriculture purpose vehicles that improve the business sustainability of off-farm agriculture enterprises by providing guarantees, networks and access to collateral that can be used to access micro-loans, thus advancing farmers and

SMEs development. With employers with 50 or more employees being mandated to institute measures to protect labour in Kazakhstan, Abikenova, Abdrakhmanova and Kantarbayeva (2022) examined the impact of labour protection costs on the manufacturing cost, targeting five processors and using functional-calculation analysis of labour protection cost. Covers against accidents and purchasing employee and equipment covers were shown to significantly benefit firms' performance. These studies evaluated financing mechanisms from the Islamic principles' perspectives.

With an increase in the number of motorcycle operators in small Kenyan towns as well as motor-related accidents, Deppuh (2023) examined the determinants of the growth of commercial motorcycle transport and young people's socioeconomic empowerment in Kwale County. The study used descriptive analysis and multiple regression revealed that access to micro-loans have had substantial impacts on the growth of motorbike and tuktuk businesses. While Deppuh (2023) focused on businesses in the transport sector, Kihara's (2017) was on the effect of microfinance services on profitability among SMEs in Nairobi County and used regressions in analysis of secondary data collected between 2014 and 2016. Analysis findings were that while the effect of micro-credit on profitability was insignificant, micro-insurance and microfinance training were shown to have significant positive impacts on SMEs financial outcomes. Despite its value, the study by Deppuh (2023) only looked into youth-based businesses while the current looked into products accessed by different categories of business owners. Moreover, Kihara's (2017) analysis did not disaggregate microinsurance into its individual components which this study sought to do to ascertain how different products affect firm performance.

Savatia (2018) explored the effect of health micro support on the performance of selected youth enterprises in Kericho County, Kenya. The study applied a descriptive research design. The focus was on the level of awareness, cost of insurance, liquidity constraints and trust on the micro insurance policies given. The study found that micro insurance has insignificant effect on the performance of these enterprises owing to low uptake of the products. The study revealed that rigorous sensitization is essential to enhance knowledge on the advantages of the different products and engender uptake to encourage more insurance firms to develop and provide them to young entrepreneurs.

2.3.3 Business Income Micro Insurance and Business Sustainability

Business income insurance is a type of insurance coverage that provides cover for income lost due to specified interruptions or covered property damage (Bangura, Sesay, Bah, & Mansaray, 2020). These covers pay for lost income and empower businesses to recover from a covered cause of loss. Weisbart (2018) reveals that business income insurance covers mortgages, wages and payroll, loans and taxes and can be key to restoring businesses after systemic losses. Dror and Eling (2021) aver those entrepreneurs in the retail sector, farmers, hotels, beauty among others can benefit significantly from business income insurance given their businesses are frequently at risk of damage and theft that can cause long-term interruptions. Agriculture business insurance products are examples of useful income-based insurance products that provide cover to agribusinesses from specific risks to agricultural products and equipment (Namonyo, 2019).

Confirming that small businesses are more prone to risk during crisis, Alves, et al. (2020) sought after the coping strategies for survival of SMEs in Macau during the COVID-19 pandemic. The study used a qualitative approach that relied on interviews from SME owners and observed that smaller SMEs are more vulnerable to business interruption risks than large firms but are more flexible due to low level of bureaucracy and compliance responsibilities. The analysis highlighted the importance of rent and utilities insurance on support and resilience among firms seeking recovery. Njegomir, Stojić and Demko (2023) specified accountants' perspectives and used a linear regression model which revealed that premiums paid have significant impacts on businesses' performance. Variance analysis results revealed that insurance products have different impacts on businesses depending on their sector of operation, with ICT, accommodation, and food services firms being more impacted. The study was from an accountant's perspective while the current specifies unregistered businesses which rarely access financial consultancy services.

Kot and Imran (2019) carried out a comparative study that sought after the effect of microfinance services on women's MSME sustainability in Pakistan and Malaysia, using environmental disaster occurrence as a moderator variable. The study applied a cross-sectional approach and focused on women-led businesses, with results revealing that environmental disaster has significant impacts on sustainability of women SMEs and that micro-training, property micro-insurance and business interruption covers are key to sustained operations after disasters. The study compared the insurance environment across two countries with differing

cultures and risk perception while the current is on a single market to get a more refined understanding of the impact of microinsurance.

Gyimah and Boachie (2018) used a descriptive survey research design to look into the effects of credit-based microfinance products on SME growth in Ghana. Their findings indicated that credit-micro insurance had the lowest positive influence on the growth of the studied enterprises. The study recommended that Micro Finance Institutions should expand their insurance services to entrepreneurs to increase their confidence by providing financial security in the aftermath of disasters. The study compared the influence of micro-finance products on SME growth while this study was specific on the effect of micro-insurance products on business sustainability.

Owusu-Manu et al. (2021) report of Fidelity Guarantee insurance, an insurance policy that covers employers against the loss of funds, stock or assets resulting from dishonest staff. Fidelity Guarantee insurance instruments was associated with improved project performance in terms of project completion. The study was from the construction sector while Karanja (2017) studied the effect of microfinance services on the growth of MSEs in Nairobi's textile industry. Utilizing a descriptive research design, the regression analysis results indicated that the absence of micro-insurance services limits the growth of MSMEs in the textile industry. The only challenge was that a considerable number of business owners were unaware of some of the products, calling for more user education and sensitization.

2.3.4 Health Micro Insurance and Business Sustainability

Micro-health insurance is a low-cost health insurance product that provides cover against specified health risks, illness and accidents that have been covered for in full or in part (Habib, Perveen, & Khuwaja, 2016). Health micro insurance products are important to low-income businesses which are operated by individuals at risk of being impoverished when seeking health services. Indeed, according to Jafree, et al. (2021), out of pocket health costs are some of the main reasons for business failure in the informal sector. Moreover, informal businesses operate in areas with low quality infrastructure, limited healthcare access and high security, exposing them to numerus health risks that can be addressed through micro-insurance payouts which cover pre-hospitalization charges, ambulance cost and provide connection to a network of healthcare providers, which is essential in emergency situations (Habib, et al., 2016).

Garvey (2022) focused on SMEs in analysis into the influence of health insurance access on business performance through employee motivation in Georgia. The study used a descriptive survey that contacted employees from different industries, collecting data through interviews, with thematic analysis revealing that small business employees who are satisfied with their accident and emergency insurance cover are more engaged and productive in the workplace, outcomes that promote business sustainability. However, confirming numerous evidence that employment-based health insurance can have negative impacts on entrepreneurship due to fear of losing health cover, Liu and Zhang (2018) evaluated the effect of non-employment-based health insurance on entrepreneurship in China where 20% of the population is covered by resident basic medical insurance. The study relied on a difference-in-differences approach with propensity score weighting in analysis which revealed that residence-based insurance products have significant positive impacts on self-employment growth. However, self-employment was insignificant among highly educated individuals, the youth, and healthy individuals. The study evaluated a specific program designed for Chinese residents while the current sought to assess multiple products offered to both employers and employees.

On the other hand, Huynh (2023) used secondary data and generalized method of moments in analysis of the effect of social health insurance on the performance of SMEs in Vietnam. The study collected secondary data and analysis involved. The findings were that social insurance schemes improve business performance by enhancing labour productivity, total factor productivity and return on equity (ROE). However, social insurance was costlier depending on firm size, assets and the average wage of workers. Despite showing the value of taking care of the benefits of employees, the study findings were from Vietnamese firms and only evaluated one type of microinsurance product.

Kura (2019) used quasi-experimental design in evaluating the effect of microfinance insurance products on poverty alleviation among low-income earners in Nigeria. The study sourced data from customers who had succeeded in accessing loans and used entrepreneurial self-efficacy as a moderating variable. Multiple and hierarchical regression results were that micro savings, microcredit and microloans have positive influences on poverty alleviation, which in turn influence their purchasing power. Among entrepreneurs, entrepreneurial self-efficacy also had a moderating effect on the relationship between microcredit and entrepreneurial skills. This study presents methodological differences having used a quasi-experimental design while the current was more descriptive in nature.

2.3.5 Effect of Business Characteristics on Business Sustainability

Areas prone to flood cause adverse negative effects on small, unregistered businesses and Halkos and Skouloudis (2020) used quantile regressions in analysis of the factors impeding SME's resilience to flash floods. From the analysis, it was derived that the effect of firm's size on SME barriers reduces when the risk is higher, while age had a positive effect on SME barriers. Moreover, the study revealed that the businesses' location, the owner's previous experience and their industrial affiliation had significant impacts on their resilience capability, highlighting the need for categorizing SMEs into segments to provide customized and targeted interventions.

On the other hand, Kumari and Mor's (2021) analysis found insignificant effects of firm age on the sustainability of businesses. The study focused on women entrepreneurs in analysis of the factors determining their access to micro-finance services and the businesses' sustainability, relying on logistic regressions analyses. Findings were that the age, education, and marital status of the microentrepreneurs exhibited insignificant effects. The research by Berguiga and Adair (2021) sought after the determinants of funding for women microentrepreneurs in Egypt, Tunisia and Morocco, noting that many of the businesses did not take up microfinance services. The study specified on whether microfinance access was affected by self-selection or discrimination from lenders and logistic regressions were used in analysis. Findings were that female ownership and the size of the business has a significant explanatory power for the performance of women's businesses.

While Berguiga and Adair (2021) evaluated women owned businesses, South Africa's Maduku and Kaseeram (2021) examined the success factors for informal SMEs owned by black businesspeople. The study used cross-sectional data and ordered logistic regression in analysis. The findings of the study revealed that the level of education of the owner, their income, their financial literacy, experience and the businesses' center of operation and assets are directly related factors necessary for success. The study highlighted the role of financial literacy in facilitating financial access and business training programs to businesses.

In Uganda Veeravalli, et al. (2022) examined the factors affecting the reduction of flood damage among micro-SMEs and specifically sought after the borrower associated factors on access to and utilization of microfinance for property protection and flood risk management. The study used data from SMEs in rural areas and findings were that while businesses of all

sizes are likely to adapt structural measures, micro-enterprises adopted non-structural measures owing to limited knowledge and lack of information access. Factors such as previous experience with financial losses, risk aversion, and perceptions of flood likelihood all predicted flood damage mitigation and business performance capacity after large destructive storms.

2.4 Summary of Literature Gaps

This chapter reviewed the theories and literature foundations backing the current study. The review reveals increased analysis into different microfinance and microinsurance products and their impact on different business in recent years owing to their rapid technology-inspired expansion. Indeed, there is extensive evidence that micro-insurance products have positive influences on low income-earners' financial wellbeing and their businesses' productivity Huynh (2023), Kura (2019) Liu and Zhang (2018) Owusu-Manu et al. (2021), but there is also evidence that on their own, micro-insurance products do not meet the needs of low-income earners (Karanja, 2017; Gyimah and Boachie, 2018; Njegomir, et al., 2023). Furthermore, the findings by Njegomir et al. (2023) indicated that insurance products have different impacts on businesses depending on their sector of operation. Several gaps can be identified in the studies, starting from those which were carried out in more advanced markets such as Chen, Wang and Lai (2021) and Yu, et al. (2022) who examined Canadian and Chinese micro-insurance markets. Findings from these countries may not be reflective of Kenya which has significantly lower penetration rates, yet micro-insurance is more effective under effective risk pooling regimes.

Conceptual gaps also emerge in the studies by Karakaplan (2021) and Skouloudis, et al. (2023) and Lamond, et al. (2019) studies evaluated payment protection schemes and flood risk insurance schemes respectively. This study evaluated multiple micro-insurance products to get a better understanding of how they affect different businesses. Moreover, there is a lack of critical analysis into how different types of insurance products affect SME performance in the studies by Kihara (2017) and Epetimehin and Agboola (2022) which despite informing of the importance of micro-insurance failed to examine how different packages provided under each product line, enhances entrepreneurs' sustainability.

Moreover, most of the analysis was on registered firms while the current reviewed on informal enterprises. Similarly, a study by Wairimu (2019) that used a case study approach in analysing the influence of micro-insurance on women-owned enterprises. There are conflicting research

findings on the impact of micro insurance. Savatia (2018) concludes that micro insurance had negligible effect on businesses whereas Karanja (2017) found micro insurance significantly contributed to growth of businesses. These contrasting findings and gaps motivated the current research which sought to examine the impact of the most sought after micro-insurance products on the performance of small informal businesses.

Table 2.1 Summary of Research Gaps

Author(s)	Topic	Methodology	Findings	Research Gaps
Chen, Wang and Lai (2021) who used	Effectiveness of export credit insurance in export performance of SMEs	Autoregressive distributed lag (ARDL) cointegration tests	Export credit insurance has significant effects on the performance of export firms	The study provided evidence from Canada which has a highly developed microinsurance market than Kenya's
Karakaplan (2021)	This time is different: The multiplier effect of the Paycheck Protection Program (PPP) on small business bank loans	OLS regressions	Access to PPP loan mechanisms enhance SME's access to finances and improves their chances of survival	This study was specific to government protection paychecks while the current study examines non-crisis periods
Epetimehin and Agboola (2022)	Microinsurance and Microinsurance Risk Control Impact on Small and Medium Enterprises (SMEs) Performance in Nigeria	Structural Equation Model-Partial Least Square (SEM-PLS)	Microinsurance promotes SMEs performance while microinsurance risk control negatively affects business sustainability and continuity.	This study provided evidence from Nigerian SMEs while the current reviewed on informal SMEs in Kenya
Munguti and Wamugo (2020)	Microfinance credit accessibility and financial performance of small and medium enterprises in Machakos County, Kenya	Multiple regression analysis	The findings were that collateral security, loan-income ratio and geographical branch penetration have significant impacts on SMEs' financial performance	The study was specific to microfinance credit access while the current study examines the impact of difference micro insurance products

Deppuh (2023)	Determinant of commercial motorcycle transport growth among youths in Kwale County, Kenya	Multiple regression	Government's funding, waiver of import duties, the provision of health insurance, as well as access to micro-loans have led to growth of motorcycle businesses	This study specified transport and accident insurance while the current studied multiple insurance products
Alves, et al. (2020)	Crisis management for small business during the COVID-19 outbreak: Survival, resilience and renewal strategies of firms in Macau	Interview schedules	Microfinance services provide support and resilience to firms seeking recovery.	The study examined survival strategies of SMEs in Macau during the COVID-19 pandemic while the current study investigates performance during non-crisis periods
Njegomir, Stojić and Demko (2023)	Influence of insurance on entrepreneurship: Sector-specific evidence	Regression analysis	Premiums paid have significant impacts on business performance but there are sectoral differences in the impact of the schemes on business operations.	The study sought after sectoral differences in the impact of insurance products on entrepreneurship performance
Hasan, et al. (2023)	The effectiveness of a government-sponsored health protection scheme in reducing financial risks for the below-poverty-line	Multiple regressions	Access to non-contributory health protection schemes reduce out of pocket costs involved in accessing healthcare services.	This study was on below-poverty-line population while the current focuses on sustainability of informal SMEs.

	population in Bangladesh			
Huynh (2023)	Impacts of social insurance on firm performance: evidence from Vietnamese small-and medium-sized enterprises	Generalized method of moments	Social insurance schemes improve business performance by enhancing labour productivity, total factor productivity and return on equity (ROE).	The study findings were from Vietnamese firms and only evaluated one type of microinsurance.

2.5 Conceptual Framework

In this study, the conceptual framework was designed to show the expected relationship between micro insurance products and sustainability of informal enterprises in Gikomba Market, Nairobi County. The independent variables were property micro insurance, business income micro insurance, health micro insurance and loan protection micro insurance as the micro insurance products while the dependent variable was the Business sustainability of informal enterprises in Gikomba Market, Nairobi County.

Independent Variables **Dependent Variable**

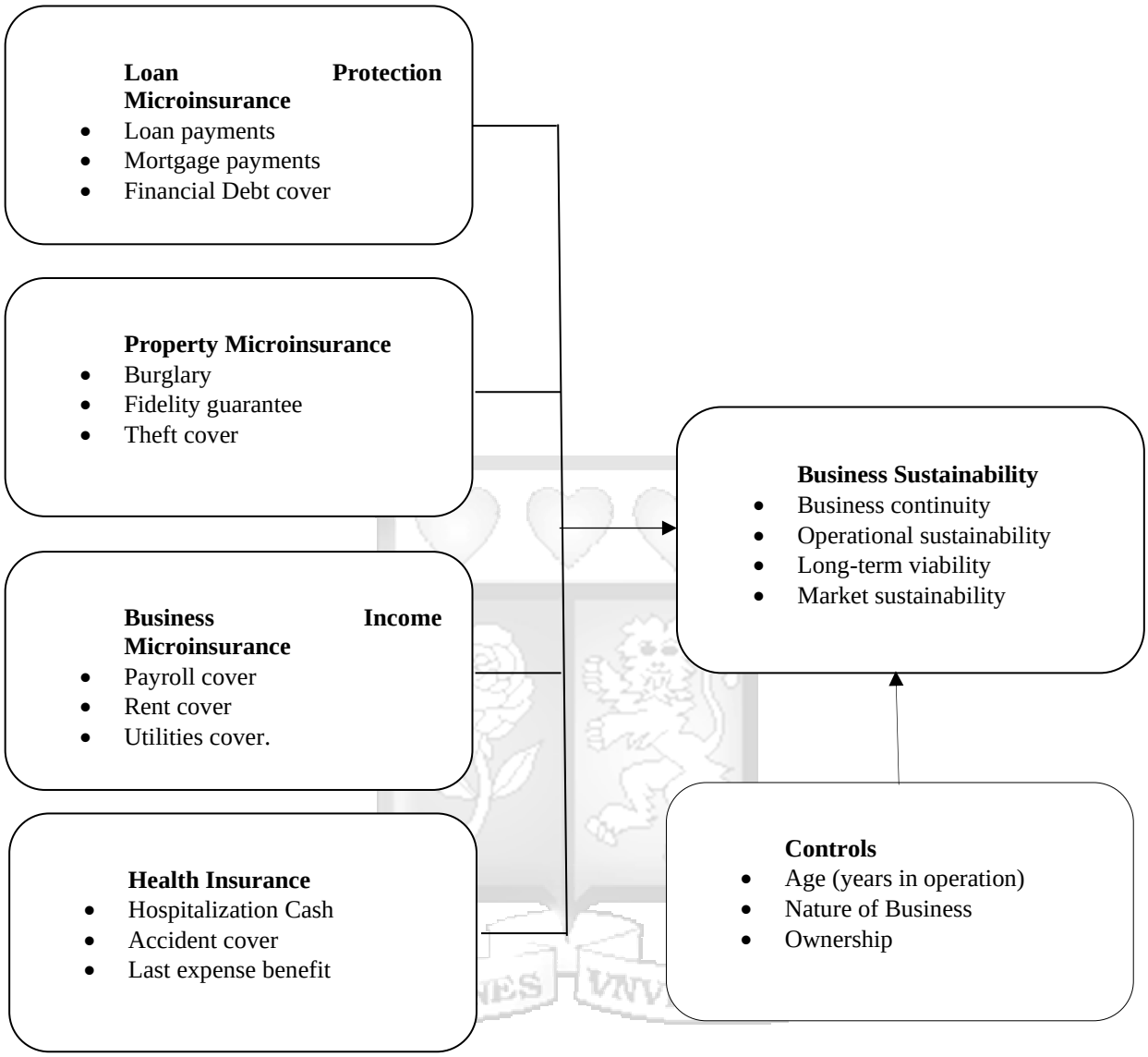

Figure 2.1 Conceptual Framework

Source: Researcher (2024)

Table 2.2 Operationalization of Variables

Variable	Constructs	Measurement	Analysis of Variable	Supporting Literature
Loan Protection Microinsurance	• Loan payments • Mortgage payments • Financial Debt cover	Ordinal scale Likert (1-5)	Descriptive test Correlation test Regression test	Karakaplan (2021); Yu, et al. (2022); Wairimu (2019)
Property Microinsurance	• Flood Insurance • Fidelity guarantee • Theft cover	Ordinal scale Likert (1-5)	Descriptive test Correlation test Regression test	Lamond, et al. (2019); Skouloudis, et al. (2023)
Business Income Microinsurance	• Payroll cover • Rent cover • Utilities cover	Ordinal scale Likert (1-5)	Descriptive test Correlation test Regression test	Alves, et al. (2020); Kot and Imran (2019)
Health Insurance	• Hospitalization Cash • Accident cover • Last expense benefit	Ordinal scale Likert (1-5)	Descriptive test Correlation test Regression test	Hasan, et al. (2023); Liu and Zhang (2018)
Control variables	• Age • Nature of Business	Interval and ordinal scale	Descriptive test Correlation test Regression test	Karanja (2017); Mose (2022)
Business Sustainability	• Business continuity • Operational sustainability • Long-term viability • Market sustainability	Ordinal scale Likert (1-5)	Descriptive test Correlation test Regression test	Mann and Gazzarin (2014)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explored the research methods and procedures applied in conducting this study. It looked into, the research design, the study population, the sample size and sampling techniques, the data collection instruments and procedures, data analysis and research quality.

3.2 Research Philosophy

Research philosophy pertains to the process of generating knowledge, its reality and understanding the nature of that knowledge. It elaborates the presumptions that people make about nature of reality (Sekaran & Bougie, 2016). The main research philosophy is realism, interpretivism, pragmatism and positivism. This research was based on a positivist research philosophy which focuses on quantitative approach and is based on real facts, objectivity, neutrality, measurement and validity results. Through utilization of a positivist paradigm the study was able to assess the nature of the relationship between the study variable using a quantitative approach. The philosophy was key in identifying if the underlying theory is supported by findings from the survey.

3.3 Research Design

This study adopted a descriptive cross-sectional research design. The research design was ideal as it supports snapshot review of the statement problem and allows adoption of quantitative research design. This design was further chosen to collect data relating to the study, participants' attitude, opinions, habits and practices in relation to the topic of micro insurance and its effect on the sustainability of informal enterprises in Gikomba Market, Nairobi County (Orodho & Kombo, 2002). Additionally, the research design made it possible to depict the study phenomena which is micro insurance products and its effect on the sustainability of informal enterprises in Gikomba Market, Nairobi County as it is currently (Kothari, 2004). Through the application of this research design, the researcher conducted inferential analysis by using quantitative analytical techniques such as correlation and regression analysis to derive insights into the relationships that exists between the study variables.

3.4 Target Population

The population for this study was 40,000 informal businesses operating in Gikomba Market, Nairobi County (Soko Directory, 2021). The study focused on this location because of the significant number of informal businesses that operate in the market dealing with various products such as clothing, furniture, food and curios. Additionally, the market has been highly vulnerable to various risks particularly frequent incidents of fire, demolitions and theft which has led to substantial losses for businesses operating in the market. Hence, by selecting this study population, the researcher was able to get the required information quickly since it was possible to research on many businesses at once leading to time and cost savings while achieving the study objectives. The unit of observation for the survey was owners of the informal businesses within the market as they are expected to provide relevant information on how selected micro insurance products have affected the business sustainability in the market.

3.5 Sampling Design and Sample Size

According to (Mugenda & Mugenda, 2003), sampling enhances understanding about the characteristics of the entire population. This study adopted purposive sampling also known as deliberate sampling which involves deliberate selection of a particular unit of respondents. The research reviewed on selecting owners of informal businesses within Gikomba market. The sample frame for the study was drawn from the 40,000 businesses operating within the market. Due to the substantial number of informal businesses in Gikomba Market, Nairobi County, it would not be practical for the researcher to include all these businesses in the study. Hence, this study applied the Krejcie and Morgan table to determine the sample size, applying a 5% degree of accuracy and 95% confidence level. Using the Krejcie and Morgan table as shown in Appendix V, the study sample size was 380 business owners operating in Gikomba Market, Nairobi County.

3.6 Data Collection Instrument

There are several types of approaches in data collection, primary or secondary sources of research data. This study dominantly utilized primary sources of study data that was collected using semi-structured questionnaires (Sekaran & Bougie, 2016). The study primary data was collected using structured questionnaires. Application of structured questionnaires ensured

there is uniformity in the data collected as well as foster the rate of response among participants as it's a quick method of collecting study data. The questionnaires were administered in person to the business owners or at least one employee of the enterprises. The questionnaire was structured into sections each designed to collect information on specific study variables as well as details about the enterprise or the respondent. The initial part captured background information, second part focused on the dependent variable and the third section had statements touching on the micro insurance products.

The data collection procedures focus on the systematic processes that are adopted by a researcher in the collection of study data (Sekaran & Bougie, 2016). The research obtained approvals from the research supervisor before submitting the protocol for examination and review by the Institutional Ethics Review Committee. Further, approval was obtained from the National Commission for Science Technology and Innovation. The study used a drop and pick method in the data collection process. This ensured that participants can query the researcher on any aspect that is technical in the questionnaire as well as enhance the response rate during data collection.

3.7 Research Quality

Research quality which includes the validity and reliability of the study findings and techniques employed in a study was evaluated (Sekaran & Bougie, 2016). To this end, the researcher conducted a pilot study which involved informal enterprises that were not part of the main study. Usually, a small group selected for initial evaluation is ideal if it falls between 1-10% of the sample size. In this study, 10% of the sample participated in the pilot study translating to 38 enterprises that participated and were not considered in the main research. The aim of the pilot test was to help refine the questionnaire ensuring that respondents in the main study could answer questions without difficulty.

3.7.1 Reliability Tests

Reliability refers to the extent to which a research instrument consistently measures the intended variables producing stable and consistent results (Sekaran & Bougie, 2016). In this study, the Cronbach's alpha was used to evaluate the questionnaire's reliability. This coefficient of internal consistency assesses the relationships between different items within the same test and determines whether the items designed to measure the same overall construct yield's the same scores. The interpretation of this coefficient was interpreted as follows as per

the decision rules provided by Castillio (2009): >0.9 – Excellent, >0.8 – Good, >0.7 – Acceptable, >0.6 – Questionable, >0.5 – Poor and <0.5 – Unacceptable. The cut off Cronbach alpha of 0.7 was considered in this study.

Table 3.1 Reliability Results

Variable	Cronbach's Alpha	N of Items	Interpretation
Business sustainability	.797	7	Acceptable for use in the study
Loan protection microinsurance	.811	5	Good for use in the study
Property microinsurance	.760	6	Acceptable for use in the study
Business income microinsurance	.743	4	Acceptable for use in the study
Health microinsurance	.773	4	Acceptable for use in the study
Overall Reliability Score	**.832**	**26**	**Good for use in the study**

3.7.2 Validity Tests

Validity is the accuracy and meaningfulness of inferences which are based on the research results (Mugenda & Mugenda, 2003). The validity of an instrument refers to the extent to which a research tool accurately measures what it is intended to measure (Kothari, 2004). To ensure the instrument's validity, the questionnaire was structured into multiple sections with each section designed to collect information relating to a particular objective which is commonly referred to as construct validity. Furthermore, the project supervisor and two micro-finance officials were asked to scrutinize and give comments regarding the relevance and meaningfulness of the questions asked in the questionnaire to enhance its content validity. By taking into consideration the different concerns raised, the researcher adjusted the questionnaire accordingly before undertaking the main study.

3.8 Data Analysis and Presentation

Given that the study used quantitative data, the study dominantly utilized quantitative data analysis approach. The quantitative data was analysed using the statistical package for social sciences (SPSS) and Microsoft Excel was used for complementary purposes. Quantitative

analysis was conducted through descriptive measures (frequencies, percentages, mean and standard deviation) while inferential statistics reviewed on correlation and ordinal regression analysis. The study adopted normality tests, collinearity tests, omnibus test and heteroscedasticity tests to determine adoption of regression analysis as an appropriate analysis approach. The findings were presented using charts/figures and tables. The following research model was applied in the research.

$$BS = \alpha + \beta_1 LP + \beta_2 PMI + \beta_3 BIM + \beta_4 HMI + \beta_5 CONTROLS + \varepsilon$$

……Equation 3.1

Where, BS is the business sustainability of informal businesses in Gikomba market, Nairobi City County

LP is loan protection micro insurance product among informal business in Gikomba market, Nairobi City County

PMI is property micro insurance products among informal business in Gikomba market, Nairobi City County

BIM is business income micro insurance product among informal business in Gikomba market, Nairobi City County

HMI is health micro insurance product among informal business in Gikomba market, Nairobi City County

Controls – include age, ownership, nature of Business.

β_1- β_4 are coefficients of the independent variables

ε is the error term

3.9 Ethical Considerations

The study ensured key ethical issues were upheld through out the research study. All the participants were required to submit their informed consent form prior to taking part in the study work. The researcher upheld the anonymity of the respondents and ensured the collected study data was treated with utmost confidentiality and was not shared with unauthorized people. The study obtained relevant permits from the Ethics Review Committee and NACOSTI

prior to conducing the field work. Lastly, the researcher ensured that all the material utilized in the study was fully referenced and no cases of plagiarism was contained within the research work.

3.10 Chapter Summary

The chapter provided an overview of the methodological plan that was utilized during the study. The research was quantitative in nature utilizing positivist and cross-sectional approaches. Population for the study was drawn from the 40,000 informal businesses operating in Gikomba Market. The research used structured questionnaire in the data collection; the study tool was pretested to determine the reliability and validity of the tool. Collected data was analysed using descriptive, correlation and ordinal regression.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

The aim of the chapter is to present the various results that were obtained from the field work that was conducted among informal businesses within Gikomba market. The chapter captures the background information, the descriptive summary of responses, correlation tests and the regression analysis.

4.2 Response Rate

The study focused on obtaining study data from a sample of 380 informal microenterprises in Gikomba market. Physical data collection was employed in the months of May and June 2024 and the survey was able to obtain 308 responses representing a 81% rate of response which was viewed as suitable and acceptable for the analysis and drawing of inferences for this research.

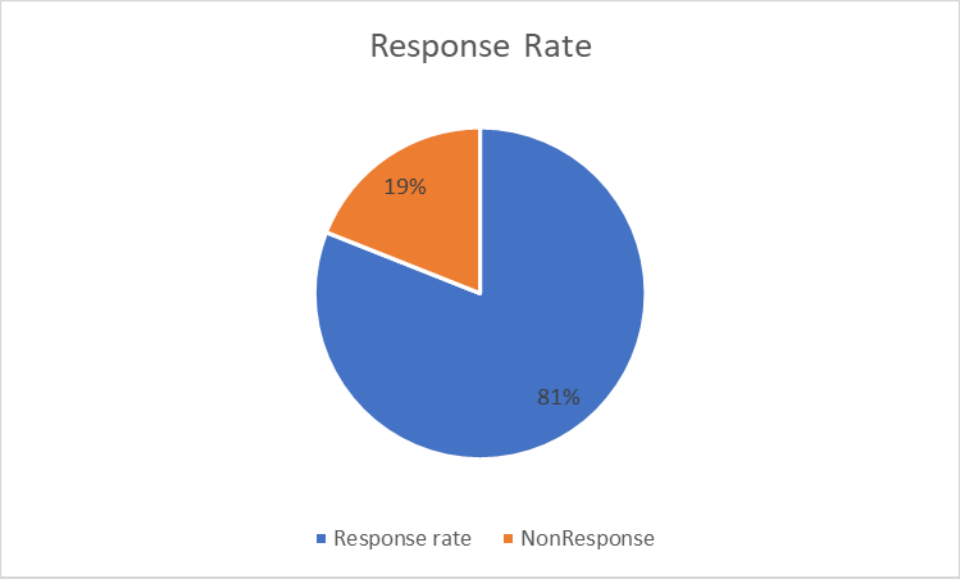

Figure 4.1 Response Rate

4.3 Business Characteristics of the Informal Enterprises

The research reviewed the various characteristics of the informal enterprises and the summary of the responses obtained are shown in Table 4.1 below.

Table 4.1 Characteristics of the Informal Enterprises

		Frequency	Percent
Gender of Owner	Male	189	61.4
	Female	119	38.6
	Total	308	100.0
Education of owner	No formal education	23	7.5
	High School	69	22.4
	College	136	44.2
	Degree	65	21.1
	Postgraduate degree	15	4.9
	Total	308	100.0
Nature of business	Clothing and fashion	97	31.5
	General store	55	17.9
	Hardware	83	26.9
	Agro products	27	8.8
	Mobile banking	46	14.9
	Total	308	100.0
Type of ownership	Sole Proprietorship	152	49.4
	Partnership	101	32.8
	Women	41	13.3
	Limited Company	14	4.5
	Total	308	100.0

Results from the participants indicated that majority of the business (61%, n = 189) were male owned with only 39% of the business owned by women. The findings implied there was a high participation in the number of women in informal enterprises within the market. The study findings revealed that 44% of the owners had a college diploma, 22% had high school education with 21% having a university degree which showed there was diversity in the level of education achieved among the owners. The results revealed that most of the businesses 32% (n = 97)

were in clothing and fashion category, 27% were in hardware business, 15% mobile banking and 18% owned general stores. The findings demonstrated that responses obtained were from a diverse pool of enterprises thus enhancing quality of information provided on the role of micro insurance on business sustainability. Finally, the analysis revealed that 49% of the business were sole proprietorship, 33% were partnerships and 13% owned by women groups thus showing diversity in business ownership.

4.4 Descriptive Analysis

The research further provided the respondents with structured Likert statements on the business sustainability and micro insurance products utilized by the firms. The responses obtained were examined through the application of means and standard deviation.

4.4.1 Business Sustainability

The respondents were provided with questions on the sustainability of their enterprises and the results are shown in the table 4.2

Table 4.2 Descriptive Results on Business Sustainability

	N	Mean	Std. Deviation
The business has been able to sustain our service offering even during difficult times	308	3.8312	3.05819
The business has clear plans to ensure we maintain our service offering to the foreseeable future	308	4.1266	.68976
The business ensures there is adequate inventory to ensure we are able to serve our customers well	308	4.0325	.70289
The business ensures our services are offered efficiently to minimize losses that may affect our operations	308	4.0032	.65819
The business has adequate savings to ensure we have enough resources to purchase stock in the long-term	308	4.0877	.87423
The business is able to effectively serve our market share thus maintaining customer loyalty	308	3.9838	.74177
The business relies on feedback from our customers to introduce new products in order to meet market demand	308	4.0130	.95493

Respondents strongly agreed their businesses have clear plans to ensure they maintain service offering into the near future (mean = 4.1266). The analysis showed agreement that the businesses have adequate savings to ensure adequate resources to purchase stock for the long-term (mean = 4.0877). Results further showed agreement (mean = 4.013) that the businesses rely on feedback from customers to introduce new products to meet market demand. The study noted agreement among participants the businesses can effectively serve market share thus maintaining loyalty (mean = 3.9838).

4.4.2 Loan Protection Micro Insurance

The study queried respondents on access to loan protection micro insurance products/services and the summary of responses is shown in table 4.3.

Table 4.3 Descriptive Results on Loan Protection Micro Insurance

	N	Mean	Std. Deviation
The business has obtained insurance cover to protect against unexpected natural events affecting our debt repayment	308	3.1591	1.23363
The business has obtained debt coverage insurance to protect against loss of product due to accidents	308	3.4058	1.26629
The business engages our suppliers to obtain insurance cover on any stock purchased on credit	308	3.1851	1.21935
The business has obtained insurance cover on the lease obtained for the premises	308	3.2792	1.26077
The business conducts routine assessment of any risks that may affect our ability to repay our creditors	308	3.5097	1.04768

The findings revealed agreement that the businesses conduct routine assessment of any risks that may affect ability to repay creditors (mean = 3.5097). A mean of 3.4058 showed disagreement the businesses have obtained debt coverage insurance to protect against loss of products due to accidents. Finding's further indicated disagreement that the businesses engage suppliers to obtain insurance cover on any stock purchased on credit (mean = 3.1851).

4.4.3 Property Micro Insurance

The research further sought to understand access to property micro insurance in the market and summary of the findings are given below.

Table 4.4 Descriptive Results on Property Micro Insurance

	N	Mean	Std. Deviation
The business has obtained cover to protect loss of our stock due to burglary/theft	308	3.6948	1.02304
The business has insurance cover to protect against losses from fire incidents in the market	308	3.8766	1.17979
The business has purchased insurance cover to protect against loss of our stock through embezzlement by our employees	308	2.7435	1.23301
The business has obtained insurance cover to protect against loss of stock due to misappropriation/damages by suppliers to our customers	308	3.0455	1.20445
The business maintains insurance coverage against loss of product due to demonstration/terror events	308	2.9935	1.08587
The business provides accident covers for products lost during delivery to our customers	308	3.3084	1.09440

A mean of 3.8766 revealed agreement that the businesses have insurance cover to protect against losses from fire incidences in the market. Findings showed agreement that the businesses have obtained cover to protect loss of stock due to burglary/theft (mean = 3.6948), The respondents were in disagreement (mean = 3.0455) that they have obtained insurance cover to protect against loss of stock due to misappropriation/damages by suppliers to customers.

4.4.4 Business Income Micro Insurance

The third variable focused on the utilization of business income micro insurance among the enterprises within the market and results are shown in Table 4.5

Table 4.5 Descriptive Results on Business Income Micro Insurance

	N	Mean	Std. Deviation
The business has an insurance cover that ensures employees are paid despite loss of income	308	3.4416	1.11541
The business has maintained an insurance cover that protects the owner from loss of investment due to long-term interruptions to operations	308	3.6039	1.22365
The business has an insurance cover against loss of stock due to systemic losses i.e. lockdown, government curfews impacting normal activities	308	3.0292	1.22240
The business has insurance cover that ensures refund of stock lost due to utility provider accidents i.e. water and power firms	308	3.1266	1.24527

The respondents were in agreement (mean = 3.6039) that the businesses have maintained an insurance cover that protects the owner from loss of investment due to long-term interruptions of operations. The study indicated moderate agreement the businesses have insurance cover that ensures employees are paid despite loss of income (mean = 3.4416). The participants disagreed the business has insurance cover that ensures refund of stock lost due to utility provider accidents i.e. water and power firms (mean = 3.1266).

4.4.5 Health Micro Insurance

The research also reviewed the access and usage of health micro insurance products among enterprises in the market and results are shown below.

Table 4.6 Health Micro Insurance

	N	Mean	Std. Deviation
The business maintains a last expense cover for all our employees	308	2.6591	1.35205
The business ensures that there is an accident cover to protect against customers injured in our premises	308	2.8344	1.21413
The business has an insurance cover to protect our employees due to workplace accidents	308	3.0357	1.21956
The business ensures there is health-coverage for our employees to minimize their loss of income due to hospital bills	308	3.0714	1.22731

The analysis indicated disagreement (mean = 3.0714) the businesses ensure there is health-coverage for employees to minimize their loss of income due to hospital bills. Participants also disagreed on whether the businesses ensure that there is an accident cover to protect against customers injured in their premises (mean = 2.8344). The respondents showed disagreement (mean = 2.6591) the business maintains a last expense cover for all their employees.

4.5 Correlation Analysis

The research conducted correlation tests to determine the nature of the relationship between micro insurance products and business sustainability. The Spearman rank correlation was utilized in the study and results are presented in Table 4.7

Table 4.7 Correlation Results

			Business Sustainability	Loan Protection	Property Microinsurance	Business Income	Health Micro Insurance
Spearman's rho	Business Sustainability	Correlation Coefficient	1.000				
		Sig. (2-tailed)	.				
		N	308				
	Loan Protection	Correlation Coefficient	.301**	1.000			
		Sig. (2-tailed)	.000	.			
		N	308	308			
	Property Microinsurance	Correlation Coefficient	.410**	.591**	1.000		
		Sig. (2-tailed)	.000	.000			
		N	308	308	308		
	Business Income	Correlation Coefficient	.209**	.495**	.513**	1.000	
		Sig. (2-tailed)	.000	.000	.000	.	
		N	308	308	308	308	
	Health Micro Insurance	Correlation Coefficient	-.055	.240**	.098	.114*	1.000
		Sig. (2-tailed)	.334	.000	.085	.046	.
		N	308	308	308	308	308

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

*. Correlation is significant at the 0.05 level (2-tailed).

The analysis revealed that loan protection had a weak positive and significant relationship to the business sustainability of the informal enterprises in Gikomba market (r = .301**, sig = .000<.05). On the second objective which is property micro insurance, the findings indicated a

moderate positive relation with the business sustainability of the informal enterprises in Gikomba market (r = .410**, sig = .000<.05). The test on the third objective confirmed that business income micro insurance products have a weak positive relation with the business sustainability of the informal enterprises in Gikomba market (r = .209**, sig = .000<.05). Lastly, the analysis showed an insignificant weak and negative relation between health micro insurance and the business sustainability of the informal enterprises in Gikomba market (r = -.055, sig = .334>.05).

4.6 Diagnostic Analysis

The study applied various diagnostic checks before conducting the regression analysis and the findings are presented in this section.

4.6.1 Normality Test

The study was interested in confirming the normal distribution of the data utilized in the study and this was confirmed using the normal p-p plot which showed that observations obtained fitted along the normality curve. This indicated the data was from a normal distribution.

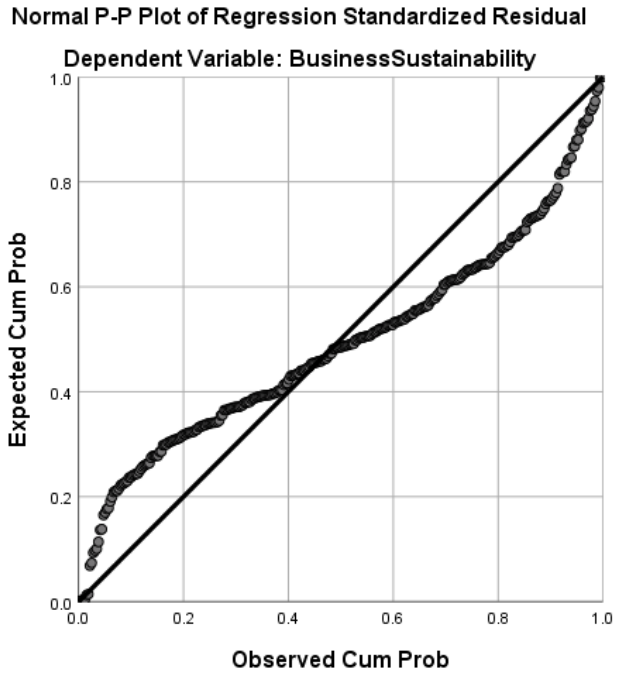

Figure 4.2 Normality P-P Plot

4.6.2 Collinearity Test

The research tested for collinearity problems which aim to establish whether there is any linear dependency between the predictor variables. The research adopted the variance inflation factor and tolerance values in the analysis.

Table 4.8 Collinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Loan Protection	.514	1.946
	Property Microinsurance	.538	1.859
	Business Income	.689	1.451
	Health Microinsurance	.841	1.189
	Age Of Business	.887	1.127
	Partnership	.846	1.182
	Women Group	.892	1.121
	Limited Company	.942	1.061

The findings from the analysis showed the variables had VIF values that were below 10 which was an indicator of lack of collinearity problem. This was further confirmed with tolerance values that were above 0.1 which was a further indicator that the variables did not show any collinearity issues.

4.6.3 Heteroscedasticity Test

The heteroscedasticity test was carried out to ascertain whether there was variability of the errors across observations used in predicting the dependent variable. The research employed the Scatterplot and the findings revealed the data points were evenly spread thus showing constant variance. This was an indicator that heteroscedasticity was not present.

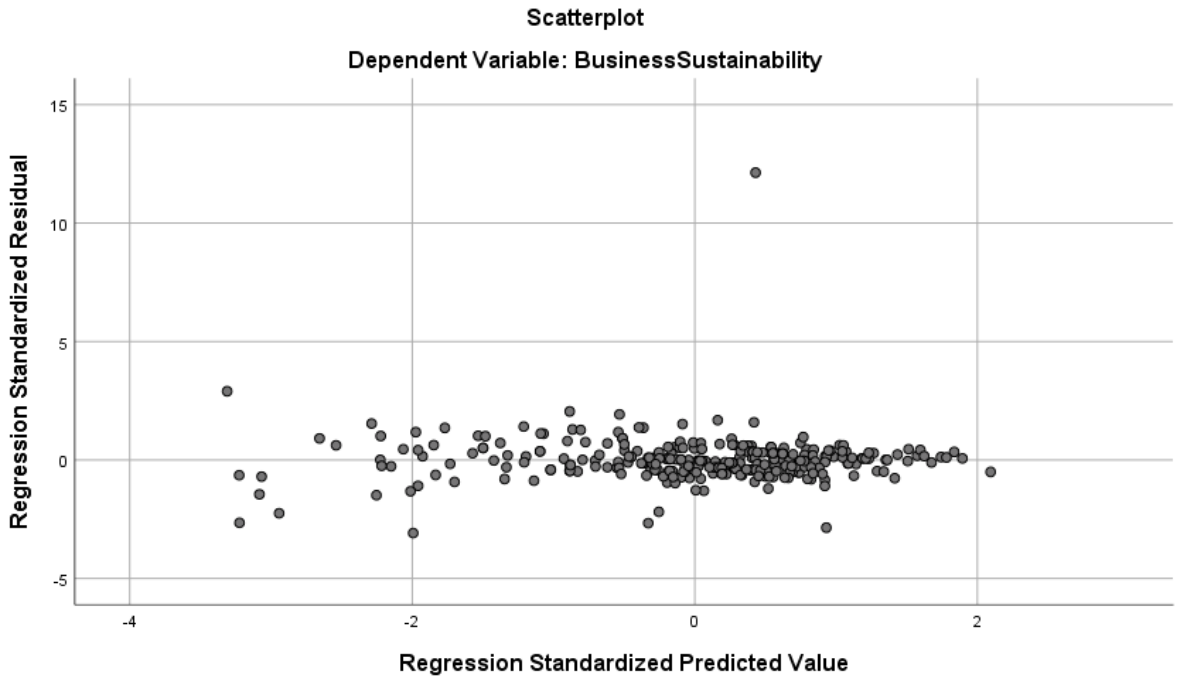

Figure 4.3 Scatterplot for Heteroscedasticity Test

4.6.4 Factor Analysis

The research further conducted factor analysis which was meant to identify the underlying relationship among the set of observed variables. Through adoption of the factor analysis technique the researcher was able to establish items within the questionnaire that corresponded to the subject variable. The research utilized the Kaiser-Meyer-Olkin - KMO bartlett sphericity test, Eigenvalues and varimax rotation where more than one factor was loaded.

4.6.4.1 Kaiser-Meyer-Olkin - KMO Bartlett Sphericity Test

Table 4.9 Kaiser-Meyer-Olkin - KMO Bartlett Sphericity Test

Variable	Diagnostics	Value
Business sustainability	KMO Measure of Sampling Adequacy	0.765
	Bartlett's Test of Sphericity	*Chi. Sq= 265.367, df = 21, Sig. = .000*
Loan protection	KMO Measure of Sampling Adequacy	0.818
	Bartlett's Test of Sphericity	*Chi. Sq= 480.896, df = 10, Sig. = .000*
Property microinsurance	KMO Measure of Sampling Adequacy	0.770
	Bartlett's Test of Sphericity	*Chi. Sq= 404.620, df = 15, Sig. = .000*
Business income microinsurance	KMO Measure of Sampling Adequacy	0.729
	Bartlett's Test of Sphericity	*Chi. Sq= 270.263, df = 6, Sig. = .000*
Health microinsurance	KMO Measure of Sampling Adequacy	0.762
	Bartlett's Test of Sphericity	*Chi. Sq= 368.870, df = 6, Sig. = .000*

The findings of the KMO test showed that all the variables had a value above .05 which was an indication that the observations met the sampling adequacy thus can be adopted for factor analysis to be considered. Further, the Bartlett's Test of Sphericity sig values were below .05 which was an indication that factor analysis can be applied for the research variables.

4.6.4.2 Exploratory Factor Analysis for Business Sustainability

The survey further applied factor analysis to determine the components for the variable business sustainability and findings are shown below.

Table 4.10 Exploratory Factor Analysis for Business Sustainability

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.371	33.869	33.869	2.371	33.869	33.869
2	1.021	14.580	48.448	1.021	14.580	48.448
3	.947	13.528	61.977			
4	.873	12.464	74.441			
5	.673	9.610	84.051			
6	.592	8.456	92.507			
7	.525	7.493	100.000			

Extraction Method: Principal Component Analysis.

The analysis revealed that two factors had an eigen value of above 1; factor 1 (2.371) and factor 2 (1.021) which explained cumulative 48.448% of the total variability in the business sustainability. The study further conducted varimax rotation to fit the items for each factor as shown below.

Table 4.11 Factor Rotation for Business Sustainability

	Component	
	1	2
The business has been able to sustain our service offering even during difficult times	-.024	**.938**
The business has clear plans to ensure we maintain our service offering to the foreseeable future	.326	.322
The business ensures there is adequate inventory to ensure we are able to serve our customers well	**.518**	-.119
The business ensures our services are offered efficiently to minimize losses that may affect our operations	**.710**	.099
The business has adequate savings to ensure we have adequate resources to purchase stock for the long-term	**.700**	-.105
The business can effectively serve our market share thus maintaining loyalty	**.726**	.007
The business relies on feedback from our customers to introduce new products to meet market demand	**.688**	-.032

Extraction Method: Principal Component Analysis.
a. 2 components extracted.

The rotated component matrix showed the correlation between the items, the variable loading was adopted for items with a value above 0.4 as shown in the Table 4.11 above. Factor 1 was fitted into the service offering within the business, while results showed other items such as adequacy in inventory, efficiency in the business, adequacy of resources, market share and feedback from customers were within the second factor.

4.6.4.3 Exploratory Factor Analysis Loan Protection

The survey further applied factor analysis to determine the components for the variable loan protection and findings are shown below.

Table 4.12 Exploratory Factor Analysis Loan Protection

	Extraction Sums of Squared Loadings		
Component	**Total**	**% of Variance**	**Cumulative %**
1	2.854	57.071	57.071

Extraction Method: Principal Component Analysis.

The factor analysis results indicated that only one factor had eigenvalue, which was higher than 1. The main factor was responsible for 57.071% of the total variability in the loan protection microinsurance thus not requiring further component loading analysis.

4.6.4.4 Exploratory Factor Analysis Property Micro Insurance

The research also conducted factor analysis to determine the components for the variable property micro insurance.

Table 4.13 Exploratory Factor Analysis Property Micro Insurance

	Extraction Sums of Squared Loadings		
Component	**Total**	**% of Variance**	**Cumulative %**
1	2.741	45.691	45.691

Extraction Method: Principal Component Analysis.

The results showed that one factor had eigenvalue, which was higher than 1. The main factor was responsible for 45.691% of the total variability in the property microinsurance thus not requiring further component loading analysis.

4.6.4.5 Exploratory Factor Analysis Business Income Micro Insurance

The research further employed factor analysis focusing on the business income microinsurance among the business and findings are shown in Table 4.14

Table 4.14 Exploratory Factor Analysis Business Income Micro Insurance

	Extraction Sums of Squared Loadings		
Component	**Total**	**% of Variance**	**Cumulative %**
1	2.263	56.582	56.582

Extraction Method: Principal Component Analysis.

Results of the analysis results indicated that only one factor had eigenvalue, which was higher than 1. The main factor was responsible for 56.582% of the total variability in the loan protection microinsurance thus not requiring further component loading analysis.

4.6.4.6 Exploratory Factor Analysis Health Micro Insurance

The survey further applied factor analysis to determine the components for the variable health micro insurance and results are presented in Table 4.15.

Table 4.15 Exploratory Factor Analysis Health Micro Insurance

	Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %
1	2.417	60.423	60.423

Extraction Method: Principal Component Analysis.

Findings revealed that one factor had eigenvalue, which was higher than 1. The main factor was responsible for 60.423% of the total variability in the health microinsurance thus not requiring further component loading analysis.

4.7 Ordinal Regression Analysis

The study employed ordinal regression analysis to determine the magnitude of relationship of the independent and control variables on the business sustainability of the informal enterprises in Gikomba market.

Table 4.16 Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1453.452			
Final	1381.716	71.736	8	.000

Link function: Logit.

The log-likelihood value for the model was 1381.716 with a chi-square of 71.736 and a sig = .000 which was significant since it was less than .05. This confirmed there was a significant relationship between micro insurance products, business characteristics and the business sustainability of the informal enterprises in Gikomba market.

Table 4.17 Pseudo R-Square Results

	Pseudo R-Square
Cox and Snell	.514
Nagelkerke	.518
McFadden	.153

Link function: Logit.

The analysis of the Pseudo R-squared, showing the research model had a strong predictive power. This can be based on the Cox and Snell Pseudo R-squared likelihood, which was .514, affirming the model predicts the outcome of the dependent variable. Similarly, the Nagelkerke full model results and the McFadden Pseudo R-squared were .518 & .153, showing there was a predictive power of the fitted model.

Table 4.18 Goodness of Fit Test

	Chi-Square	df	Sig.
Pearson	8667.892	6376	.000
Deviance	1381.716	6376	1.000

Link function: Logit.

The test was conducted to determine if there was consistency between the observed data and the fitted model. The findings showed a sig = 1.000>.05 which confirmed that the observed data was consistent with the estimated values in the model

Table 4.19 Parameter Estimates

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Location	Loan Protection	.391	.154	6.427	1	.011	.089	.693
	Property Micro Insurance	1.014	.185	30.058	1	.000	.651	1.376
	Business Income	.029	.133	.047	1	.829	-.232	.290
	Health Microinsurance	-.252	.114	4.927	1	.026	-.475	-.030
	Age Of Business	-.050	.021	5.793	1	.016	-.091	-.009
	Sole Proprietorship	.419	.494	.719	1	.397	-.550	1.388
	Partnership	.357	.505	.500	1	.480	-.633	1.347
	Women Group	.302	.545	.306	1	.580	-.767	1.370
	Limited Company	0[a]	.	.	0	.	.	.

Link function: Logit.

a. This parameter is set to zero because it is redundant.

The regression analysis yielded a coefficient of .391 with a Wald Chi value of 6.427, Sig = .011<.05 confirming a positive and significant effect of loan protection micro insurance products on business sustainability. This revealed that obtaining loan protection will significantly improve the sustainability of the informal enterprises in Gikomba Market, Nairobi City County.

The findings on the second objective revealed a coefficient of 1.014 with a Wald Chi value of 30.058, Sig = .000<.05 which signified a positive effect of property micro insurance products on business sustainability. This confirmed that utilization of property micro insurance will

significantly improve the sustainability of the informal enterprises in Gikomba Market, Nairobi City County. The analysis of the third variable indicated a coefficient of .029 with a Wald Chi value of .047, Sig = .828>.05 thus revealing business income micro insurance products did not have a significant effect on the business sustainability of the informal enterprises in Gikomba Market, Nairobi City County.

The regression analysis yielded a coefficient of -.252 with a Wald Chi value of 4.927, Sig = .026<.05 confirming a negative and significant effect of health micro insurance products on business sustainability. This revealed that usage of health micro insurance products led to a decrease on the business sustainability of the informal enterprises in Gikomba Market, Nairobi City County. The analysis of the control variables (age of business and type of ownership) had insignificant effect (Sig values >.05) on the business sustainability of the informal enterprises in Gikomba Market, Nairobi City County.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section provides a discussion of the findings that emerged from the research and use them to develop the study's final conclusions and recommendations. It further, provides the recommendations and the limitations that were encountered during the duration of the study. The chapter concludes by presenting a summary of the suggestions for further analysis.

5.2 Summary of the Study

Microinsurance products are instrumental to the well-being of society and as a form of risk pooling and risk transfer, have been shown to provide a safety net and cover for protective assets owned by low-income individuals. They are designed to be more affordable, comprehensive and accessible as they cover against the occurrence of specific, easy to define perils. Previous evidence confirms that there is a critical need to provide access to insurance at affordable rates to low income earners and low-end markets in developing economies, especially sub-Saharan Africa where more than 93 percent of businesses and people operate with no formal insurance cover. However, justifying insurance premiums requires adequate evaluation of the various products available to SME owners and their effect on their businesses. While multiple researchers have evaluated this relationship, the evidence is inconclusive as some researchers make positive observations while others make negative and even inconsequential findings.

Moreover, few researchers decompose the microinsurance products into its individual components in their analysis and this study will evaluate the four main microinsurance products offered in the Kenyan market. This explains why this study sought after the effect of different microinsurance products on the business sustainability of SMEs in Nairobi County, Kenya. The study narrowed its focus on one of the largest second-hand clothes markets in Africa which hosts a multitude of different types of businesses that stand to benefit most from accessing microfinance products and services. To accomplish its objective, the research followed a positivist philosophy and a descriptive cross-sectional research design.

Analysis involved use of descriptive, correlation and ordinal regression and the relationship between the two variables was explained by the Risk Theory and the Expected Utility (EU) theory. The risk theory is a useful theory that provides the platform to guide the development of products with insurance professionals that can practically mitigate risk, help people cope with uncertainty and enable the society to properly anticipate unexpected risks, while the EU theory rationalizes the existence of different insurance products and justifies the importance of selecting the appropriate insurance product, asserting that low-income insurance premium purchasers will always choose to insure their most valuable assets, and will prefer certain products over others. As per these two theories, micro-insurance products are essential products that can only serve their purpose when they are designed to cover against risks that have the most potential to impact negatively on a businesses' sustainability.

The study targeted informal enterprises in Gikomba market and managed to obtain a 81 percent response rate from small business owners in the area. Analysis from the business owners revealed that men owned 61 percent of the businesses, while the rest were owned by women, signifying a remarkable number of women participating in the informal sector. Most of the owners (44%) had a college diploma, while 22% attained high school certification. On the other hand, 21% of the respondents indicated that they have a university degree, indicating a high degree of diversity in education attainment among the owners. On analysis of the business category, analysis results were that 32% operated in the clothing and fashion category, 27% were in hardware business, 15% mobile banking, while 18% were general stores. Most of the businesses were owned by sole proprietors, and partners while only 13% were owned by women groups.

Results of the correlation and regression analysis were that most of the business owners felt that their businesses are sustainable and that they are able to maintain their service offering, restock and effectively serve the market. Crucially, analysis findings were that there is a significant positive effect of access to microinsurance products on the business sustainability of informal enterprises, implying that accessing microinsurance products would result in improved business sustainability in Gikomba market. Specifically, it was ascertained that while loan protection and property micro insurance products had positive effects on the sustainability of the informal enterprises in Gikomba market, business income micro insurance products had an insignificant effect and health micro insurance products had a negative and significant effect on business sustainability. Analysis results on the control variable further revealed an

insignificant effect of business age and ownership type on the sustainability of informal enterprises in Gikomba market, Nairobi City County. These findings recall the assertations in the risk and expected utilities theories that insurance purchasers have to be aware of the different categories of insurance products and their potential effects on the operations of their businesses.

5.3 Discussion of Findings

A discussion of the study's main findings was provided in the following section, comparing it with the findings from previous researchers.

5.3.1 Loan Protection Micro Insurance and Business Sustainability

The first objective of the study was to examine the effect of loan protection micro insurance products on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County and findings were that there exists a positive and significant effect of loan protection micro insurance products on sustainability of informal SMEs in Gikomba market. There was agreement that the businesses conduct regular routine assessment of any risks that may affect their ability to repay their creditors and have obtained debt coverage insurance to protect against lost ability to pay for various types of loans. These findings conform to the expectations of the Expected Utility theory which asserts that risk-averse individuals are more likely to insure against accidents and other unexpected health risks. With cover against debt, business owners with massive debts can protect themselves from liability and interruptions that may affect their ability to cover debt obligations.

Empirical data indicate a positive relationship between the loan protection products and business sustainability in times of crisis according to findings from Karakaplan (2021) which established a significant positive effect of pay check protection programs on small businesses' ability to reimburse employees during the COVID-19 pandemic. In this study, there were some degree of agreement that the businesses had obtained insurance cover to cover risks that may affect their ability to repay creditors and employees. Yu et al. (2022) also observed a significant association between credit guarantee schemes and firm investment into fixed assets and their eventual productivity. The research linked access to a credit guarantee with a higher likelihood of obtaining bank loans, research and development funds, and increasing investments into fixed assets.

This study's respondents agreed that the businesses engaged suppliers in ensuring there is adequate cover on stock purchased on credit and in local analysis, findings from Munguti and Wamugo (2020) also revealed a positive link between debt covers and SME's core capital, and innovation. Another finding from this study is that businesses have obtained insurance covers to protect against unexpected natural events that may affect their ability to repay debt and in the agricultural value chain, Wairimu's (2019) investigation revealed that loan-based micro-insurance products enable agribusiness owners to remain stable and recover from loss due to drought or floods. Credit-based microinsurance products were also associated with sustained operational performance of small holder farms in rural Nigeria where Epetimehin and Agboola (2022) confirmed the positive influence of index-based insurance cover.

However, there is also evidence that acquiring loan protection micro insurance products does not always improve the sustainability of small businesses. Malaysia's Jadi, Manab, and Ahmad (2015), for instance conceded that on its own, insurance is not the ultimate risk management solution. In the study by Agnese et al. (2019) which evaluated the influence of credit guarantee schemes on SME bankruptcies, it was confirmed that loan protection schemes have mixed effects on SME performance. Accordingly, Epetimehin and Agboola (2022) argued that business owners without knowledge of microinsurance risk control still struggled to keep their businesses operational.

These studies pointed to limited awareness, poor risk management strategy adoption and inadequate protection and confirmed the essence of adopting good risk management practices. In the study by Agnese et al. (2019), it was confirmed that business loan protection insurance is not an appropriate product for every business and is more appropriate for businesses whose day-to-day operations can be affected if something happens to the main financier. The implication that can be drawn from these findings is that these insurance products are appropriate for specific times and in specific businesses which are heavily reliant on the entrepreneur.

5.3.2 Property Micro Insurance Products and Business Sustainability

The second study objective was an analysis of the effect of property micro insurance products on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County and the findings were that property micro insurance products have a significant positive effect on the sustainability of businesses in Gikomba Market. These findings conform to the

assertations of the Expected Utility theory which asserts that insurance purchasers will seek to obtain cover for their most valuable assets, and in this case, insuring adequate cover against losses from fire, theft, political violence and terrorism risks is essential to sustained operations of small businesses. In the study by Smolka et al. (2008), newly developed cover for property against natural disasters was associated with recovery after catastrophes. However, according to Leach, Abrams and Yoder (2015), as a stand alone policy, property microinsurance is unused in Africa.

Gikomba is dominated by informally constructed structures and as such, is prone to many multiple risks, with fire and theft being among the main risks facing the businesses (Mutegi, 2018). The EU theory hypotheses that obtaining covers against these risks would be a priority for a majority of businesses in such areas. In this study, there was a high degree of agreement that the businesses have obtained insurance cover to protect against losses from fire incidences in the market and from the empirical evidence, Kihara (2017) established that there is a positive and significant effect of property insurance services on the profitability of SMEs in Nairobi County. According to Lamond, et al. (2019), access to commercial property insurance is key to sustained business operations and is an effective risk mitigation incentive.

Aside from covers against theft and fire, empirical evidence pointed to a significant positive effect of insurance covers that protect against losses incurred due to floods. These studies include Skouloudis, et al. (2023) and Lamond, et al. (2019) whose analyses were carried out in flood-prone areas and established that flood insurance covers influence business owners' preparedness and resilience capacity significantly. Another indication by the respondents was that there is adequate cover to protect against loss of stock due to damage by terror events, demonstration and accidents in transit and according to Abikenova et al. (2022), ensuring goods in transit is covered adequately is essential to sustained operations for firms dealing in fast moving goods.

In this relation, there was agreement that the businesses provide accident covers for products lost in the process of delivering goods to customers and such covers are important when businesses must make multiple deliveries during hours of operation. In the study by Deppuh (2023), insurance for transporters was linked with sustained operations and growth of motorbike and tuktuk businesses. For the drivers, insurance covers were essential as they provided health as well as accident cover, reducing out of pocket costs in case of hospitalization and recovery funds in case of accident at work. However, despite these studies pointing to a

positive effect, Savatia (2018) conceded that many informal enterprises struggle to purchase comprehensive covers and as such the products have low uptake and minimal impacts on many of the premium purchasers.

5.3.3 Business Income Micro Insurance Products and Business Sustainability

The third objective of the research recognizes that small businesses operate on cash basis and that long-term interruptions to their operations can lead to their failure and thus examined the effect of business income micro insurance products on the business sustainability of informal enterprises. Findings were that business income micro insurance products do not have a significant effect on business sustainability in Gikomba Market, Nairobi City County. The EU theory recognizes that just one storm, fire or catastrophe can affect profit generation for sustained periods and implies that entrepreneurs who are wary of the effect of interruptions to operations will purchase this type of insurance cover. Therefore, for business income micro insurance products are key to employers who expect loses from income interruption.

Alves et al. (2020) conceded that BI microinsurance was one of the most adopted crisis management strategies for small business during the COVID-19 outbreak and confirmed that rent and utilities micro-insurance covers for lockdowns enabled many SMEs to pay rent and innovate to sustain operations remotely. In the current study, the researchers were in agreement that the businesses had obtained covers to protect the owner from loss of investment due to long-term interruptions to operations and moderate agreement that the businesses had obtained covers to ensure employees are paid even after loss of income. According to Weisbart (2018), covering mortgages, wages, payroll and loans can be instrumental to restoring businesses after systemic losses. Dror and Eling (2021) also argued for business income insurance among retail sector firms, farmers, hotels, and beauty shops, asserting that these small businesses face numerous risks and need to cover against a multitude of common risks that can interrupt their operations.

BI covers were shown to be particularly important in regions with frequent natural disasters by researchers Gyimah and Boachie (2018) and Kot and Imran (2019) who established a significant effect of BI covers on SMEs operational sustainability after disasters. The researchers also highlighted the importance of providing covers against theft by dishonest staff and in the case of the construction sector, Owusu-Manu et al. (2021) highlighted Fidelity Guarantee insurance as an instrumental means to indemnify contractors in case of loss or

damage of construction materials. The study conceded that loss insurance is critical to project completion.

Despite the value of BI covers, there was differing opinions among respondents that businesses have insurance covers that ensure stock is refunded in the event of business interruptions due to utility provider accidents. This implies that many owners do not consider it necessary to obtain covers for interruptions due to utility provider accidents. In the study by Njegomir et al. (2023), it was revealed that some of the products do not serve certain segments of the population, and depending on the sector of operation, ICT, accommodation, and food services firms stand to benefit most from such products. The specificity of insurance products was also demonstrated by Karanja (2017) whose analysis of the textile sector revealed that inappropriate insurance policies discourage the firms' recovery and can impact recovery.

5.3.4 Health Micro Insurance Products and Business Sustainability

The final objective recognizes that out of pocket health costs can significantly limit a business owner's ability to meet other business costs and as such the objective was to determine the effect of health micro insurance products on the business sustainability. Findings were that health micro insurance products have a significant negative effect of on the businesses' sustainability of informal enterprises in Gikomba Market, Nairobi City County. These findings are contrary to the assumptions of the risk theory which asserts that risk averse individuals will prioritize health outcomes no matter the cost. Therefore, the theory predicts that despite being uncertain of illness, or of the financial consequences of illness, risk averse individuals stand to benefit from reduced loss of risk pooling. This negative effect of health micro-insurance could be due to the informality of the sector and the cost of health covers which often require some formal recognition (Akokuwebe & Idemudia, 2022). This implies that this form of cover may not be appropriately designed for low-income unregistered businesses.

Obtaining health micro-insurance is not a legal requirement in Kenya and as such employers do not have to obtain these covers. However, while most of the formally employed employees are registered with the national insurance fund, over 90% of the population remains uncovered, especially in the informal sector. From the analysis, there was disagreement among the respondents that the businesses ensure there is adequate health-coverage for employees to minimize loss of income due to hospital bills. From the empirical analysis, access to these national health insurance schemes was shown to significantly reduce out of pocket costs and

increase the utilization of healthcare services by informal sector employees (Hasan et al., 2023). Access to healthcare services was then linked with financial resilience of low-income people. In China, access to resident basic medical insurance was key to business sustainability through its influence on the health of entrepreneurs as per Liu and Zhang's (2018) findings.

In this study, there was disagreement that the businesses had obtained covers for accidents that may occur to customers and employees within the premises and according to Garvey (2022), lack of commitment by the employer can significantly influence their workplace behaviour. According to the study, small business employees who are satisfied with their accident and emergency insurance covers are more engaged and productive in the workplace. Similarly, Huynh (2023) asserts that social insurance schemes enhance labour productivity, total factor productivity and firms' return on equity (ROE). According to these studies, these insurance covers act as stimulators of innovation, creativity and drivers of commitment. Another health cover available to employers is the last expense cover but findings were that most of the businesses do not offer last expense cover for all their employees. This may be due to the high informality nature of the businesses which entails they contract numerous employees throughout their lifecycle and can struggle to provide comprehensive covers for all their contract employees.

5.4 Conclusions

This study sought after the effects of micro-insurance products on the business sustainability of informal enterprises in Gikomba Market and the specific objectives were to examine the effect of loan protection micro insurance, property micro insurance, business income micro insurance and health micro insurance on the business sustainability of informal enterprises in Gikomba Market, Nairobi City County. The study concludes that these products have a positive effect on the business sustainability of informal enterprises.

On the first objective, the study concludes that loan protection covers are important to the sustainability of informal enterprises, implying that obtaining loan protection microinsurance will significantly improve the sustainability of the informal enterprises in Gikomba Market, Nairobi City County. The study also concludes that property micro insurance products are key to improving the business sustainability of informal enterprises and that obtaining property micro insurance will significantly improve the firms' sustainability. The study further

concludes that business income micro insurance is not important or key to enhancing business sustainability.

Another conclusion that can be drawn from the study is that health micro insurance products are not important to business sustainability and that in fact, they would negatively affect the business sustainability of informal enterprises. Based on the findings of the last objective, this study concludes that business characteristics of age and business type have no significant effect on the sustainability of the informal enterprises in Gikomba Market. These observations may be due to the nature of the businesses examined; being informal, they all operate in highly risky environments thus don't operate for a lengthy period thus impacting their overall rate of sustainability.

5.5 Recommendations

Possession of microinsurance products could be the main factors leading to the aversion of financial misfortune for small businesses. From the study's findings that microinsurance products have positive effects on the business sustainability of informal enterprises, the following recommendations can be deduced.

From a policy perspective, to legitimize and normalize microinsurance products within the population, it is essential that policies be implemented to legalize the various emerging insurance products, especially those designed for low-income populations, as well as those developed and delivered through digital channels. Policies can also be developed to encourage public education on insurance products as this would increase the products' attractiveness. These policies should also provide clear directions for insurers who fail to uphold their commitments to policy holders as this would help assure them that they would get the maximum utility out of their investments. Addressing the legal and regulatory barriers within the microinsurance regulatory framework would also increase the inclusion of small and unlicensed microinsurance providers as they would be better accommodated under the regulatory environment.

The study also recommends that micro-insurance firms continue to develop and innovate the microinsurance products as this would advance insurance services to a wider range of businesses which increases insurance penetration and ensures insurers are better placed to manage risks through greater risk pooling. Furthermore, it is paramount that these firms ensure they tailor insurance plans to address the specific risks faced by unlicensed micro and small

businesses. It is also essential to encourage the expansion of their coverage at more competitive rates and carry out proper and extensive monitoring of insurance service providers.

To micro finance firms offering micro-insurance products, it is essential that they promote accessibility and affordability of microinsurance products to encourage owners of small businesses to purchase the premiums and cover their businesses against preventable risks. In case an insured risk occurs; it is important that insurers ensure they offer quick compensation to ensure quick recovery after the occurrence of the insured event as this would improve the customers' perceptions of the reliability of microinsurance services.

To informal SMEs, the study recommends business owners educate themselves on the various microinsurance products available in the Kenyan market by attending the training seminars provided by these institutions and adopt the various products according to the risks their businesses face. It is important that they understand enterprises that grow require insurance and take up these products to assist in building resilience and recovery after risk occurrence. In view of the finding that loan protection micro insurance products have a positive and significant effect on business sustainability of the informal enterprises in Gikomba Market, the study recommends that small business owners, especially those whose businesses have long product conversion, and those with debts take up loan protection insurance as this product could assist in covering debt payments in case, they are unable to cover their debt obligations due to an unforeseen event.

Moreover, with financial institutions using loan repayment information to assess the credit score of borrowers, owners can use this policy to maintain and grow their credit scores and even access more business loans. Owners should also engage suppliers with insurance covers since some of the stock may be purchased on credit. This would go a long way to ensuring the business is able to maintain a stable inventory. Based on the finding that property micro insurance products have a positive effect of on business sustainability of the informal enterprises in Gikomba Market, this study calls on owners of informal SMEs to protect their assets and business premises from financial risk/losses. Property insurance is especially recommended to owners of hardware goods, general stores and clothing sellers whose stock is at risk of theft, fire or flooding and essential to sustained business operations.

Regarding the finding that business income micro insurance products do not have a significant effect on the business sustainability of the informal enterprises in Gikomba Market, Nairobi City County, the study calls on business owners to purchase policies covering revenue shortfall as such products ensure businesses can obtain the necessary cash flow. The study calls on businesses to cover their stock against burglary/theft, fire, pandemic-induced business interruptions, supply chain interruptions and even terror events. To ensure maximum utility, the study recommends that entrepreneurs ensure the policies they purchase meet their financial needs during the period of interruption.

Despite evidence that health micro insurance products have a significant negative effect of on business sustainability of the informal enterprises in Gikomba Market, the study recommends that owners of informal SMEs recognize that their businesses are most at risk from their personal risks and the risks facing their employees and take up health-based insurance products covering the various illnesses unique to low-income areas. With the cost associated with these products, it is important that the owners prioritize the most important health risks they face and ensure they purchase subsidized products for risks specific to the operations of their businesses as this would enable them to get the most value out of their premium purchases. Moreover, the study recognizes the value of health microinsurance products and recommends that business owners use these instruments to attract employees, engender commitment and loyalty among employees. Retention of high performing employees is reported to be key to sustaining business operations for SMEs.

5.6 Limitations of the Study

The study encountered several challenges throughout its entirety. The study focused on informal enterprises and its main challenge was that it encountered a considerable number of owners who are not aware of the microinsurance products offered in the area and had thus, not purchased the policies. This study was sure to enquire whether the respondents had purchased insurance policies and its study population was large enough to acquire the acceptable responses. Another limitation encountered emerged from the low adoption of micro-insurance products whereby some of the entrepreneurs had purchased one product and not another. In this sense, the study used their perceptions from experience with the products they had purchased. The study was further limited to the impact of assessing micro insurance products yet from the empirical literature other factors such as the employer's financial literacy and the firms' income can influence their eventual sustainability. Moreover, other microfinance

services and products have been shown to be influenced by business owner's financial literacy and decision making skills.

The study further encountered limited availability of local empirical evidence on the relationship between micro insurance products and business performance. Moreover, some of the respondents were unwilling to respond on matters regarding their financial engagements and this reluctance delayed the completion of data collection and analysis of the scores.

5.7 Areas for Further Studies

This study recognizes its limitations and recommends more analysis into the other factors that can influence the performance of informal SMEs such as the entrepreneur's entrepreneurial skills and their access to other financial services. Moreover, the study calls for further analysis into how the design of individual elements of micro insurance products influence firm performance as the findings indicated a negative effect of health microinsurance and a positive effect of property microinsurance, implying they may be better designed and appropriate to small businesses. The study also calls for similar research to be undertaken but on wider scale, covering both registered and unregistered businesses.

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APPENDICES

Appendix I: Introduction Letter

Name of Study : Lydiah Mutunga

Name of Researcher : *Effects of Micro Insurance Products on The Business Sustainability Of Informal Enterprises in Nairobi City with specific inference to Enterprises in Gikomba Market.*

Date of interview :

a) I have read and understood the study information and sheet provided.
b) I have been given the opportunity to ask questions about the study.
c) I understand that taking part in the study will include being interviewed and audio recorded.
d) I have been given adequate time to consider my decision and I agree to take part in the study.
e) I understand that my personal details such as name, employer address will not be sought or revealed to people outside this project.
f) I understand that my words may be quoted in publications, reports, web pages and other research outputs but my name will not be used.
g) I agree to assign the copyright I hold to the material related to this project to Lydia Mutunga.
h) I understand that I can withdraw from the study at any time and I will not be asked any questions about why I no longer want to take part.

Signature of the Participant: _____ Date: _____

Researcher's Signature: _____ Date: _____

Appendix II: Research Questionnaire

Greetings,

I'm Lydiah Mutunga, an MSC in Development Finance student at Strathmore University. I'm currently undertaking a research study on the ***Effects of Micro Insurance Products on The Business Sustainability of Informal Enterprises in Nairobi City with specific inference to Enterprises in Gikomba Market***. I'm requesting for your help in responding to the attached questionnaire as honestly as possible, the information being sought is for academic purposes. Through the course of the research your confidentiality will be upheld in the study and the information provided will not be accessed by any third parties.

Thank you.

Lydiah Mutunga

<u>Part A: Profile of the Enterprise</u>

1. **What is the gender of the business owner?**
   - Male ( )
   - Female ( )
2. **How long has the business been in operation?**

   ……..
3. **What is the highest education qualification of the business owner?**
   - No formal education ( )
   - High school education ( )
   - College diploma ( )
   - Degree ( )
   - Postgraduate degree ( )
4. **What is the nature of the business?**
   - Clothing and fashion ( )
   - General store ( )
   - Hardware store ( )
   - Agro products ( )
   - Mobile/Agency banking ( )
5. **Type of ownership?**

Sole proprietorship ( )

Partnership ( )

Youth/Women's group ( )

Limited Company ( )

Part B: The Business Sustainability of Informal Enterprises in Nairobi City

Please indicate in the table with a tick (√) or across (×) with a scale of

5= strongly agree 4= Agree 3= Disagree 2= Strongly Disagree 1= Not at all, the extent to which you agree with the statements below.

No	Statements on business sustainability	1	2	3	4	5
1	The business has been able to sustain our service offering even during difficult times					
2	The business has clear plans to ensure we maintain our service offering to the foreseeable future					
3	The business ensures there is adequate inventory to ensure we can serve our customers well					
4	The business ensures our services are offered efficiently to minimize losses that may affect our operations					
5	The business has adequate savings to ensure we have adequate resources to purchase stock for the long-term					
6	The business can effectively serve our market share thus maintaining loyalty					
7	The business relies on feedback from our customers to introduce new products to meet market demand					

Part C: Effects of Micro Insurance Products on The Business Sustainability of Informal Enterprises in Nairobi City with specific inference to Enterprises in Gikomba Market

Please indicate in the table with a tick (√) or across (×) with a scale of

5= strongly agree 4= Agree 3= Disagree 2= Strongly Disagree 1= Not at all, the extent to which you agree with the statements below.

No	Statements on loan protection	1	2	3	4	5

1	The business has obtained insurance cover to protect against unexpected natural events affecting our debt repayment					
2	The business has obtained debt coverage insurance to protect against loss of product due to accidents					
3	The business engages our suppliers to obtain insurance cover on any stock purchased on credit					
4	The business has obtained insurance cover on the lease obtained for the premises					
5	The business conducts routine assessment of any risks that may affect our ability to repay our creditors					

No	**Statements on property microinsurance**	**1**	**2**	**3**	**4**	**5**
1	The business has obtained cover to protect loss of our stock due to burglary/theft					
2	The business has insurance cover to protect against losses from fire incidences in the market					
3	The business has purchased insurance cover to protect against loss of our stock through embezzlement by our employees					
4	The business has obtained insurance cover to protect against loss of stock due to misappropriation/damages by suppliers to our customers					
5	The business maintains insurance coverage against loss of product due to demonstration/terror events					
6	The business provides accident covers for products loss during delivery to our customers					

No	**Statements on business income**	**1**	**2**	**3**	**4**	**5**
1	The business has an insurance cover that ensures employees are paid despite loss of income					

2	The business has maintained an insurance cover that protects the owner from loss of investment due to long-term interruptions to operations					
3	The business has an insurance cover against loss of stock due to systemic losses i.e. lockdown, government curfews impacting normal activities					
4	The business has insurance cover that ensures refund of stock lost due to utility provider accidents i.e. water and power firms					

No	**Statements on health insurance**	**1**	**2**	**3**	**4**	**5**
1	The business maintains a last expense cover for all our employees					
2	The business ensures that there is an accident cover to protect against customers injured in our premises					
3	The business has an insurance cover to protect our employees due to workplace accidents					
4	The business ensures there is health-coverage for our employees to minimize their loss of income due to hospital bills					

Thank you

Appendix III: Ethical Review Permit

Strathmore UNIVERSITY

11th June 2024

Ms Mutunga Lydiah,
lymutunga@yahoo.com

Dear Ms Mutunga,

RE: Effect of Micro Insurance Products on the Business Sustainability of Informal Enterprises. A Case of Gikomba Market

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2201/24.** The approval period is from **11th June 2024 to 10th 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

Ole Sangale Rd, Madaraka Estate. PO Box 59857-00200, Nairobi, Kenya. Tel +254 (0)703 034000
Email admissions@strathmore.edu www.strathmore.edu

Appendix IV: NACOSTI Approval

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **418112**

Date of Issue: **22/May/2024**

RESEARCH LICENSE

This is to Certify that Ms.. Lydiah Ntinyari Mutunga of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: EFFECT OF MICRO INSURANCE PRODUCTS ON THE BUSINESS SUSTAINABILITY OF INFORMAL ENTERPRISES. A CASE OF GIKOMBA MARKET for the period ending : 22/May/2025.

License No: **NACOSTI/P/24/35410**

418112

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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

See overleaf for conditions

Appendix V: Krejcie and Morgan Table

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970