

**FINANCIAL LITERACY, SOCIAL CAPITAL AND SOCIAL PROTECTION
UPTAKE AMONG BODABODA RIDERS IN MURANG'A COUNTY, KENYA**

BY

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MASTER OF SCIENCE IN DEVELOPMENT FINANCE

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**A RESEARCH DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE AWARD OF MASTER OF SCIENCE IN
DEVELOPMENT FINANCE IN THE SCHOOL OF BUSINESS AT KCA
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DECLARATION

I declare that this is my original work, and to the best of my knowledge, it has not been presented to any institution for the award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and authors duly acknowledged.

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I do hereby confirm that I have examined the master's dissertation of **Grace Waithira Ndirangu** and have certified that all revisions that the dissertation panel and examiners recommended have been adequately addressed.

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ABSTRACT

This study sought to assess how financial literacy and social capital influence the uptake of social protection programs among Bodaboda riders in Murangá County, Kenya. It specifically assessed how financial knowledge, financial behaviour, and financial attitude affect the uptake of social protection as well as determine the moderating effect of social capital on the relationship between financial literacy and the uptake of social protection schemes among the Bodaboda riders in Murang'a County. Bodaboda riders are among those who work in the informal sector. Despite increasing numbers of social protection programs in Kenya, contributory programs like health insurance and pension schemes have persistently excluded those in the informal sector, leaving them vulnerable to financial shocks and ultimately old-age poverty. This research targeted 56,211 Bodaboda riders in Murangá County, and a sample size of 397 was used. Applying descriptive design and cross-sectional explanatory design and using stratified sampling, data were collected using structured questionnaires and analyzed using descriptive statistical methods and binary logistic regression analysis to assess the relationship and interaction of the variables using the Statistical Package for Social Sciences (SPSS). The study established that financial attitude (OR = 2.160, P-value < 0.05 for health insurance; OR = 2.826, p-value < 0.05 for pension) and financial behaviour (OR = 1.978, p-value = 0.002 for health insurance; OR = 2.974, p-value < 0.001 for pension) were significant predictors of social protection uptake. However, financial knowledge, though it positively influences uptake of social protection, did not significantly predict uptake (p-value>0.05). Social capital independently and significantly predicted uptake (OR=2.56, P-value<0.001 for health insurance; OR=2.13, P-value=0.002 for pension). However, the interaction terms with financial knowledge, financial attitude, and financial behaviour were not significant, hence did not moderate the effect of financial literacy on social protection uptake. The study recommends developing targeted financial literacy programs that promote positive financial attitudes and behaviour. There should also be heightened awareness campaigns with great emphasis on the registration processes and benefits for both pension and health insurance. It further recommends collaboration between the government and Bodaboda associations for awareness and registration agents to promote accessibility and reduce barriers.

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TABLE OF CONTENTS

ABSTRACT.....	ii
Acknowledgment	iii
Dedication	viii
LIST OF TABLES	ix
LIST OF FIGURES	x
Acronyms and Abbreviations	xi
OPERATIONAL DEFINITION OF TERMS	xii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the Study	1
1.1.1 Financial Literacy	8
1.1.2 Financial Literacy, Social Capital, and Social Protection Uptake	11
1.1.3 Bodaboda Riders in Murang’a.....	12
1.2 Statement of the Problem	14
1.3 Objectives of the Study	16
1.3.1 General Objective	16
1.3.2 Specific Objectives	17
1.4 Research Hypotheses.....	17
1.5 Significance of the Study	18
1.5.1 Bodaboda riders	18
1.5.2. County Government Leadership.....	18
1.5.3 National government	19
1.5.4 Academia	19
1.6 Scope of the study.....	19
1.7 Limitations of the study.....	20
CHAPTER TWO	21
LITERATURE REVIEW	21
2.1 Introduction	21
2.2 Theoretical Review	21
2.2.1 The Triarchic theory of financial literacy	21
2.2.2 Social Capital Theory	22
2.2.3 Theory of Planned Behaviour.....	24
2.3 Empirical Review	25

2.3.1 Financial Knowledge and Social Protection Uptake	25
2.3.2 Financial Attitudes and Social Protection Uptake	28
2.3.3 Financial Behaviour and Social Protection Uptake	30
2.3.4 Social Capital and Social Protection Uptake	32
2.4 Summary of Literature and Research Gaps.....	34
2.5 Conceptual Framework	37
2.6 Operationalization of Study Variables	38
CHAPTER THREE	39
RESEARCH METHODOLOGY.....	39
3.1 Introduction	39
3.2 Research Design	39
3.3 Target Population	40
3.4 Sampling and Sampling Techniques	41
3.5 Data Collection Instrument	42
3.6 Pilot Study/Instrument Pre-testing	43
3.6.1. Validity of the questionnaire	43
3.6.2 Reliability of the questionnaire.....	44
3.7 Data Collection Procedure	44
3.8 Data Processing and Analysis	45
3.9 Diagnostic Test.....	48
3.9.1 Multicollinearity Test	48
3.9.2 Independence of Observations Test.....	48
3.9.3 Outlier test	48
3.9.4 Linearity Test.....	49
3.10 Ethical considerations	49
CHAPTER FOUR.....	50
RESULTS AND DISCUSSIONS.....	50
4.1 Introduction	50
4.2 Response Rate	50
4.3 Demographic Analysis of the Respondents	51
4.3.1 Age.....	51
4.3.2 Education Level.....	52
4.3.3 Gender	53
4.3.4 Marital Status.....	53
4.4 Descriptive Statistics	53

4.4.1 Financial Knowledge	54
4.4.2 Financial Attitude	55
4.4.3 Financial Behaviour.....	56
4.4.4 Social capital.....	58
4.4.5 Uptake of Social Protection Programs.....	59
4.6 Analysis of Qualitative Data	61
4.6.1 Factors Influencing the Uptake of Health Insurance	61
4.6.2 Factors Influencing the Uptake of Pension Schemes	63
4.6.3 Making Health Insurance and Pension Scheme More Accessible	64
4.7 Diagnostic Tests	66
4.7.1 Multicollinearity Test	67
4.7.2 Independence of Observations Test.....	67
4.7.3 Outlier Tests	67
4.7.4 Linearity tests	68
4.8 Testing of Hypotheses	69
4.8.1 Effects of Financial Knowledge, Financial Attitude, and Financial Behaviour on the Uptake of Health Insurance	70
4.8.2 Effects of Financial Knowledge, Financial Attitude, and Financial Behaviour on the Uptake of Pension Scheme	72
4.8.3 Moderation Effects of Social Capital on the Effect of Financial Literacy on Uptake of Health Insurance.....	74
4.8.4 Moderation Effects of Social Capital on Financial Literacy Effects on the Uptake of Pension	75
4.8.5 Summary of Hypothesis Testing	77
4.9 Discussion of Findings	79
4.9.1 Financial Knowledge and Uptake of Social Protection Programs	79
4.9.2 Financial Attitude and Uptake of Social Protection Programs.....	81
4.9.3 Financial Behaviour and Uptake of Social Protection Programs	82
4.9.4 Social Capital, Financial Literacy, and Uptakes of Social Protection Programs. ...	83
CHAPTER FIVE	86
CONCLUSION AND RECOMMENDATIONS	86
5.1 Introduction	86
5.3 Conclusion.....	86
5.4 Recommendations	88
5.4.1 Financial Knowledge and Social Protection Uptake.	88
5.4.2 Financial Attitude and Social Protection Uptake	89

5.4.3 Financial Behaviour and Social Protection Uptake	90
5.4.4 Social Capital and Social Protection Uptake	91
5.5 Contribution to the Body of Knowledge	91
5.6 Areas for Further Research	92
References.....	93
APPENDICES	102
Appendix I: Questionnaire	102
Appendix II: Introduction Letter	106
Appendix III: KCAUSERC Ethics Clearance	107
Appendix IV: NACOSTI License	108

DEDICATION

I dedicate this research dissertation to my family for their support and encouragement.

LIST OF TABLES

TABLE 1 Operationalization of Variables.....	38
TABLE 2 National Population of Bodaboda Riders.....	40
TABLE 3 Target Population per Sub-County.....	41
TABLE 4 Sampling Table.....	42
TABLE 5 Reliability Results	44
TABLE 6 Data Collection Procedure per Sub-County.....	45
TABLE 7 Response Rate.....	51
TABLE 8 Age distribution of respondents.....	52
TABLE 9 Education Level of Respondents.....	52
TABLE 10 Gender of Respondents.....	53
TABLE 11 Marital Status of the Respondents.....	53
TABLE 12 Financial Knowledge Descriptives.....	54
TABLE 13 Financial Attitude Descriptives.....	56
TABLE 14 Financial Behaviour Descriptives.....	57
TABLE 15 Social Capital Descriptives.....	59
TABLE 16 Social Protection Programs Uptake.....	60
TABLE 17 Active Contribution towards the Social Protection Programs.....	60
TABLE 18 Reasons for Health Insurance Uptake.....	61
TABLE 19 Reasons Against Health Insurance Uptake.....	62
TABLE 20 Reasons for Pension Uptake.....	63
TABLE 21 Reasons Against Pension Uptake.....	64
TABLE 22 How to make Social Protections Programs More Accessible.....	65
TABLE 23 Multicollinearity Test Table.....	67
TABLE 24 Health Insurance Uptake Linearity Test.....	68
TABLE 25 Pension Uptake Linearity Test (a).....	69
TABLE 26 Pension Uptake Linearity Test (b)	69
TABLE 27 Omnibus Test of Model Coefficients for Health Insurance Uptake.....	70
TABLE 28 Binary Logistic Regression for Health Insurance Uptake.....	71

TABLE 29 Binary Logistic Regression for Pension Uptake.....	73
TABLE 30 Binary Logistic Regression for Health Insurance with Social Capital as an Independent Variable.....	74
TABLE 31 Binary Logistic Regression for Health Insurance with Social Capital as a Moderating Variable	75
TABLE 32: Binary Logistic Regression for Pension Uptake with Social Capital as an Independent Variable.....	76
TABLE 33 Binary Logistic Regression for Pension Uptake with Social Capital as a Moderating Variable.....	77
TABLE 34 Summary of Hypothesis Testing.....	78

LIST OF FIGURES

FIGURE 1 CONCEPTUAL FRAMEWORK.....	37
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ACRONYMS AND ABBREVIATIONS

CBK: Central Bank of Kenya

CMISCS: Comprehensive Medical Insurance Scheme for civil servants

CVR: Content Validity Ratio

FSD: Financial Sector Deepening

GDP: Gross Domestic Product

GOK: Government of Kenya

ILO: International Labour Relations

IMF: International Monetary Fund

KNBS: Kenya National Bureau of Statistics

NACOSTI: National Commission for Science, Technology, and Innovation

NHIF: National Health Insurance Fund

NSSF: National Social Security Fund

NTSA: National Transport and Safety Authority

OECD: Organization for Economic Co-operation and Development

RBA: Retirement Benefits Authority

SACCO: Savings and Credit Cooperatives

SHIF: Social Health Insurance Fund

SPSS: Statistical Package for Social Scientists

TIMS: Transport Integrated Management Systems

VIF: Variable Inflation Factor

CBHI- Community-Based Health In

OPERATIONAL DEFINITION OF TERMS

Bodaboda Riders: These are motorcycle riders who transport people to different destinations.

Financial Literacy: is the ability to make well-informed financial choices that allow you to attain personal financial wellbeing using the right knowledge, skills, behaviour, and attitude (OECD, 2020).

Health Insurance- This refers to the Social Health Insurance Fund. A financing model supporting the achievement of universal health coverage involving mandatory contributions and informal sector voluntary contributions (Nungo, Filippon, & Russo, 2024).

Pension scheme: Are state-run or publicly managed that are funded through tax and beneficiary contributions to prevent old-age poverty (ILO, World Social Protection Report 2021–2022: Social protection at the crossroads – in pursuit of a better future, 2021). In the context of this research, it refers to retirement plans managed under the National Social Security Fund (NSSF) and the Mbao pension scheme.

Social Capital: Networks, norms, group affiliations and shared values enhancing cooperation and mutual support among individuals as well as their trust and attitudes towards institutions such as government agencies managing health insurance and pension schemes (Bourdieu, 1986; Coleman, 1988; Putman, 1993).

Social Protection: In this study, social protection refers to health insurance and voluntary pension schemes.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Social protection remains key in protecting individuals against vulnerabilities and is a human right (United Nations, 1948). Though the implementation of this right remains a challenge in every nation, there have been accelerated efforts to implement it, especially since the COVID-19 Pandemic. Social protection has been recognized as a key enabler of sustainable development, accelerating the implementation of the Sustainable Development Goals (SDGs) (ILO, 2017). These programs directly contribute to the achievement of multiple SDGs. Health coverage enables access to affordable medical services without citizens suffering financial hardship supporting SDG3 on good health and well-being; pension scheme enable income security in the old age reducing incidences of poverty among the elderly supporting SDG 1 of alleviating poverty in all its forms; enabling access by women and other vulnerable groups to health and pension benefits enables gender equality support SDG 5 on gender equality as well as minimizing inequalities of citizens with a country as championed by SDG 10 (United Nations, 2015). However, due to the informal nature of the workforce, especially in developing countries, contributory programs like health insurance and retirement schemes remain challenged.

Health insurance and pension are among the oldest social protection interventions and can be traced back to Germany, where the government introduced a mandatory health scheme in 1883 and later a pension scheme in 1889 (Akram-Lodhi, 2021). These schemes sought to enhance the production of the industries by ensuring that the workers were healthy and could afford the goods produced by the industries, upon losing their jobs or after retirement. The scheme only benefited those in employment and was marked by mandatory contributions from

the employees based on their income, matched by employers' contributions. That has persistently led to the exclusion of those unemployed and those in the informal sector. Informal work is all economic activities carried out by workers or economic units that are not sufficiently covered by formal arrangements, both in law and practice (ILO, 2018). This includes construction workers, domestic workers, street vendors, drivers, garbage pickers, bus conductors, market sellers, and motorcycle (Bodaboda) riders, among others. The informal sector is associated with poor pay, no entitlements and benefits such as pension, leave, and health insurance, unfair dismissal, and lack of industry regulation resulting to hazardous work environments (The Rockefeller Foundation, 2015). Millions of workers in the informal sector remain excluded from social protection programs as contributory programs are restricted to those in the formal sector, leaving those in the informal sector to join programs voluntarily (ILO, 2021). Unlike formal employees, informal workers do not have employers to deduct and remit contributions, making it necessary to develop alternative collection mechanisms that accommodate their irregular income patterns.

Globally, in 2025, it is estimated that 57.7% of workers are in informal employment (International Labour Organization [ILO],2025). Despite global efforts to extend social protection to those in the informal sector, most workers remain exposed with no health and pension insurance coverage. Even though not all who are in the informal sector are poor, there is a significant overlap between being in the informal sector and being poor (Bonnet, Vanek, & Chen, 2019). High poverty levels, and occupational risks, combined with low or lack of access to risk management instruments, and social protection, render informal workers highly vulnerable (OECD/ILO, 2019). Since the informal economy is outside the regulatory framework, the workers in these sectors are exposed to low pay and inconsistent income, making it hard to participate in contributory social protection schemes. Globally, only 35 percent of the working-age population contribute to a pension scheme and only 60.1% of the

global population is covered by a social health insurance scheme: 65.8% of which make mandatory contributions largely in formal employment and only 17.3% make voluntary contributions (ILO, 2024).

In Africa, it is estimated that 85.2% of workers are in informal employment (ILO, 2025). The percentage is even higher in Kenya, where it is estimated that 86.5% of the working population works in the informal sector (ILO, 2025). With elevated levels of unemployment in Africa and other developing countries, the informal economy remains key in providing opportunities for workers in these countries. The informal sector provided most of the employment opportunities in 2023. The workers in this sector are often young, between 18 and 35 years, largely belong to social networks with strong social support, and rely on their social networks for financial services especially savings and loans (The Rockefeller Foundation, 2015). Pension contribution in Africa remains very low. Only 14.6 percent in Africa, 9.7 percent in Sub-Saharan Africa, and 10.7 percent in Kenya contribute towards a pension scheme (ILO, 2024). Further, only 24.8 percent are effectively covered by health insurance in Africa, and 34.9 percent in Kenya (ILO, 2025).

The inability to contribute to contributory social protection schemes like pension and health insurance exposes the workers to financial vulnerability. Workers in this sector are at risk of falling below the poverty line once their working days are over since they do not have access to any pension schemes. They only have access to social assistance, which may be unsustainable for the government due to the growing population and longer life expectancy, meaning that upcoming generations are likely to spend more of their life in retirement than the previous generation. Health risks have been termed as the primary risks for workers in the informal sector that are compounded by low-quality nutrition, poor housing, lack of access to safe drinking water, lack of access to decent sanitary facilities, as well as lack of basic health

services, among other issues (ILO, 2015). These health risks not only affect the individuals, but they also affect their businesses and employment and affect the welfare of their families, which are dependent on the business. It is due to these concerns that social protection among the informal sector has been given a key concern both at a global and national level with different countries employing various tactics to enrol more of their citizens in social protection programs. Social protection programs are essential in promoting equity, reducing poverty, and improving the well-being of vulnerable populations (ILO, 2018). Social protection plays a crucial role in achieving the 2030 Agenda for Sustainable Development, particularly in addressing poverty, promoting well-being, ensuring gender equality, and reducing income inequality.

Health insurance and the pension schemes remain especially critical to the Kenyan economy, affecting the well-being of households as well as the national economy. There has been a worrying trend of a decrease in the percentage of Kenyans under the health insurance, despite the growing numbers of those under the plans, as major health challenges persistently remain the number one shocks that face households in Kenya (Central Bank of Kenya [CBK] et al, 2024). Further, a survey by Enwealth (2022) revealed that pension through the current employer and as a personal initiative is the most popular savings avenue among Kenyans at almost 27 percent, highlighting the key role pension plays in an individual's life and the economic perspective. An increase in pension contributions and extending pension coverage remain key in enhancing savings among Kenyans. In 1966, the National Hospital Insurance Fund, a contributory health insurance for workers in the formal sector, was launched. And since then, the country has continued to make progress despite the low uptake of health services among those in the informal sector. In January 2012, the Comprehensive Medical Insurance Scheme for civil servants (CMSCS) was launched, enabling the civil servants to enjoy inpatient

treatments without limits in all government hospitals, mission hospitals, and some private hospitals.

Kenya's journey to universal health coverage started in 2012 as the then President Uhuru Kenyatta sought to implement his party's manifesto on affordable health care that sort to achieve free primary healthcare for all Kenyans, increasing health financing from 6% to 10% (Jubilee Coalition, 2013). In 2014, the health insurance subsidy program was launched to fund the NHIF contributions for poor and vulnerable households. In 2015, NHIF rates were revised and increased from the existing contribution ranging from shs. Thirty to shs. 320 to a contribution between shs. 150 and shs. 1700 is dependent on one's salary. NHIF coverage was also expanded to include outpatient benefits for members and their dependents at their preferred outpatient facilities (Ngángá et al., 2024). In his second term, President Kenyatta launched his medium-term plans, popularly known as the Big 4 Agenda. Universal Health Coverage was one of the key pillars that sought to ensure 100% universal coverage through actualizing 100% subsidy on essential health services as well as reducing medical out-of-pocket expenses by 54% as a percentage of the household expenditure (Government of Kenya [GOK], 2017). To actualize this vision, the government sought to expand the NHIF Coverage. During President Kenyatta's two terms, the coverage expanded to 24.1% in 2022 from 17% in 2013 (Ngángá et al., 2024).

In June 2023, the government launched Bodaboda Care a comprehensive program that sought to offer one-year healthcare coverage to about 117,000 Bodaboda riders who were already trained, had a license, had received emergency training, and were members of a SACCO (Chelangat, 2023) in a bid to recruit the riders to sign up for universal health coverage. On 1st October 2024, Kenya shifted from the 58-year-old National Insurance Health Fund (NHIF) to the Social Health Insurance Fund (SHIF). While NHIF contributions were

mandatory for the formal employees, the enrolment of the citizens in the informal sector was voluntary, though the government encouraged registration through much more subsidized costs for the informal sector workers. Shift to SHIF demanded mandatory contributions from all Kenyans both in the formal and informal sector, leading to mandatory contributions of 2.75% of one's basic salary for those in the formal sector, and a means-testing program was introduced to assess contribution amounts for those in the informal economy. In a bid to increase the number of residents under medical insurance, the County government of Murangá launched Kang'ata Care in 2022. Kang'ata Care was a partnership between the county government and NHIF in providing quality healthcare and last expense pay out to the residents, targeting 20,000 highly vulnerable residents, the elderly and disabled. According to Kenya National Bureau of Statistics [KNBS] and ICF (2023), Murangá health insurance coverage stood at 27%, which was the lowest among other countries in Central Kenya, with Nyandarua at 36 percent, Nyeri at 43 percent, Kirinyaga at 38 percent, and Kiambu at 41 percent.

In the World Bank report: Averting the Old Age Crisis: policies to promote growth and protect the old, the World Bank highlighted the need for comprehensive pension with the rising life expectancy and declining fertility leading to a growing number of old people. To avert this crisis, (World Bank, 1994), proposed that the pension scheme needs to be established in three pillars for effective coverage of the population: a non-contributory basic pension pillar, a compulsory contributions pillar, and a third pillar on voluntary savings. Kenya has slowly made strides in ensuring the three pension pillars are in place.

In 1965, a pension scheme then known as the National Provident Fund, a contributory scheme for workers in the formal sector, was launched. Since then, the mandatory contributions towards pensions for those in the formal sector have experienced significant regulatory changes and have increased both contributions from the employees and employers. Previously, Kenyans

contributed two hundred shillings with employers matching the contributions. The implementation of the NSSF Act of 2013 was effected in February 2023 after the court of appeal overturned the decision by the Employment and Labour Relations court that had found the NSSF Act 2013 unconstitutional (Kiplagat, 2023; Chebet, 2023). This has been done in three distinct phases starting so far since February 2023. During phase one, both employees and employers contributed 6 percent each, capped at the first Shs. 18,000 of an employee's salary. The contributions followed a two-tier structure. In Year 1, Tier I required a 6 percent contribution on the first Shs. 6,000 of the salary, while Tier II applied the same percentage to the next Shs. 12,000 for those earning above Shs. 6,000. In Year 2, the Tier I threshold increased to Shs. 7,000, with Tier II extending to the next Shs. 29,000 for higher earners. By Year 3, Tier I covered the first Shs. 8,000, and Tier II applied to the next Shs. 64,000 for those surpassing this limit, with contributions calculated on a pro-rata basis.

In 2007, Kenya launched the second pillar. The program had enrolled 815,071 beneficiaries by 2023 (KNBS, 2024). The program has faced many challenges, from late disbursements of funds, corruption allegations of disbursement of funds to dead people. However, the program has gone through major transformations, especially one that enables beneficiaries to choose their payment platform. With more than three-quarters of the Kenyans working in the informal sector, establishing the third pillar of voluntary saving is key to securing the Kenyan old population eventually. In 2009, a flagship initiative, The Mbao Pension Scheme was a flagship initiative was jointly launched by the Retirement Benefits Authority (RBA) and the Kenya Jua Kali Co-operative Society Ltd (founder) to encourage voluntary retirement saving by workers in the informal sector with a vision of enrolling at least 50% of all informal workers in Kenya by 2030. In November 2019, the NSSF launched Haba Haba Scheme in a bid to encourage pension saving among those in the informal sector (ILO, 2024). To register for the scheme, one only needs access to a mobile phone with a registered

SIM card. The members were to save a minimum of Shs. 25 a day and have the option to withdraw 50% of their contribution in 5 years after consistent contribution. A survey indicated that only 12.5% of the population in Murangá were enrolled in any pension scheme (CBK; KNBS; FSD Kenya, 2022).

1.1.1 Financial Literacy

Financial literacy is the ability to make well-informed financial choices that allow you to attain personal financial wellbeing using the right knowledge, skills, behaviour, and attitude (OECD, 2020). The National Financial Educators Council (2022) defined financial literacy as possessing financial knowledge, behaviour, systems, and a plan to confidently take effective actions, enabling one to meet their personal goals. Financial literacy is increasingly becoming important with an increasing number of financial products in the market that are growing in complexity, and the continuous changes in pension arrangements, with increasing contributions requiring employees to be more involved in making decisions about their pension contributions (OECD, 2005).

Financial literacy deeply affects individual, community, and national economic status. Only 38 percent of Kenyans are financially literate with many struggling to manage their income, savings, and debt according to EFG Hermes 2021 global savings survey (Njaaga, 2025). The FinAccess Household survey revealed that only 42.1 percent of Kenyans correctly answered the three questions on inflation, interest rates, and risk diversification (CBK et al., 2024). Financial literacy enables people to make informed decisions regarding their financial planning, wealth accumulation, pensions, and debt (Lusardi & Mitchell, 2014). Financial literacy is therefore a complex phenomenon made up of three aspects financial knowledge, financial attitude, and financial behaviour (OECD, 2016).

The first pillar of financial literacy is financial knowledge. (Lusardi & Mitchel, 2023) argues that financial knowledge comprises an understanding of three key fundamental components: risk, interest, and inflation. Additionally, (Menike, 2018) also argues that financial knowledge standards include: time value of money, interest charged on diversified loans, compound interest, portfolio diversification, risk management and inflation. These are well captured in the three big questions as recommended by (Lusardi & Mitchell, 2014). The first question asks about the value of an investment that attracts a yearly interest. The second question focuses on the time value of money, considering the interest rate of an investment against the inflation rate. The third question focuses on risk, considering the purchase of a single company stock and a mutual fund.

The second pillar of financial literacy is financial behaviour. Financial behaviour is the orientation of an individual towards everyday financial behaviour, enabling one to manage their finances to be successful in life (Saurabh & Nandan, 2018). Financial behaviour consists of four broad areas: saving, spending, borrowing and investment. The percentage of Kenyans' saving dropped for the first time in fifteen years, from 74% in 2021 to 68.1%, while Kenyans with various debts continue to be on the rise, from 28.6 percent in 2013 to 64% in 2024 (CBK et al., 2024). Kenya's savings as a percent of Gross Domestic Product (GDP) in 2023 was rated at 16 percent, lowest against her counterparts: Uganda at 36 percent and Tanzania at 21 percent (World Bank, 2025) with the need to support extended families and the availability of quick loans via mobile phones negatively affects the saving behaviour among Kenyans (Enwealth, 2022). In Kenya, loan defaults increased by 6 percent from 2021 to 2024, making the debt default percentage stand at 16.6 percent, the highest ever since 2005 (CBK et al., 2024). The report further revealed that Kenyans considered to be financially healthy dropped from 39.4 percent to 18.3 percent in 2024 (CBK et al., 2024).

The insurance uptake is also low due to poor appreciation of the risks we face. A survey by (CBK et al., 2024) showed that pension usage among Kenyans rose from 10.6% in 2021 to 11.8% while the population that stopped using pension products increased from 4.6 percent in 2021 to 8.6 percent in 2024 due to a decrease in disposable income, loss of jobs as well as continued vulnerability to global shocks. The survey further revealed a decrease of those under health insurance from 27.9 percent in 2019 to 22 percent in 2024. Even though the decrease could be attributed to the shift in the medical health insurance, the percentage remains low as Kenyans continue to battle high out-of-pocket medical expenses, with major health issues remaining the number one shock affecting the households in Kenya (CBK et al., 2024).

The third pillar of financial literacy is financial attitude. Financial attitude was defined as the state of mind that is expressed when evaluating financial management practices (Winarta & Pamungkas, 2021). Further, it is also defined as a mental and psychological judgement of a person in dealing with financial matters (Thomas & Subhashree, 2020). A good attitude towards a behaviour encourages the application of the behaviour (Ajzen I. , 2020). To measure financial attitude, (OECD, 2022) highlights key measures: spending money is more satisfying than saving it for the long term, saving money in the bank is safer, and preparation to take risks when saving and investing. A study by (Omwombo & Adul, 2022) also highlighted key attitudes that prevailed concerning retirement planning where respondents felt that retirement was worth thinking and planning for, parents felt that their children will take care of them in old age, investment in physical assets like lands and building was a better retirement plan and also felt benefits from the pension scheme were too low. A study by Sugiyanto et al. (2019) revealed that positive financial attitudes have a positive effect on financial behaviour, such as financial management, financial control, and budgeting.

1.1.2 Financial Literacy, Social Capital, and Social Protection Uptake

Increasing financial inequality and financial vulnerability remain a key concern to policymakers around the globe (Chancel & Piketty, 2021). Global shocks such as pandemics, extreme weather conditions, political instability, and geopolitical tensions continually increase these aspects, demanding urgent actions to support vulnerable households especially through social protection programs. However, uptake of these social programs among voluntary contributors remains a challenge due to little appreciation of the role they play in one's life against risks throughout one's life cycle. Research shows that financial literacy is an effective tool against financial vulnerability and poverty by enabling better financial choices, enabling asset accumulation as well as enhancing financial well-being (Lusardi & Mitchell, 2023; Berg & Zia, 2017). Financial literacy enables households to effectively use the scarce resources they have, choose financial products that best meet their needs, as well as become proactive decision makers (Bianchi, 2018). A study by Klapper et al. (2015) revealed that lower socioeconomic status was strongly associated with financial illiteracy.

A higher level of education has been associated with a higher level of financial literacy. (Lusardi & Mitchell, 2014) stated that someone with low financial literacy is correlated with low income, low education, and low wealth. More researchers have also concluded that there is a significant correlation between the level of education and financial literacy (Puby, 2015; Tanusdjaja, 2018). In a study by Alesane and Anang (2018) that sought to understand the determinants of uptake of health insurance in Ghana among the rural poor, it was concluded that the uptake of health insurance increased with the level of education. Similar findings were reported among informal sector workers in Kenyatta Market in Kibra Subcounty in Kenya by Okumu (2023) and in Nyeri, Kenya by Njogu (2016), Ithanga division in Murangá by Ndungú (2015), and among motorcycle operators in Machakos county by Nyaboga (2017).

In 1916, L.J Hanifan coined the term social capital to highlight the importance of social structure to people in business (Routledge & Amsberg, 2003). Further Coleman (1990) and Putman et al. (1993) defined social capital as a social structure facilitating coordination and cooperation for mutual benefit. Social contracts do not always rely on voluntary participation as they often may impose obligations on their members (Baycan & Öner, 2022) and people use their resources over time, enabling the establishment of relational ties (Lyu, Yuan, Wang, Wang, & Pentland, 2022). Active participation of individuals in diverse networks enables the flow of knowledge and innovation, contributing to economic development (Muringani, Fitjar, & Rodríguez-Pose, 2021).

Communities that have strong social capital are better equipped and more resilient in times of crises, whether economic shocks, natural disasters, or health emergencies, as they easily mobilize resources, share information, and provide support more effectively (Claridge, 2024). The social learning theory by Bandura (1986) argues that people often learn from one another through interaction in a social structure. Social capital hence facilitates learning through knowledge and skills acquisition following interactions within social networks. A study by Cohen and Nelson (2011) revealed that poor households in social networks can improve financial knowledge and skills, enabling them to make better financial choices and decisions as they seemed aware and able to deal with different financial aspects common in their setting. However, a study by Nyaboga (2017) showed that although membership to a social welfare group affected the enrolment to the health insurance, it was statistically insignificant.

1.1.3 Bodaboda Riders in Murang'a

Bodaboda is an innovation from the English word border-to-border that originated in Eastern Uganda along the Kenyan border in the 1990s to refer to young bicycle riders in Busia along

the Kenya-Uganda border who used to smuggle goods between these countries (Howe, 2003). This innovation led to people using it to transport people from one point to another, as people suffered from an inefficient public transport system, as well as poor road networks that made it almost impossible for vehicles to access some of the rural parts, which evolved to the use of motorcycles instead of bicycles.

In 2008, during President Kibaki's era, importation of motorcycles below 250cc was zero rated, leading to a growth of motorcycles from 3,759 in 2007 to 91,151 in 2009 (KNBS, 2010). The number has continued to grow to a currently estimated number of 2.5 million. The business has been key in providing employment to the youth who are the most affected by the high unemployment rate in Kenya. Car & General 2022 report estimated that the Bodaboda business employs more than one million Kenyans, generating about Shs. 1 billion a day and indirectly supporting about six million livelihoods, which is more than 10 percent of the population. However, in the recent past, motorcycle registration has been on the decline with new yearly registration falling from 285,203 in 2021, to 131,513 in 2022 and to 70,691 in 2023 (KNBS, 2024). Though this has been blamed on the National Transport and Safety Authority (NTSA) inefficiencies in transitioning from the TIMs to the E-citizen platforms that severely challenged the ability to secure motorcycle allocations and make sales, the huge decline may indicate much more challenges, including the growing exercise tax on motorcycles (Mwenda, 2023) as low consumer demand due to the high cost of living, and the return of importation tax on motorcycles.

Bodaboda riders play a vital role as part of the transport sector in Murangá county. It has enabled access to affordable transport, especially in rural areas, enabling the movement of people and goods, supporting economic activities, supporting growth of the transport sector which is the second highest earner after agriculture (KNBS, 2024) substantially contributing to

the livelihoods of thousands who directly and indirectly depend on the Bodaboda business. Bodaboda business not only offers employment to thousands of youths in Murangá, but it is also a key revenue source for the county government through payments of parking fees. The collections from motorbikes have continued to grow over the years but exponentially grew in the year from 1.04 million in 2022/23 to 7.9 million in 2023/2024, following automation and efficient enforcement strategies (The County Treasury, 2024).

The county government of Murangá launched a Bodaboda programme which aims at enhancing safety and professionalism and economic aspects of the operators within the county through offering free training as well as facilitating the acquisition of smart driving licences (Murangá County Government, n.d.) The county government has made efforts to ensure compliant Bodaboda service by offering safety gears like reflector jackets and training on road use and first aid: 700 were trained in 2023, 450 riders were trained in April 2024 (Munyao, 2024), 107 in March 2025 (Mugo & Kamunyo, 2025). These trainings enable the riders to get their smart driving licenses as well as equip them with skills enabling them to use the roads safely, reducing the number of accidents, as well as enabling the riders to be compensated by respective insurance firms in case of deaths or accidents. Though these trainings help reduce risk amongst the riders and the citizens, they remain exposed to health risks and other risks that can lead to medical burdens on their family, loss of income as well as poverty in the present and in retirement.

1.2 Statement of the Problem

Pension contributions are essential for economic stability, boosting national savings and reducing reliance on both family and government support (Amaglobeli, et al., 2019). They drive investment in infrastructure, financial markets, and job creation while ensuring retirees have a stable income to sustain consumer spending (Serrano & Peltonen, 2020). For

individuals, pensions provide financial security in retirement, reducing the risk of poverty and allowing them to maintain their standard of living (ILO, 2014). On the other hand, Health insurance benefits individuals by providing financial protection against high medical costs, ensuring access to quality healthcare, and promoting overall well-being (Erlangga, Suhrcke, Ali, & Bloor, 2019). Additionally, widespread health coverage fosters economic stability by lowering absenteeism, enhancing labour market efficiency, and stimulating growth in the healthcare industry (IMF, 2019).

Murangá County is a county in Central Kenya, that has a population of about 1.1 million people and a working population of about 0.6 million, with 60.7% of its population working in the informal sector, 13.3 percent in the formal sector, and 26 percent of the population being dependent (CBK et al., 2022). With a poverty level of 30.1 percent (KNBS, 2024) and only 27.6 percent of residents are financially healthy (CBK et al., 2022). 72.4% of the residents are vulnerable to poverty, financial vulnerability, and other shocks. Murangá health insurance coverage stood at 27 percent, which was the lowest among other countries in Central Kenya (KNBS and ICF, 2023). Further, only 12.5 percent of the population were enrolled in any pension scheme (CBK et al., 2022). This exposes the residents to high out-of-pocket medical expenses, and high vulnerability to families dependent on the Bodaboda business when the breadwinner is affected by occupational risks like accidents, and poverty beyond working days. Several factors may be influencing their engagement with these programs, including financial literacy, which is seemingly low, with the county having a median level of education of 7.8 years, with a median of 7.9 years for women and 7.7 years for men (KNBS and ICF, 2023). Financial literacy is essential for making informed decisions about health and retirement savings.

Despite previous studies affirming the importance of financial literacy in shaping participation in social protection programs such as health insurance and pension plans, several critical gaps remain. Most studies focus on those in the formal sector and those in the informal sector in urban settings, overlooking those in the informal sector in rural and peri-urban areas (Trehan & Sinha, 2020; Waga et al., 2021), like Bodaboda riders in Murangá. Existing literature equates higher education to higher financial knowledge (Alesane & Anang, 2018; Mhapa et al., 2022; Okumu, 2023) despite contrary evidence (Lusardi & Mitchel, 2023). There exist opposing findings on the effects of financial attitude and uptake of pension schemes between Boyetey and Enu-Kwesi (2022), Abdul (2022), and Onyango (2014). Additionally, the influence of financial attitude and financial behaviour on health insurance has barely been investigated. Studies that have assessed the effects of social capital on enrolment in pension schemes and health insurance (Magambo et al., 2022; Muranda et al., 2020; Ngomba, 2020; Wasike, 2019), have treated social capital as an independent variable and failed to examine its potential moderating effect on the relationship between financial literacy and uptake of social protection programs. This study seeks to address these gaps by exploring the influence of financial knowledge, financial attitude, financial behaviour and the potential moderating effect of social capital on the uptake of social protection programs among Bodaboda riders in Murangá County.

1.3 Objectives of the Study

1.3.1 General Objective

The main objective of this study was to investigate the relationship between financial literacy, social capital, and the uptake of social protection schemes among the Bodaboda operators in Murangá County, Kenya.

1.3.2 Specific Objectives

The specific objectives were:

1. To examine the effect of financial knowledge on social protection uptake among the Bodaboda riders in Murangá County.
2. To analyze the effect of financial attitude on social protection uptake among the Bodaboda riders in Murangá County.
3. To assess the effect of financial behaviour on social protection uptake among the Bodaboda riders in Murangá County.
4. To determine the moderating effect of social capital on the relationship between financial literacy and social protection uptake among the Bodaboda riders in Murang'a County.

1.4 Research Hypotheses

The study assessed the following hypotheses:

***H₀₁:** Financial knowledge has no significant effect on health Insurance uptake among Bodaboda riders in Murangá County.*

***H₀₂:** Financial attitude has no significant effect on health Insurance uptake among Bodaboda riders in Murangá County.*

***H₀₃:** Financial behaviour has no significant effect on health Insurance uptake among Bodaboda riders in Murangá County*

***H₀₄:** Financial knowledge has no significant effect on pension uptake among Bodaboda riders in Murangá County.*

***H₀5:** Financial attitude has no significant effect on pension uptake among Bodaboda riders in Murangá County.*

***H₀6:** Financial behaviour has no significant effect on pension uptake among Bodaboda riders in Murangá County*

***H₀7:** Social capital does not have a significant moderating effect on the relationship between financial literacy and health Insurance uptake among Bodaboda riders in Murangá County.*

***H₀8:** Social capital does not have a significant moderating effect on the relationship between financial literacy and pension uptake among Bodaboda riders in Murangá County.*

1.5 Significance of the Study

1.5.1 Bodaboda riders

By identifying gaps in access to essential social protection programs, that is, health insurance and pension schemes, this study will aid in developing effective strategies to enhance the financial security of Bodaboda riders. Moreover, its insights can contribute to policy advocacy efforts, encouraging the establishment of customized financial and social protection programs that cater to their unique needs.

1.5.2. County Government Leadership

By recognizing how financial literacy impacts participation in social protection programs, the government can create tailored financial education initiatives specifically designed for Bodaboda riders and other informal workers, enhancing their financial decision-making. This will eventually increase the uptake of social protection programs, reducing vulnerability of the

residents, enhancing the financial wellness of the households, and enhancing the stability of the local economy.

1.5.3 National government

Understanding how social networks influence program uptake allows the government to work more effectively with Bodaboda associations, SACCOs (Savings and Credit Cooperatives), and other social welfare organizations to promote social protection schemes.

1.5.4 Academia

For academia, this study expands the existing body of knowledge on financial literacy, informal employment, and social protection, with a particular focus on Kenya's transport sector. By providing empirical data, it equips researchers and policymakers with valuable insights to design targeted interventions that support informal workers, thereby advancing discussions on economic inclusion. This research lays the groundwork for future studies on income security and entrepreneurship, providing scholars with a deeper understanding of informal sector dynamics and financial resilience.

1.6 Scope of the study

This study focused on Bodaboda operators in Murangá County, Kenya, examining their levels of financial literacy, the role of social capital, and their participation in social protection schemes, specifically the mandatory social Health insurance fund and pension schemes.

The study was anchored on the interaction between financial literacy, social capital and social protection participation. It explored how financial knowledge, financial attitude, financial behaviour and social networks (trust and networks) influence the decision to enroll in health insurance and pension schemes

1.7 Limitations of the study

Self-assessment of financial literacy levels might have been subject to bias, with respondents rating themselves more highly than they really are. The study employed triangulation by using related questions to mitigate this limitation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter examines the relevant literature related to the variables used in this study. It covers theoretical and empirical literature, identifies research gaps, and presents the conceptual framework. The literature review plays a crucial role in this study by highlighting key gaps that need to be addressed.

2.2 Theoretical Review

2.2.1 The Triarchic theory of financial literacy

The triarchic theory of human intelligence was first championed by Sternberg (1985) to explain the wide range of human abilities beyond the IQ that were overlooked by the standard IQ testing. Sternberg (1985) argued that there are three distinct but interrelated components of human intelligence: cognitive, affective, and behavioural dimensions. The cognitive component comprises facts and concepts one possesses on a subject matter. The affective component comprises attitudes, beliefs, feelings, and values one has towards the subject matter. The behavioural components encompass the practices and actions that one undertakes in line with the subject matter. The triarchic theory of financial literacy, therefore, looks at financial literacy not as a single construct but as a three-dimensional construct: financial knowledge, financial attitude, and financial behaviour. These three aspects of financial literacy were first championed by (OECD, 2016) as measures of financial literacy that together influence one's financial decision-making.

The cognitive dimension is financial knowledge. Financial knowledge involves understanding key concepts: risk, interest, inflation, time value of money, and portfolio diversification (Lusardi & Mitchel, 2023; Menike, 2018). Financial knowledge enables one to understand the structure as well as the benefits of financial instruments, in this case, the pension scheme and the health insurance. Without this knowledge, the Bodaboda riders will be less likely to appreciate the long-term benefits arising from participating in these programs. Financial attitude, on the other hand, reflects one's feelings towards money management and planning, their belief towards the financial institutions and the products, thereby influencing the uptake of pension schemes and health insurance. A good attitude towards a behaviour or product will encourage application of the behaviour as well as the uptake of the product (Ajzen I. , 2020). The behavioural component in this case refers to financial behaviour. Financial behaviour is the everyday practices and actions that one adopts in managing their finances, including saving, spending, borrowing, and investing (Saurabh & Nandan, 2018).

These three dimensions of financial literacy dynamically interact, reinforcing each other. Enhanced financial knowledge can lead to a positive financial attitude, encouraging a financial behaviour, and vice versa. The triarchic theory of financial literacy offers a comprehensive approach to understanding financial literacy, appreciating how it influences financial decision-making. The three-dimensional aspect of financial literacy offered a holistic view of the Bodaboda riders' financial literacy.

2.2.2 Social Capital Theory

The initial development of social capital theory can be traced back to three researchers who created different and conceptual findings. Bourdieu (1986) claimed that social capital is a network of connections that is not naturally or socially given but as a product of endless effort by members to come up and follow laid down rules that govern the institution, ensuring

sustainability as well as useful relationships that can secure material or symbolic profits. He argued that social capital is an individual property rather than a collective property, which enables an individual to exert power on the group. Social capital is not uniformly available to members of a group but is available to who invest in it by putting in efforts to acquire it by developing goodwill as well as achieving positions of power and status. Coleman (1988) took a rational-choice approach that individuals join any social grouping through an independent act and for self-interest. Social capital lay with the social structure of relations among individuals. Unlike Bourdieu (1986) who claimed that social capital was private property and was unevenly distributed, Coleman saw social capital as a public good where the action of an individual benefits the whole group. Putman (1993) looked at social capital from a democratic perspective treating social capital as public good, referring to it as the amount of participatory potential, civic education, and trust in others available to cities, states, or nations.

It is Nahapiet and Ghoshal (1998) who consolidated the social capital theory, claiming that there are three dimensions of social capital: structural social capital, relational social capital, and cognitive social capital. Structural social capital refers to the social structure outlining the patterns of social relationships describing the institutions, who are involved, and how they are connected, enabling individuals to access resources and opportunities. Relational social capital is concerned with the nature and quality of relationships involving key aspects: trust and trustworthiness, norms and sanctions, obligations and expectations, and identity and identification (Nahapiet & Ghoshal, 1998). Cognitive social capital refers to shared language and narratives (Nahapiet & Ghoshal, 1998) as well as shared culture, and shared goals and vision (Inkpen & Tsang, 2005; Tsai & Ghoshal, 1998). Social Capital is key in enhancing connections within a group with high levels of similarities, such as demographic characteristics, attitudes, among others; it is also key in linking people across divides in a society, such as different religions, ethnicities, among others; enhancing the relationship

between people and institutional power and authority. Generally known as bonding social capital, bridging social capital, and linking social capital, respectively.

Bodaboda riders operate in the informal sector, where social capital plays a significant role. Social groupings such as SACCOS, welfare groups are key in the informal sector, enabling the informal sector to have financial access as well as emotional and financial support in the event of loss or financial need, as well as accessing key information and resources beneficial for the riders in all aspects of life. This study employed Social Capital Theory to assess how interactions, group affiliations, and attitudes towards government parastatals offering pension schemes and health insurance influence their decisions regarding participation in and uptake of health insurance and pension schemes. It helped explore how social capital enhances or reduces the influence of financial literacy on the uptake of the social protection programs.

2.2.3 Theory of Planned Behaviour

This theory was first developed by Ajzen (1991) who argued that one's behaviour is determined by their intentions. The intentions are influenced by three things: attitude, subjective norms, and behavioural control. Attitude refers to one's attitude towards the behaviour; subjective norms refer to what they believe other people of influence to the individual think they should do, and behavioural control refers to one's perception of their ability to perform the behaviour. Though these factors may not be consciously considered while one is deciding, they form the backdrop of the process of making the decision. The theory proposes that an individual will be more likely to perform a behaviour when they have a positive attitude towards it and when they feel that other important people in their lives feel they should do so (Chen & Slade, 2024). This theory has been applied in numerous studies in the understanding and prediction of human behaviour. However, a key criticism of this theory has been its inability to fully address the

gap between intention and behaviour (Sheeran & Webb, 2016). From my perspective, the behavioural control addresses this gap since it indicates that, beyond good attitude and encouragement from those who matter, assessment of one's capability is also key in acting towards a behaviour. The assessment of one's capability involves assessing the realities, resources and challenges in one's context and the answer to the intention and behaviour gap.

In this research, the intention influences the uptake of social protection programs among the Bodaboda riders. This intention is influenced by one's financial attitude towards savings and investing towards the future, shaping how positively or negatively they view pension schemes and health insurance. Subjective norms mirror social capital, being the influence that society, through membership in a SACCO or welfare group, can have on one's willingness to take up social protection programs. Financial knowledge, such as time value of money and risk diversification, and financial behaviour which includes budgeting savings regularly, acts as behavioural control indicating one's capability to take the journey and enrol in both pension scheme and health insurance.

2.3 Empirical Review

2.3.1 Financial Knowledge and Social Protection Uptake

A study by Waga et al. (2021) sought to examine how financial knowledge influenced retirement planning among pension scheme members in Kenya enrolled either in occupational retirement schemes, NSSF, or private retirement plans. Using cross cross-sectional design and applying the stratified sampling method, they collected data from a sample of 332 pension scheme members. Using binary logistic regression analysis, their analysis revealed a significant positive correlation between financial knowledge and retirement planning. Though this study was able to help establish the relationship between financial knowledge and retirement planning, the study focused on those in formal employment and already enrolled in the pension

scheme and failed to assess whether the relationship holds for those in the informal sector. The study also failed to consider those not enrolled in any pension scheme and what reasons kept them from enrolling in any pension scheme.

A study by Agunga (2017) sought to assess the effects of financial literacy on financial preparedness for retirement among permanent and pensionable employees in state corporations in Nairobi. The study used a descriptive survey design and targeted 4619 employees, from which a sample of 384 employees in 29 state corporations that were headquartered in Nairobi Central Business District was selected. Questionnaires were used to collect the data. The data was analyzed using descriptive and inferential statistics of means, standard deviation, and regression analysis. The regression analysis revealed that financial literacy explains 24 percent of the variation in financial preparedness for retirement. Further, the analysis revealed that there was no significant effect of knowledge of financial instruments on financial preparedness for retirement. The study further revealed that there was a positive effect of the computation capability of retirement benefits on financial preparedness for retirement. This study focused on formal employees who had a statutory obligation for pension scheme contributions and hence their level of financial knowledge did not matter or influence their uptake of pension scheme but rather influenced their contributions towards their pension scheme.

A high level of education is associated with a higher level of financial knowledge (Tanusdjaja, 2018; Puby, 2015). A study by Mhapa et al. (2022) sought to assess factors that determined the uptake of health insurance schemes in Karatu District, Tanzania. Using a cross-sectional research design and stratified sampling method, a sample of 381 households was selected from a population of 45,065 households. From the analysis, the data revealed a low enrolment rate in the health insurance scheme, with only 32.7 percent of the population enrolled. Using the Chi-square measure of association for analysis, the results showed there

was a significant association between marriage status, gender, age, education level, size of house unit, source of income, monthly income, and affordable premiums. Increase in the number of children in the household increased the rate of enrolment in families.

A study among the rural poor in Ghana by Alesane and Anang (2018) investigated the factors that were associated with the uptake of health insurance products. Using data from 178 participants in two microfinance models. The authors argued that the uptake of health insurance policy is a binary decision involving a choice to either enrol or abstain; hence applied the binary logit model for their analysis. Their analysis revealed that gender, age, and the level of education significantly influenced the uptake of the health insurance. Being male increased the probability of taking up insurance by 0.93, a unit increase in age decreased the uptake of the insurance by 0.08, while an additional year increased the probability of taking up insurance by 0.26; an additional of a member in the family decreased the probability of taking up insurance by 0.04. The results of the impact of household size on the uptake of insurance contradicted with findings by (Mhapa, Tenambergen, & Mwangi, 2022) whose findings revealed that an increase in household size positively influenced the uptake of health insurance.

A study by Okumu (2023) investigated the determinants of health insurance (NHIF) among informal sector workers at Kenyatta Market in Kibra Subcounty, Kenya. From a sample of 608 traders that were registered with the Nairobi County, a sample of 241 was used for the study through the stratified sampling method. Her analysis revealed that there was a strong and significant relationship between the level of education, income level, and uptake of the health insurance. The results further revealed an insignificant relationship between marital status and uptake of health insurance and a negative and significant relationship between religious affiliation and uptake of health insurance. The findings of this study conflicted with the findings

by Mhapa et al. (2022) whose findings revealed a significant relationship between marital status and uptake of health insurance.

2.3.2 Financial Attitudes and Social Protection Uptake

Even though a positive attitude towards a behaviour has been associated with a higher likelihood of adopting the behaviour, studies show mixed outcomes. This may be because following through with a behaviour requires more than attitude. In the case of pension scheme and health insurance uptake, there may be other aspects that may influence the actualization, like income level, effectiveness of the products, and assumed benefits of the scheme considering the needs of the individuals. The three studies highlighted here on the informal sector all focused on retirement schemes specially customized for the informal sector. These studies failed to assess the participation of their respondents in the traditional national retirement schemes, which remain an alternative for the informal sector workers. The study in Ghana revealed a positive relationship between a positive financial attitude and the likelihood of participating in a pension scheme (Boyete & Enu-Kwesi, 2022). A positive attitude towards saving and retirement planning failed to significantly translate to uptake of retirement scheme in the two studies (Omwombo & Adul, 2022) and (Onyango, 2014) Nairobi.

A study by Boyete and Enu-Kwesi (2022), applied the theory of planned behaviour (TPB) to examine how the financial attitude of informal economy workers in Ghana affected their pension savings. They focused on the enrolment of micro pension schemes (MPS) an alternative to traditional pension plans. The study used a mixed design approach, collecting both qualitative and quantitative data to assess key financial attitudes: financial knowledge, planning habits, and risk tolerance. The study sample included thirty senior personnel working with corporate pension trustees, 390 informal workers who were contributing to MPS, and 400 informal workers who were not contributing to MPS. The findings from logistic regression

analysis and thematic synthesis revealed that workers with well-developed financial planning skills were more likely to participate in MPS. The more positive the attitude the workers had towards financial planning, the more they were likely to allocate resources towards their retirement savings. Based on these findings, the study suggested that informal workers should adopt financial planning habits early in their careers. Additionally, corporate trustees should implement financial education initiatives to encourage greater participation in retirement savings.

A study by Omwombo and Adul (2022) sought to assess the factors that influence the uptake of voluntary Mbao pension savings by informal sector traders in Nairobi City County, Kenya. Mbao pensions plan is an initiative that was launched to provide pension scheme services to Kenyans working in the informal sector by accepting small weekly or daily contributions. Using a stratified sampling method, they sampled 384 respondents from a population of about 10,000 traders in five sectors and used questionnaires to collect the data. Only 11.18 percent of respondents had enrolled in the scheme, with the majority being women, with about 62.1% being 46 years and above. Though 84.6% agreed or strongly agreed that retirement is worthy of thinking and planning about, they did not take action to plan. Instead, 82.2% of the respondents agreed or strongly agreed that their children will look after them in old age. 74% of the respondents further agreed that investing in physical assets like land, buildings, and real estate was a better retirement plan than enrolling in a retirement scheme. Further, 77% felt that the retirement benefits from the Mbao scheme will be too low.

A study Onyango (2014) sought to explore the impact of the attitudes of informal sector workers towards pension among the informal sector workers at Kamukunji Jua-Kali in Nairobi. The study focused on the Mbao Pension scheme, an innovation of pension savings that was launched to target those in the informal sector. A qualitative design was employed, and through

purposive sampling, data were collected through focus group discussions and in-depth interviews. Financial attitude towards pension savings did not influence the uptake of the pension scheme. Out of those who had a positive financial attitude towards retirement savings, only 15 percent were enrolled in a pension scheme. The attitude towards pension savings was seen to change with age and gender, as older individuals were more positive towards pension savings, and more men were saving towards their pensions. The respondents struggled to translate their saving intentions into a saving behaviour due to the inability to reconcile their saving intentions and their lifestyle choices and consumer habits. On the other hand, attitudes towards the pension schemes as institutions significantly influenced the uptake of pension savings. All who cited corruption, lack of transparency and distrust of the schemes were not saving towards their pension.

2.3.3 Financial Behaviour and Social Protection Uptake

A study by Tiwari et al. (2021) sought to investigate the relationship between financial attitude, behaviour, and retirement planning in an emerging economy, specifically India. The respondents were selected from the National Capital Territory of Delhi through convenience sampling. Though the targeted respondents were 1200, only 475 responses were analyzed. The sample, however, was broad, including those who did not attend school and those with the highest educational qualification. Using structural equation modelling, the analysis revealed a positive and significant relationship between financial behaviour and retirement planning. This study suffered a low response rate and may have failed to truly depict the true status due to a compromised sample size. This study will seek to ensure that the response rate is 100% by ensuring data tools are easy to understand and by employing research assistants that can guide the respondents to better understand the data tools and hopefully get the questionnaires filled then. The scope of the study was outside of Kenya, and the findings may not be replicated in a

Kenyan context. This study will be based in Murangá county and will be able to fully represent the influence of financial behaviour in a Kenyan context.

In their study, Trehan and Sinha (2020), they set out to examine the effect of self-control bias and perceived knowledge on retirement planning behaviour of individuals in New Delhi, India. A sample of 500 individuals was used, and data from employees working in both private and government sectors were collected through a survey method using the five-point Likert scale questionnaire. The questions that were asked regarding self-control bias included: difficulty in controlling expenditures, spending all the money immediately, not investing in risky stocks, and having poor self-discipline. Using regression analysis, the results proved that self-control bias negatively affected retirement planning. To measure perceived knowledge, the following parameters were used: confidence in the ability to make investments for retirement, having better knowledge about retirement planning than others, and obtaining information about retirement planning from an appropriate database. High perceived knowledge of retirement planning led to inadequate retirement planning. First, the study was done in a context outside Kenya and targeted formal employees and therefore the findings may not fully apply to people in a Kenyan context and who are in the informal sector.

A study by Waga et al. (2021) sought to examine the relationship between financial behaviour and retirement planning and the role of self-control bias among pension scheme members in Kenya enrolled in occupational retirement schemes, the National Social Security Fund (NSSF), or in private pension schemes. Using a cross-sectional research design and using stratified sampling, data were collected from a study sample of 332 pension scheme members. The study focused on assessing eight attributes that were considered key indicators of a financial behaviour. Using binary logistic regression analysis, their findings revealed that income level, financial behaviour and financial knowledge were significant in explaining

intentionality in retirement planning at 10 percent significance level and those with a responsible financial behaviour were 1.365 times more likely to take up a voluntary pension scheme and implement additional savings to their occupational pension scheme. Though this study was done in a Kenyan context, it targeted those in the formal sector who are already enrolled in a pension scheme, whether voluntarily or through a statutory obligation.

2.3.4 Social Capital and Social Protection Uptake

Though there are numerous studies of how social capital influences uptake of health insurance and pension schemes, these studies did not assess the moderating role of social capital in influencing uptake of health insurance but rather assessed the influence of social capital as an independent variable. This study will seek to assess social capital as a moderating variable and how it influences the uptake of the health insurance and pension scheme. The studies highlighted here assessed various aspects of social capital: Miti et al. (2021) focussed on mutual support and trust in scheme management, Muranda et al. (2020) focused on people's trust in the scheme management, Wasike (2019) and Ngomba (2020) focused on the effects of respondents' membership in a local welfare group, Magambo et al. (2022) focused on the trust of the scheme management and products.

A study by Miti et al. (2021) sought to establish the main factors that influenced the willingness to pay for health insurance and pension schemes among the informal workers in low and middle-income countries (LMICs). The authors conducted a systematic review of five databases from 1987 to 2017 and settled for 34 papers after exclusions from 1790 papers. Trust in institutions providing social and health insurance services was positively associated with willingness to pay for the insurance, especially in China, Tanzania, Zambia, Egypt, and Vietnam. The study also revealed that reliance on extended families hindered the ability to seek pension schemes.

A study by Magambo et al. (2022) focused on social capital as a determinant of health micro-insurance uptake in eight regions in Kenya as they assessed the moderating effect of mobile telephone technology. Using a stratified sampling technique, a sample of 1,387 participants was selected out of a population of 7,399,347. Their regression analysis revealed that social capital had a positive and significant effect on uptake of health micro-insurance in all regions apart from Nairobi. Similarly, the moderating effect of mobile telephone technology was found to be positive and significant in seven regions, apart from Nairobi, where the effect was found to be negative and insignificant.

The study by Muranda et al. (2020) assessed the factors that were influencing the uptake of national health insurance schemes among the informal sector in Vihiga Sub- County, Kenya. The study applied a descriptive cross-sectional design. A sample of 384 participants was selected using both cluster and simple random sampling. Semi-structured questionnaires were used to collect the data. Using bivariate logistic regression to test for associations, the analysis revealed that trust in the scheme management and knowledge of the health insurance scheme had a significant influence on the uptake of national health insurance. Those who had trust in the management of the scheme were 2.82 times more likely to enrol in the scheme than those who had no trust in the scheme management.

A study by Wasike (2019) aimed to investigate the determinants of healthcare insurance uptake among households in Kibera informal settlement, Nairobi County, in Kenya. They used a cross-sectional design and employed a systematic sampling method to sample 166 households from approximately 2,400 households. Using regression analysis, the following were significantly associated with the uptake of health insurance: employment, local welfare, marital status, education, and income level. Family size, age, and gender were not significant factors. The households that were not in the local welfare program were 78% less likely to enrol in the

health insurance scheme. Belonging to a chama or a SACCO aided the residents in consolidating their resources for contribution to the health insurance scheme.

A study by Ngomba (2020) sought to determine factors that influenced the intent of uptake of retirement pension and provident scheme plans in the informal sector in Nairobi County. Using a quantitative design, the author used a stratified and cluster sampling approach to sample 384 participants from a population size of 12,000,0000. Their data analysis applied multiple regression and correlation analysis, revealing a positive correlation between education level, income level, association link, age and the intent to uptake pension and provident scheme plans. Membership in an association played a key role in influencing the decision to join the pension scheme, as well as the information shared within the association regarding the pension scheme.

2.4 Summary of Literature and Research Gaps

In this study, three key theories: triarchic theory of financial literacy, social capital, and the theory of planned behaviour, offer a clear framework for understanding for financial literacy and social capital influence the uptake of social protection programs. Adapted from the broader intelligence theory by (Sternberg, 1985), the triarchic theory of financial literacy defines financial literacy in three constructs: financial knowledge, financial attitude, and financial behaviour, which together influence one's financial decisions, such as uptake of social protection programs. Social capital theory explains how social relationships, group networks, and trust in management running the pension scheme and health insurance may shape decision making in participating in health insurance and pension schemes, thereby influencing the effects of financial literacy in enrolling in these programs. The theory of planned behaviour explains how uptake of health insurance and pension schemes is driven by intention, which is influenced by attitude (financial attitude), subjective norms (social capital), and behaviour

control (financial behaviour, financial knowledge). Together, these theories offer a complete framework of the interaction between financial literacy, social capital, and uptake of pension schemes and health insurance by Bodaboda riders.

Existing literature points out the critical role financial knowledge has in influencing uptake of pension schemes and health insurance. Studies by Agunga et al. (2017) and Waga et al. (2021) revealed a positive correlation between financial knowledge and retirement planning among individuals in formal employment. These studies, however, do not reflect the state of the informal sector, a gap which this research will seek to bridge. Although higher knowledge has been associated with higher financial knowledge (Tanusdjaja, 2018; Puby, 2015) other authors have disputed these findings. For instance, (Lusardi & Mitchel, 2023) observed that more than a third (35%) of the respondents with a college degree did not have a perfect score for the big three financial knowledge assessment questions. This is an indication that a higher education may not fully mean a higher financial knowledge. Studies by Mhapa et al. (2022), Okumu (2023) and, Alesane and Anang (2018) assessed the influence of the level of education on the uptake of health insurance, which does not fully represent the influence of financial knowledge on the uptake of health insurance. This study bridged this gap and assessed the influence of financial knowledge on the uptake of health insurance.

Studies on how financial attitude influences the uptake of pension scheme products presented mixed findings. While Boyetey and Enu-Kwesi (2022) found that a positive financial attitude increased the chances of enrolment in a Micro-pensions scheme in Ghana, Omwombo & Abdul (2022) and Onyango (2014) observe a disconnect between positive financial attitudes and actual enrolment in Mbao pension plans in Kenya. While these studies focused on the informal sectors, they all assessed the influence of financial attitudes in the enrolment of the customized pension schemes for the informal sectors and failed to assess their

influence in the enrolment in the traditional pension scheme, which was still an option for those in the informal sector. To bridge this gap, this study will seek to assess how financial attitude influences membership in both customized pension plans and the traditional pension scheme. There was no literature on how financial attitude influenced uptake on health insurance. This study, therefore, contributed new knowledge on how financial attitudes influence the uptake of health insurance in the informal sector.

Responsible financial behaviour positively influenced the uptake of the pension scheme in the highlighted literature. The study by Tiwari et al. (2021) in New Delhi suffered an exceptionally low response rate, hindering its generalizability. Studies by Trehan and Sinha (2020) and Waga et al. (2021) focused on the formal sector employees, some of whom had a statutory obligation for pension contributions. This study focused on those in the informal sector who are not bound by any statutory obligation and may or may not be enrolled in the pension scheme, enabling an unbiased evaluation of how financial behaviour influences enrolment in a retirement scheme.

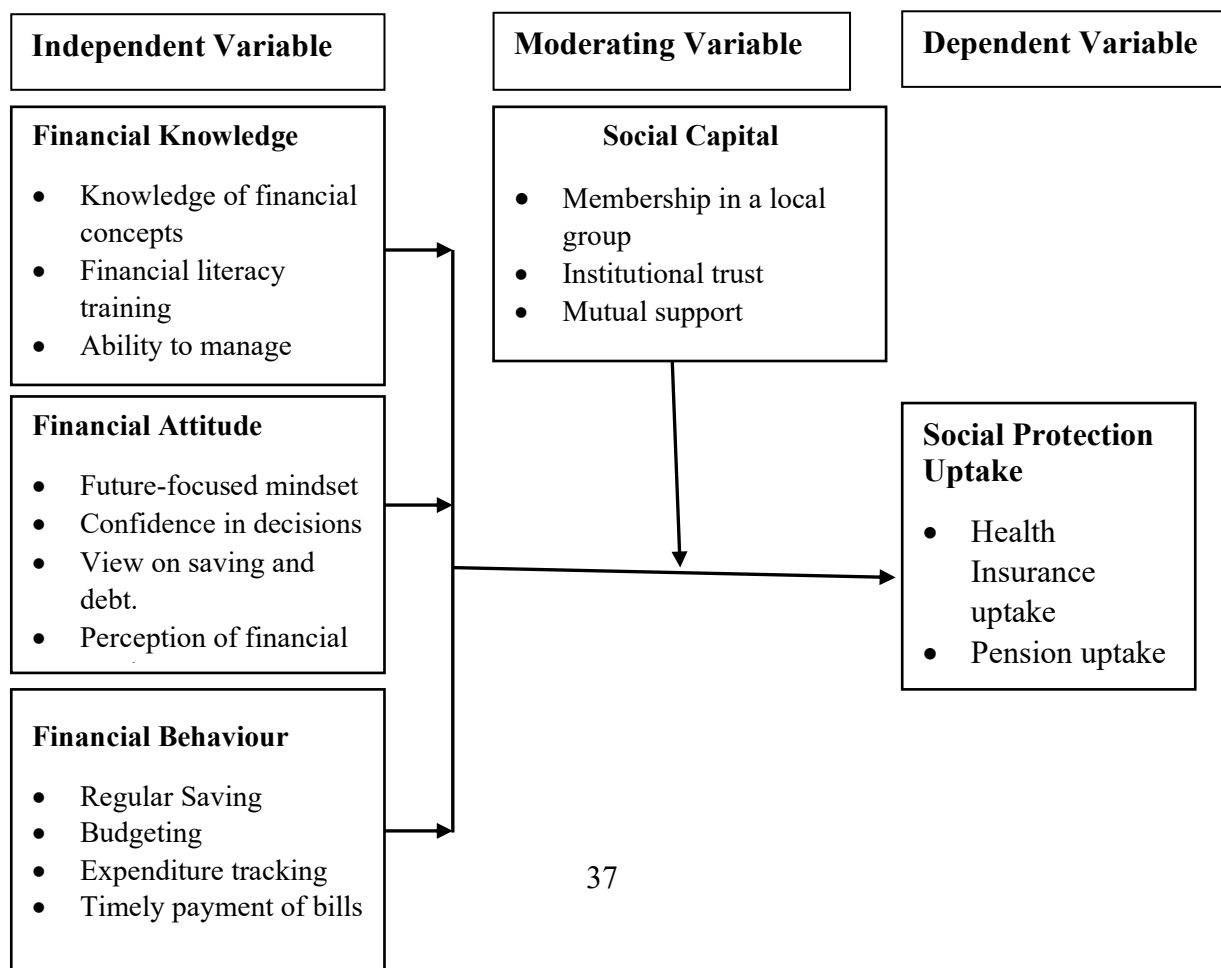
Social capital came out as a key determinant of the uptake of health insurance and pension scheme globally Miti et al. (2021) and in all regions in Kenya, apart from Nairobi (Magambo et al., 2022), in Vihiga County (Muranda, et al., 2020) and Nairobi's informal sector (Ngomba, 2020; Wasike, 2019). All four studies were done in a Kenyan context and tested various aspects of social capital: membership in a SACCO or a welfare group, trust in the scheme management, and trust in the scheme products. The studies treated social capital as an independent variable and failed to test social capital's interaction with financial literacy. This study sought to bridge this gap by assessing social capital from the three angles: membership in a welfare group, trust in the scheme's management and trust in the scheme's product and

insurance. The study also sought to assess the interaction of social capital and financial literacy, treating social capital as a moderating variable.

2.5 Conceptual Framework

The conceptual framework is a diagrammatic representation of the relationship between the uptake of social protection programs, financial literacy, and social capital. Bodaboda riders are in the informal sector, which is characterized by inconsistent and low wages and high social connections, as they heavily rely on social connections for both financial and emotional support. Their financial decision is therefore not just dependent on the financial knowledge, attitudes, and behaviour, but is also influenced by social networks they belong to as a space for learning, but also providing social protection, either encouraging or discouraging their participation in the pension schemes and health insurance.

FIGURE 1
Conceptual Framework



2.6 Operationalization of Study Variables

TABLE 1
Operationalization of Variables

Variables	Variable Type	Operational Indicators	Measurement Scale	Analysis tools
Financial Knowledge	Independent variable	• Knowledge of financial concepts • Ability to manage money. • Awareness of financial services • Financial literacy training	5-point Likert scale	• Frequencies • Mean • standard deviation • Regression analysis
Financial Attitude	Independent variable	• Future-focused mindset • Confidence in decisions • View on saving and debt. • Perception of financial services	5-point Likert scale	• Frequencies • Mean • standard deviation • Regression analysis
Financial Behaviour	Independent variable	• Regular Saving • Budgeting • Expenditure tracking • Timely payment of bills	5-point Likert scale	• Frequencies • Mean • standard deviation • Regression analysis
Social capital	Moderating Variable	• Membership in a local group • Institutional trust • Mutual support	5-point Likert scale	• Frequencies • Mean • standard deviation • Regression analysis
Uptake of Health insurance and pension scheme	Dependent variable	• Health insurance uptake • Pension uptake	Yes/no	• Frequencies • Mean • standard deviation • Regression analysis

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology the researcher used to conduct the study. The chapter covers the research design, the target population, sampling technique, and sample size, data collection instruments, data collection procedures, pretesting of research instruments, data processing, and analysis.

3.2 Research Design

According (Creswell & Creswell, 2018) research designs are specific types of inquiry within qualitative, quantitative, and mixed methods approaches that guide the procedures of a research study. Further, research design is defined as a plan, procedural in nature that is adopted by the researcher to answer questions objectively, validly, and economically (Kumar, 2011). A research design is therefore meant to guide the process of data collection, analysis, and reporting.

This research employed both descriptive and explanatory designs. Descriptive design helped to describe the characteristics of the target population, such as understanding the level of financial literacy among Bodaboda riders, the number of Bodaboda riders enrolled in the Pension schemes and health insurance and as well as highlighting challenges that limit the uptake of pension schemes and health insurance among others. This informed the recommendations of the research by merging contextual realities and existing gaps in the uptake of the social protection programs. Explanatory design was used to establish relationships between independent variables and dependent variables as well as to establish the effects of the moderating variable. This enabled testing of the research hypothesis.

3.3 Target Population

The number of motorcycles registered and operating as Bodaboda riders in Kenya is not known. However, the National Transport and Safety Authority (NTSA) reported that there were 1,393,390 motorcycles registered in Kenya as of February 2018 (National Crime Research Centre, 2018). The Kenya Economic Survey reports of 2023, 2024, and 2025 reported newly registered motorcycles per year as follows:

TABLE 2
National Population of Bodaboda Riders in Kenya

Registration	Number
NTSA Registration beginning of 2018	1,393,390
New registration 2018	188,994
New registration 2019	210,103
New registration 2020	246,705
New registration 2021	285,203
New registration 2022	131,513
New registration 2023	70,691
New registration 2024	68,804
Totals	2,595,403

To estimate the total population in Murang'a county, we calculate the proportion of Bodaboda riders in the county and multiply with the projected population of Murangá county for 2025. The estimated population of Kenya for 2024 was 52,428,000.

$$Po = \frac{2,595,403}{52,428,000} = 0.049504$$

The estimated population of Bodaboda riders in Murangá County is therefore 52,611,

$$N = 0.049504 * 1,135,477 = 56,210.811$$

TABLE 3
Target Population per Sub-County

Sub-county	Population	Population Proportion per Sub-County	Riders per Sub-County	Adjusted Population size per Sub-County
Murangá East	118,546	0.104402	5868.540822	5868
Kangema	86,453	0.076138	4279.793118	4280
Mathioya	99,743	0.087842	4937.686662	4939
Kahuro	94,777	0.083469	4691.875959	4692
Murangá South	198,622	0.174924	9832.652964	9832
Gatanga	139,536	0.122888	6907.657368	6908
Ithanga	62,487	0.055031	3093.347541	3093
Kigumo	147,143	0.129587	7284.214857	7284
Kandara	188,170	0.165719	9315.230709	9315
Totals	1,135,477	1	56,211	56,211

3.4 Sampling and Sampling Techniques

Sampling is a technique where a researcher systematically chooses a few items from a population for observation and experimentation to represent the entire population (Sharma, 2017). Sampling enables the researcher to do research that would not be possible to do if the researcher had to observe or experiment on every item in the population in terms of time and resources. Sampling enables research to be done faster, at a cheaper cost, and provides timely information for decisions.

The research used a sample size of 359 respondents. This was taken from a target population of 3500 Bodaboda riders. To calculate the Sample size, the researcher employed Yamane (1967) formula, which is the best fit for a finite population with a confidence level of 95% and a margin of error of 0.05 (Adam, 2020). The formula is as follows:

$$n = \frac{N}{1 + Ne^2}$$

Where

n is the sample size (397)

N is the population size (3500)

e is the accepted error of 0.05

The research used stratified sampling to get a fair and representative sample from every sub-county. The research used the 2025 population estimates per sub-county, as indicated by (Murangá County Government, 2024), to estimate the number of respondents for every subcounty.

TABLE 4
Sampling Table

Sub-county	Population	$p_0 = \frac{N_0}{N}$	$n_0 = p_0 * 397$	Adjusted sample size
Murangá East	5868	0.1043924	41.44377	41
Kangema	4280	0.0761417	30.22825	30
Mathioya	4939	0.0878654	34.88255	35
Kahuro	4692	0.0834712	33.13807	33
Murangá South	9832	0.1749124	69.44022	69
Gatanga	6908	0.1228941	48.78896	49
Ithanga	3093	0.0550248	21.84485	22
Kigumo	7284	0.1295832	51.44452	52
Kandara	9315	0.1657149	65.78881	66
Totals	56,211	1	397	397

3.5 Data Collection Instrument

The research used primary data that was collected using a semi-structured questionnaire. Questionnaires enhance the feasibility of the study, which will need a large sample size, enabling the research to be done in the stipulated time, cost-effectively. While the closed-ended

questions enable easy and quick response by respondents, increasing the response rate, the open-ended questions allow a wider range of responses that may capture unexpected insights, giving an in-depth understanding of the challenges hindering pension plans and health insurance.

The questionnaire was divided into two parts: A and B. Part A collected the bio data of the respondents, such as age, gender, and level of education. Part B covered different measurements for independent, moderating, and dependent variables. Sections I to III of Part B covered various aspects of the independent variables, that is, financial knowledge, financial attitude, and financial behaviour. Section IV covered the moderating variable, that is, social capital. Section V of part B included aspects of the dependent variable, which is the uptake of both pension and health insurance.

3.6 Pilot Study/Instrument Pre-testing

The data collected should provide good measurements in the study. It is therefore important to ensure that the questionnaire has both good reliability and validity measures. The questionnaire was subjected to pretesting to enable checking its validity and reliability. Baker (1994) and Connelly (2008) suggested that 10% of the sample size is sufficient for pilot study. In light of these recommendations, a size equal to 10% of the sample size, which is 40, was used for pre-testing in the nearby Kiambu county.

3.6.1. Validity of the questionnaire

Validity is the extent to which a measuring instrument represents the variables it is intended to measure (Price et al., 2015). To ensure the accuracy of the questionnaire in measuring the intended variables, the researcher ensured that both face and content validity were enhanced. A pilot study was undertaken, and feedback from the supervisor was sought in light of responses from the pilot study. Some questions were revised until they met the threshold.

3.6.2 Reliability of the questionnaire

The reliability refers to the measurement instrument providing consistent results (Heale & Twycross, 2015). This means that if one repeats a measurement, the instrument will provide comparable results under the same conditions. To measure the internal reliability of the questionnaire, Cronbach's alpha was used. To pass the reliability test, the Cronbach's alpha coefficient needed to be between 0.7 and 1.0 (Cronbach, 1951). The Cronbach's alpha coefficient was as shown below:

TABLE 5
Reliability Results

Variable	Cronbach's alpha	Remarks
Financial Knowledge	0.733	Reliable
Financial Attitude	0.793	Reliable
Financial Behaviour	0.828	Reliable
Social Capital	0.763	Reliable
Overall	0.835	Reliable

3.7 Data Collection Procedure

The data collected for this research were primary data that was collected using semi-structured questionnaires. The study population was divided into strata, that is, sub-counties, enhancing sample representation and reducing bias. In every subcounty, two wards were selected for data collection as follows:

TABLE 6
Data Collection Procedure per Sub-County

Subcounty	Sample size	Data per ward
Murangá East	41	Murangá town- 21 Mukuyu-20
Kangema	30	Kangema-15 Gakira-15
Mathioya	35	Kiria-ini-18 Kamacharia-17
Kahuro	33	Kahuro-17 Kiria-16
Murangá South	69	Maragua-23 sabasaba-23 Kenol-23
Gatanga	49	Gatanga-17 Mugomoini-17 Kirwara-15
Ithanga	22	Kakuzi-11 Ithanga-11
Kigumo	52	Kigumo-18 Kangari-18 Kinyona-16
Kandara	66	Kandara-22 Ruchu-22 Muruka-22

To aid data collection, six research assistants were hired and trained. The research assistants administer the questionnaires face-to-face at the Bodaboda shades while waiting for responses, increasing the response rate.

3.8 Data Processing and Analysis

Data processing enables the transformation of raw data into a format that allows reliable and effective data processing (Creswell & Creswell, 2018). Data collected from the Bodaboda riders underwent systematic processing, ensuring completeness, consistency, and accuracy before being analyzed. The data was cleaned, coded, and then entered into the Statistical Package for Social Scientists (SPSS) software, which will be used to analyze the data.

Data analysis is a central part of research, as it converts collected data into meaningful facts and ideas that can be understood to influence decisions (Alem, 2020). Descriptive data were analyzed using measures of frequency, central tendency, and dispersion to objectively describe the various variables within the study. Quantitative data were analyzed using various statistical methods such as frequency, mean, and standard deviation. Qualitative data were analyzed using thematic analysis, where responses from the respondents were grouped into various themes.

To assess the relationship between independent and dependent variables, logistic regression analysis was used. The regression models for pension scheme and health insurance uptake are as shown below.

$$\text{Logit } P = \ln\left(\frac{P_i}{1 - P_i}\right) = \beta_0 + \beta_1 FK + \beta_2 FA + \beta_3 FB + \varepsilon$$

$$\text{Logit } H = \ln\left(\frac{H_i}{1 - H_i}\right) = \beta_0 + \beta_1 FK + \beta_2 FA + \beta_3 FB + \varepsilon$$

Where;

P is the uptake of the pension scheme

H is the uptake of health insurance

β_0 is the constant.

$\beta_1, \beta_2, \beta_3$, and β_4 are the variable coefficients

FK is financial knowledge,

FA is financial attitude.

FB is financial behaviour.

ε is the error term

To assess the moderating effect of social capital, the following regression models will be applied.

$$\text{Logit } P = \ln \left(\frac{P_i}{1-P_i} \right) = \beta_0 + \beta_1 FK + \beta_2 FA + \beta_3 FB + \beta_4 SC + \beta_5 FK * SC + \beta_6 FA * SC + \beta_7 FB * SC + \varepsilon$$

$$\text{Logit } H = \ln \left(\frac{H_i}{1-H_i} \right) = \beta_0 + \beta_1 FK + \beta_2 FA + \beta_3 FB + \beta_4 SC + \beta_5 FK * SC + \beta_6 FA * SC + \beta_7 FB * SC + \varepsilon$$

Where;

P is the uptake of the pension scheme

H is the uptake of health insurance

β_0 is the constant.

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ and β_7 are the variable coefficients

FK is financial knowledge,

FA is financial attitude.

FB is financial behaviour.

SC is social capital.

ε is the error term

3.9 Diagnostic Test

To avoid undertaking a binary logistic regression analysis that may yield irrelevant results, the researcher employed four diagnostic tests: the independence of observations test, the linearity test, the multicollinearity test, and the outlier test.

3.9.1 Multicollinearity Test

Multicollinearity assesses the extent of linear relationships between independent variables. High correlation between the variables can distort the coefficients of the regression and their significance. To assess multicollinearity, the Variable Inflation Factor (VIF) will be used. A VIF of one suggests no correlation between the independent variable, while measures between one and five indicate a moderate correlation (Daoud, 2017). This study will accommodate a VIF of no more than five.

3.9.2 Independence of Observations Test

The Durbin-Watson test was used to measure the independence of observations. This test was first proposed by Durbin & Watson(1950). A Durbin-Watson range between 1.50 and 2.50 is an acceptable measure of independent observations, and a measure in this range will be acceptable in this study.

3.9.3 Outlier test

Extreme outliers of independent variables can distort results. To assess the existence of outliers in the data, a Cook's distance test is used. Cook's distance greater than one is considered evidence of the existence of outliers(Belsley et al., 1980). A Cook's distance of less than one is the measure that was acceptable for this study.

3.9.4 Linearity Test

A Box-Tidwell test was done to measure the assumption that the logit (log-odds) of the outcome is linearly related to the continuous independent predictors by including interaction terms between the main predictors and their corresponding log-transformed versions. A p-value of greater than 0.05 indicates that the assumption of linearity exists.

3.10 Ethical considerations

This study posed minimal risk to respondents and was conducted in open places where the respondents would feel safe. To ensure this study adhered to ethical standards, the researcher sought to ensure adherence in four active ways: informed consent, anonymity and confidentiality, ethical clearance, and appropriate use of data.

First, before the study, the researcher sought the required ethical clearance. The researcher sought clearance from the University's Research and Ethics Committee before the study was conducted to ensure compliance with the university guidelines on the study. The researcher also sought a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI), the government arm that oversees all research in Kenya, to ensure compliance. Secondly, respondents' participation was voluntary. The respondents were offered a clear explanation of the purpose of the study and individually decided whether to participate in the study. Thirdly, the study did not collect any information that could identify people in the study, and the data collected will be coded for analysis. Lastly, the data collected will be used for academic purposes and will not be shared with other third parties.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

The main objective of this study was to investigate the relationship between financial literacy, social capital, and the uptake of social protection schemes among the Bodaboda operators in Murangá County, Kenya. The specific objectives were to: assess the effect of financial behaviour on social protection uptake among the Bodaboda riders; analyze the effect of financial attitude on social protection uptake among the Bodaboda riders; examine the effect of financial knowledge on social protection uptake among the Bodaboda riders and, determine the moderating effect of social capital on the relationship between financial literacy and social protection uptake among the Bodaboda riders. This chapter discusses the research findings and how both quantitative and qualitative data were analyzed and presents the analysis results of how financial literacy influences the uptake of social protection programs. It also presents an analysis of the moderating effects of social capital on the effects of financial literacy on the uptake of social protection programs.

4.2 Response Rate

The response rate was 91.9%. This could be attributed to research assistants taking data during the out-of-peak hours, having research assistants waiting on the riders to fill in the questionnaire as they guided them through the questions by interpreting those questions in their native language for those who had difficulty reading and understanding. Also, the survey attracted attention from the riders as they believed it was the Kenyan government collecting views from the citizens on the social protection programs, especially health insurance, despite

clarification that the research was for academic purposes. The rate of response per sub-county was as shown in the table below:

TABLE 7
Response Rate

Subcounty	Sample size	Response	% Response per subcounty
Murangá East	41	37	90.2%
Kangema	30	28	93.3%
Mathioya	35	33	94.3%
Kahuro	33	30	90.9%
Murangá South	69	63	91.3%
Gatanga	49	45	91.8%
Ithanga	22	20	90.9%
Kigumo	52	49	94.2%
Kandara	66	60	90.9%
Totals	397	365	91.9%

Source: (Field Data, 2025)

4.3 Demographic Analysis of the Respondents

The demographic data (age, education, gender, and marital status) were analyzed as follows:

4.3.1 Age

The analysis shows that the majority of the Bodaboda riders (71.5%) are 34 years and below. This is a clear indicator of the role the informal sector, especially in developing economies like Kenya, continues to grapple with high unemployment among the youth. The informal sector, like the Bodaboda sector, plays a key role in creating employment for the youth.

TABLE 8**Age distribution of respondents**

Age	Frequency	Percent
under twenty-five	72	19.7
25-34 years	189	51.8
35-44 years	76	20.8
45-54 years	17	4.7
55-64 years	9	2.5
65 years and above	2	0.5
Total	365	

4.3.2 Education Level

The analysis shows that at least 95.9% of the respondents had a basic education with 17.3% having the basic primary education, 50.7% having a high school education while 27.9% had either a college diploma or university degree. This implied that the respondents could understand and respond to the questions, increasing the reliability of the results. Further, having 27.9% of the riders with a college or degree education clearly indicates the challenge of informal economies where the formal sector does not have the capacity to absorb those in the population with high education qualifications and can work in the formal sector. This challenges the coverage and sustainability of social protection in the developing economies because most contributory programs like health insurance and pension schemes are made mandatory only for those in the formal sector. Those working in the Bodaboda sector are also exposed to low and inconsistent income that may challenge their participation.

TABLE 9**Education Level of Respondents**

Education Level	Frequency	Percent
No formal education	15	4.1
primary	63	17.3
secondary	185	50.7
college/university	102	27.9
Total	365	100

4.3.3 Gender

The results showed that male respondents are predominant in the Bodaboda sector. Male respondents were 97.3% against 2.7%. This is an indication that Bodaboda sector is a male-dominated sector. This may be due to cultural norms where women must rise above the cultural judgment or lack of capital to buy the motorcycle, among other things.

TABLE 10
Gender of Respondents

Gender	Frequency	Percent
Male	355	97.3
Female	10	2.7
Totals	365	100.0

4.3.4 Marital Status

The results show that most of the respondents were married, comprising 50.1% of the respondents. Those who were single comprised 43.3% of the respondents, and this may be because the sector comprises youthful participants. Those who were widowed or divorced comprised 6.6% of the respondents.

TABLE 11
Marital Status of the Respondents

Marital Status	Frequency	Percent
Single	158	43.3
Married	183	50.1
Divorced/widowed	24	6.6
Total	365	100

4.4 Descriptive Statistics

This segment discusses various descriptive statistics for financial knowledge, financial attitude, financial behaviour, social capital, and social protection programs uptake

4.4.1 Financial Knowledge

The respondents were requested to respond to various measures of financial knowledge which included: knowledge simple and compound interest, awareness of the effects of inflation on the value of money, confidence in their ability to create a personal budget, knowledge and skills to evaluate risks in their financial and business activities, attending a training on finance management, and knowledge of how to register for both health insurance and pension scheme.

The results are presented on the table below.

TABLE 12
Financial Knowledge Descriptives

Items	SD	D	N	A	SA	Mean	Std. Dev.	Decision
Know the difference between simple and compound interest.	6.3	19.7	13.7	46.6	13.7	3.42	1.137	High perception
Aware of how inflation affects the value of money	3.8	22.7	17	45.5	11	3.37	1.068	Moderate perception
Confident in their ability to create a personal budget.	2.7	7.9	7.9	57	24.4	3.92	0.940	High perception
Have the knowledge and skills to identify and evaluate risks in their financial and business activities	1.9	20	17.8	42.5	17.8	3.54	1.059	High perception
Have attended a training session on how to manage personal finances.	10.7	24.1	12.6	37.8	14.8	3.22	1.263	Low perception
Know how to register for SHIF	10.1	29	9.9	35.3	15.6	3.17	1.284	Low perception
Know how to register for NSSF or Mbao Pension Scheme, or Haba Haba Scheme	12.3	38.4	7.4	28.5	13.4	2.92	1.303	Low perception

(SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree), Weighted

Average=3.37,

The Weighted mean(M=3.37) falls between neutral and agree, but closer to neutral.

This suggests a moderate level of financial knowledge with strengths and gaps in some areas.

The majority (81.4%) agreed or strongly agreed that they can create a personal budget. Knowing how to register for health insurance and a pension scheme was rated lowest, with a mean score of 3.17 and 2.92, respectively, with 39.1% strongly disagreeing or disagreeing that they knew how to register for health insurance (SHIF) and 40.7% in the same categories concerning knowledge of their registration for a pension scheme. This could be because of low awareness about the programs, especially in rural areas. Knowledge gap was a persistent theme for those who had not registered for either health insurance or pension scheme.

4.4.2 Financial Attitude

To assess the respondents' financial attitude, respondents responded to various measures that includes: confidence in making long-term financial decisions, confidence in managing finances without external help, belief that financial planning impacts one's future, belief that financial insurance is worth paying for even when one gets sick less often, belief that saving towards retirement is valuable and willingness to reduce current spending to be able to contribute towards health insurance and pension scheme.

The analysis of the respondents' financial attitude revealed a positive disposition with the weighted mean leaning closer to agree. This indicated a favourable disposition towards financial decision making, budgeting, saving, health and pension insurance. The highest mean score (M=4.21) was revealed in the respondents' perception on the importance of budgeting and saving, where 88.2% agreed or strongly agreed. A high mean score was also noted on the respondents' perception of the importance of financial planning to their future, as well as setting aside savings in preparation for retirement. There was a moderate perception about their confidence in making financial decisions and independence in making the decision as well as that health insurance is worth paying for, with mean scores of 3.84, 3.84, and 3.79, respectively. However, the scores on the respondents' willingness to make financial sacrifices by reducing spending to contribute to a pension scheme and health insurance were low with mean scores of

3.19 and 3.24, respectively, which were below the weighted average. Despite the positive disposition towards financial planning and responsibility, the willingness to commit to reducing expenditure to pay for health insurance and pension schemes remained challenged, possibly due to low incomes, pressure of meeting current needs, as well as a trust deficit of how health insurance and pension schemes were managed.

TABLE 13
Financial Attitude Descriptives

Item	SD	D	N	A	SA	Mean	Std. Dev.	Decision
Feels confident making long-term financial decisions.	5.8	7.9	12.1	44.9	29.3	3.84	1.108	High perception
Budgeting and saving are important to them.	2.7	2.7	6.3	47.4	40.8	4.21	0.887	High perception
Feels confident in managing finances without external help.	3.6	10.7	10.4	49	26.3	3.84	1.045	High perception
Believe that financial planning can significantly impact their future.	2.2	2.7	5.5	54.2	35.3	4.18	0.828	High perception
Believe health insurance is worth paying for, even if they do not get sick often.	3.6	7.4	16.4	51.8	20.8	3.79	0.973	Moderate perception
Believe that setting aside money for retirement will be valuable in the future	4.4	2.2	9	51.8	32.6	4.06	0.947	High perception
Willing to reduce current spending to contribute to a pension scheme.	10.4	16.2	25.8	38.9	8.8	3.19	1.133	Low perception
Willing to reduce my current spending to contribute to the health insurance.	11.8	15.1	23.6	36.7	12.9	3.24	1.205	Low perception

(SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree), Weighted

Average=3.79

4.4.3 Financial Behaviour

To measure the respondents' financial behaviour, the following measures were used: planning how to spend one's income, regularly saving a portion of their income, comparing prices before

purchase, keeping records of their spending, paying bills and loans on time, saving for emergencies and contributing to a group's savings regularly.

TABLE 14
Financial Behaviour Descriptives

Question	N	R	S	O	A	Mean	Std. Dev.	Decision
Plans how to spend their income	7.1	10.1	29.6	31.2	21.9	3.51	1.15	Low perception
Regularly save a portion of their income.	2.5	9	30.7	35.9	21.9	3.66	0.998	High perception
Compare prices before purchases.	0.3	3.3	16.2	24.9	55.3	4.32	0.879	High perception
Keep records of their spending.	23.6	21.9	24.4	17.5	12.6	2.74	1.333	Low perception
Pay bills, loans, and mobile credits on time.	5.5	10.4	40.3	18.4	25.5	3.48	1.14	Low perception
Save for emergencies.	6.3	11	30.7	31	21.1	3.5	1.128	Low perception
Contribute to group savings or chamas regularly	12.9	7.7	19.2	30.1	30.1	3.57	1.334	High perception

N-Never, R- Rarely, S-Sometimes, O-Often, A-Always, Weighted Average=3.54

The overall weighted mean (M=3.54) indicates positive financial behaviour. The strongest behaviour is comparing costs before a purchase (M=4.32), indicating a high-cost consciousness. The respondents also exhibited strong saving behaviour, with regular saving (M = 3.66) and saving through chamas/groups (M = 3.57). However, there were some low scores on some behaviours like planning how to spend income (M=3.51), saving for emergencies (3.50), paying bills and loans on time (M=3.48), and the lowest being keeping expenditure records (M=2.78). This may indicate high exposure to financial vulnerability, especially when health insurance and pension registration are low, and they are not able to save for emergencies, exposing them to vulnerability during medical emergencies and old age poverty. Poor recording of expenditures may also indicate the inability of respondents to fully

understand how they spend their income, therefore not able to efficiently use the resources, especially on unstable income, despite having the capacity to do so as indicated by their high score of their ability to create personal budgets ($M=3.92$). Inability to pay their bills on time may also attract interest, increasing their financial burdens, making uptake of health insurance and pension schemes challenging.

4.4.4 Social capital

To measure the respondents' social capital score, the following measures were used: participation in a community group related to money or savings, cease of discussion of financial matters with friends and family and valuing their recommendations in choosing financial products, community and local leaders encouraging respondents to join health insurance or pension scheme, can rely on social network in times of medical emergency, believe that children will take care of them in old age and trust in the institutional management of health insurance and pension scheme.

The average weighted average ($M=3.15$) score indicates that respondents hold a neutral disposition towards a community-based financial support system. The analysis shows that savings in groups, family support in old age, and reliance on social networks during medical emergencies are positive indicators of social capital. However, trust in formal institutions is exceptionally low compared to the average weighted mean and midpoint, with trust in health insurance and pension schemes at 2.46 and 2.60, respectively.

TABLE 15**Social Capital Descriptives**

Question	SD	D	N	A	SA	Mean	Std. Dev.	Decision
Participate in community groups or associations related to money or savings.	4.9	21.6	14	45.8	13.7	3.42	1.118	High perception
Feels comfortable discussing financial matters with friends and family, and value their recommendations when choosing financial products	7.4	18.1	15.3	49.6	9.6	3.36	1.109	High perception
Community leaders or local officials encourage us to join health insurance or pensions.	6.6	20.3	18.4	43.8	11	3.32	1.114	High perception
I can rely on my social network if I have a medical emergency.	5.2	17.5	30.4	29.6	17.3	3.36	1.115	High perception
I believe that my children will take care of me in my old age.	1.9	4.1	44.7	34.5	14.8	3.56	0.861	High perception
Believe the health insurance is well-managed by its leadership.	30.7	22.5	20	23.6	3.3	2.46	1.239	Low perception
Believe the pension scheme is well managed by its leadership.	26.3	23.6	18.4	27.7	4.1	2.6	1.253	Low perception

(SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree) Weighted

Average= 3.15

4.4.5 Uptake of Social Protection Programs

To assess the uptake of social protection, two measures were used, including whether one has a health insurance or pension scheme and whether they were actively contributing to their health insurance and pension scheme.

TABLE 16**Social Protection Programs Uptake**

Item	Response	Frequency	Percent
Do you currently have health insurance?	Yes	128	35.1
	No	237	64.9
Are you currently enrolled in a pension scheme?	Yes	92	25.2
	No	273	74.8

The results from the table above show that only 35.1% had health insurance, and only 25.2% had pension insurance. Out of the 92 respondents who had a pension scheme, 11 had Haba Haba scheme, 19 had the Mbao pension plan, 66 had the NSSF, 2 had both the NSSF and the Mbao pension plan, 1 had the Mbao pension plan and the Haba Haba scheme, 1 had both the NSSF and the Haba Haba scheme, and 1 had a private pension at Zamara.

TABLE 17**Active Contribution towards the Social Protection Programs**

Item	Response	Frequency	Percent
Are you actively contributing (paying) to your health insurance?	yes	113	88.3
	no	15	11.7
Are you actively contributing towards your pension scheme?	Yes	87	94.5
	no	5	5.5

The active contribution towards health insurance from those already registered was 88.3%, while that for those with a pension scheme was 94.6%. Of those who were not actively contributing to their pension, three had registered with NSSF, while two were registered under the Haba Haba Scheme. All that had registered with the Mbao Pension plan had active accounts. Contribution for those in the informal sector towards pension and health insurance requires consistent financial behaviour because, unlike the formal employees whose

contribution is charged and deducted on their salaries and the deductions paid by the employer, the employees

4.6 Analysis of Qualitative Data

This section discusses the results of the respondents' open-ended questions on what influenced their uptake or non-uptake of health insurance and pension schemes, as well as factors that, if implemented, could make these schemes more accessible and attractive to them.

4.6.1 Factors Influencing the Uptake of Health Insurance

Those who had registered for health insurance cited several factors that led them to do so. Responses of 126 of the 128 who had registered for the health insurance are included in the table below:

TABLE 18
Reasons for Health Insurance Uptake

Reason for Registration	Frequency	Percent
Health Benefits & Risk Management	70	54.7
Compliance & Requirements	30	23.4
Family	16	12.5
Influence of others	12	9.4
Totals	128	100.0

Most of the respondents (54.7%) registered due to the health benefits the insurance offered as well as a risk management tool. Out of the seventy respondents who registered because of the health benefits and risk management aspect of health insurance, twenty-three of them registered to ensure access to health care, while the other forty-seven registered to avoid financial burden in case of financial emergencies or accidents. This indicated that the riders saw the cover as a safety net. The second reason the respondents registered for health insurance was due to compliance obligation(23.4%). Out of the thirty respondents who registered for compliance reasons, eleven registered because they had to, to access medical care when they

visited the hospital, seven voluntarily responded to the public demand to apply, while twelve registered because their work, school, and SACCO demanded it. This implies that policy and regulatory frameworks can drive participation, ensuring the protection of the citizens. 12.5% registered to ensure that their family could access the health benefits, while 9.4% of the riders attributed their decision to register to influence by family, friends, and stage leaders

Out of 238 who had no health insurance, 204 gave feedback on the reasons for not registering for the health insurance. They attributed their lack of registration to majorly high premiums (33%), lack of trust in managing health insurance(21%), financial constraints due to low and irregular income(18.7%), and Knowledge gap (12.9%), indicating that they did not have information on the health insurance. Notably, twelve respondents cited their disdain for the health insurance and were not willing to ever register for health insurance. Another 3.8% cited low reliability and poor service delivery as their main hindrance towards registering for health insurance, while another 2.4% said that their friends discouraged them from registering for health insurance.

TABLE 19
Reasons Against Health Insurance Uptake

Reason for not registering	Frequency	Percent
High Premium costs	69	33.0
Trust and governance issues	44	21.0
Financial constraints	39	18.7
Knowledge gaps	27	12.9
Uninterested	12	5.7
Low reliability and delivery services	8	3.8
Influenced by others	5	2.4
Indecision	2	1.0
Too young	2	1.0
Rarely gets sick	1	0.5
Totals	209	100.0

4.6.2 Factors Influencing the Uptake of Pension Schemes

The majority (45.7%) of those who were members of a pension scheme registered because a pension enabled them to save and plan, ensuring they would not become a burden to their families and children in old age. Further, 19.6% registered because their friends and peers in the sector influenced them to register, while another 13% registered because at some point, they were looking for a job or had been employed in the formal sector. 17.4% of respondents who had registered with the Mbao Pension plan registered because the scheme was affordable, as they could make small contributions and were not fined for not paying consistently, and could also make payments easily via their phones

TABLE 20
Reasons for Pension Uptake

Reason	Frequency	Percent
Savings plan and future planning	42	45.7
Influenced by others	18	19.6
Compliance and requirement	12	13.0
Flexibility &Affordability- small contributions	16	17.4
Trust and governance issues	3	3.3
Predictability	1	0.0
Totals	92	100.0

Out of the 273 who had no pension scheme, 230 respondents gave their responses on why they had not registered for a pension scheme. The majority (34.5%) attributed their failure to register to a lack of information about the pension schemes, while 26% attributed it to low and irregular income, making it hard for them to register. 12.8% cited poor leadership and corruption in the scheme as the reason they did not join pension schemes. A further 12.3% felt that the premiums were high despite innovations of pensions to improve participation by those in the informal sector by schemes like the Mbao Pension Scheme and Haba Haba Scheme, where members can flexibly contribute exceptionally low premiums via their mobile phones.

This may be an indication of a lack of information about the scheme, making the knowledge gap a key barrier to pension registration. Another 4.3% of the respondents were uninterested in the scheme because they did not believe that the pension scheme was the best way to plan for retirement and would rather consider other investment options. Still, 4.7% of the respondents felt it was too early for them to start thinking about retirement, while two respondents felt it was too late for them. The results are as indicated below:

Table 21
Reasons Against Pension Uptake

Reason	Frequency	Percent
Knowledge gap	81	34.5
Financial constraint	61	26.0
Trust and governance	30	12.8
High Cost	29	12.3
Still early	11	4.7
Uninterested	10	4.3
Indecision	7	2.9
Influenced by others	3	1.2
Too late	2	0.9
Not sure	1	0.4
Totals	235	100.0

4.6.3 Making Health Insurance and Pension Scheme More Accessible

To make health insurance and pension more accessible to the respondents, they provided some recommendations that, if implemented, would make pension and health insurance more attractive and accessible.

Twenty-seven percent (27.6%) of the respondents felt that making insurance and health insurance premiums affordable and flexible would encourage them to register. The majority(54.7%) of the respondents registered for health insurance mainly for risk management purposes, seeking to avoid financial burdens and high medical costs in case of health challenges and medical emergencies, while 45.7% of those who were in a pension scheme registered to

financially secure their future. Those who failed to register for health insurance ranked high premium costs (33%) and financial constraints (18.7%) as the greatest barriers to their registration, while those who failed to register for pension ranked financial constraints(26%) and high cost (12.3%) as major barriers to their registration. Making premiums affordable and flexible would be key to ensuring more registrations among the riders whose registration is driven by the need to financially secure themselves yet suffer low and unstable income.

TABLE 22
How to make Social Protection Programs More Accessible.

Recommendation	Frequency	Percent
Affordability and financial flexibility	103	27.6
Enhanced education and information	95	25.5
Reliability and service delivery	75	20.1
Trust, transparency, and governance	60	16.1
No idea	20	5.3
Free services	10	2.7
Social influence and community approaches	9	2.4
Uninterested	1	0.3
Totals	373	100.0

Enhanced education and information were ranked as the second intervention (25.5%) that would make the respondents participate in health insurance as well as pension schemes. Knowledge gap remains a key barrier to participation in health insurance as well as pension scheme, rated at 12.9% and 34.5%, respectively. The knowledge gap was ranked the greatest hindrance to pension registration. Awareness sessions of these programs would help the riders appreciate their value, options available and inventions that have been put in place to make pension schemes affordable to those in the informal sector, especially the Haba Scheme and Mbao Pension plan. The respondents desired that the awareness programs could be done in their respective mother tongues, enabling them to get information with no language barrier.

Improvement of services and enhancing their reliability was ranked third(20.1%), while trust, governance and transparency was ranked fourth (16.1%) among the recommendations

suggested by the respondents. Twenty-one percent (21%) ranked low trust and poor governance as the second greatest barrier to health insurance registration and third greatest barrier to pension registration. Low reliability was ranked sixth in barriers to health insurance registration. Streamlining governance, improving transparency, and fighting corruption will consequently improve service reliability and encourage more to register. Compliance was a key driver for registration, ranked second and third in health insurance and pension registration, respectively, implying that those who registered did not register due to faith in the system. Unlike in formal employment, where contributions are mandatory and deductions are made by the employer, those in the informal sector register of will and hence ensuring the systems are effectively working is key in attracting registration from the informal employees.

Five percent (5.3%) could not think of what could be done to improve access to health insurance and membership in pensions, which could be an indicator of a knowledge and awareness gap. A small fraction (2.7%) expected free services, which may imply a dependency mindset with the respondents hoping to get services from the government at no cost. Two percent (2.4%) recommended that social influence and community approaches, where awareness is done through community groups, and there are subsidy programs for group registration. Influence by friends and peers was a great influence either for or against registration for both health and pension membership, highlighting a key role social capital play, which can be enhanced through targeting groups to expand registration for the riders and those in the informal sector.

4.7 Diagnostic Tests

In this study, the dependent variable outcomes were measured on a dichotomous scale of yes and no to the question of whether one had a pension scheme or health insurance. Further, the study had four categorical variables, measured on an ordinal scale, and were further

transformed into continuous variables. These were critical assumptions for the application of binary logistic regression. Further, to ensure the binary regression analysis was relevant to this study, the researcher employed four diagnostic tests: linearity tests, multicollinearity test, independence of observations test, and outlier test.

4.7.1 Multicollinearity Test

To assess multicollinearity, the Variable Inflation Factor (VIF) was used. This study accommodated a VIF of no more than five. From the table below, the VIF measures were less than 2, indicating a moderate multicollinearity acceptable for this study.

TABLE 23
Multicollinearity Test Table

Multicollinearity measure	VIF
Financial Knowledge	1.875
Financial attitude	1.622
Financial behaviour	1.361

4.7.2 Independence of Observations Test

The Durbin-Watson measures for the variables in this research were 1.674 and 1.894, with dependent variables being uptake of health insurance and uptake of pension, respectively. These values fall within the acceptable range, hence proving the independence of observations in this study.

4.7.3 Outlier Tests

Cook's test was done to assess extreme outlier observations of independent variables. With the dependent variable being health insurance, the Cook's distance value ranged between 0.68995 and 0.0080, which was less than 1, indicating no existence of outliers fulfilling the assumption of no extreme outlier. With the dependent variable being a pension scheme, the Cook's distance

values ranged between 0.00025 and 0.85586, which were similarly less than 1, indicating no existence of extreme outliers.

4.7.4 Linearity tests

To test the linearity assumption of independent continuous variables, the Box-Tidwell test was done. With the dependent variable being uptake of health insurance, the significance of the variables and their natural log was not significant since $p\text{-value} > 0.05$, hence fulfilling the linearity assumption as shown below:

TABLE 24
Health Insurance Uptake Linearity Test

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	Financial behaviour	-3.166	3.933	.648	1	.421	.042
	Financial attitude	4.400	4.434	.985	1	.321	81.454
	Financial attitude by ln_fa	-1.577	1.905	.686	1	.408	.207
	Financial behaviour by ln_fb	1.679	1.724	.948	1	.330	5.361
	Financial Knowledge by ln_fk	1.557	1.053	2.187	1	.139	4.746
	Financial Knowledge	-3.028	2.288	1.752	1	.186	.048
	Constant	-2.090	9.122	.053	1	.819	.124

To test the linearity assumption with the dependent variable being uptake of pension, the Box-Tidwell test was done. The $p\text{-value}$ of the interaction between financial attitude and financial behaviour and their natural logs was not significant as $p\text{-value} > 0.05$, hence assuming linearity. However, the significance of the interaction between financial knowledge and its natural log was significant, thereby failing the linearity test.

TABLE 25**Pension Uptake Linearity Test (a)**

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a Financial behaviour	-3.244	5.723	.321	1	.571	.039
Financial attitude	-6.669	4.080	2.672	1	.102	.001
Financial Knowledge	9.090	4.321	4.426	1	.035	69.324
Financial Knowledge by ln_fk	-3.826	1.898	4.061	1	.044	.022
Financial attitude by ln_fa	3.303	1.769	3.485	1	.062	27.197
Financial behaviour by ln_fb	1.834	2.469	.552	1	.458	6.257
Constant	-4.588	11.597	.156	1	.692	.010

To overcome this restriction, the researcher transformed the financial knowledge into categorical data of three categories (low, medium, and high) from a continuous variable ranging from 1:00 to 5:00 with a range of 4 and an interval of 1.33 for the 3 categories. 1.00 to 2.33 was classified low, 2.34-3.67 was classified medium and 3.68 to 5:00 was classified high.

TABLE 26**Pension Uptake Linearity Test (b)**

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a Financial behaviour	.406	5.718	.005	1	.943	1.501
Financial attitude	-5.300	4.149	1.632	1	.201	.005
Financial attitude by ln_fa	2.817	1.789	2.480	1	.115	16.731
Financial behaviour by ln_fb	.299	2.471	.015	1	.904	1.349
Constant	1.483	11.124	.018	1	.894	4.406

4.8 Testing of Hypotheses

The study sought to test the following hypotheses: financial behaviour has no significant effect on social protection uptake among Bodaboda riders in Murangá County; financial attitudes have no significant effect on social protection uptake among Bodaboda; financial knowledge has no significant effect on social protection uptake among Bodaboda riders and Social capital does not have a significant moderating effect on the relationship between financial literacy and

social protection uptake among Bodaboda riders in Murangá County. These hypotheses were tested under the two binary outcomes of having health insurance and having pension insurance.

4.8.1 Effects of Financial Knowledge, Financial Attitude, and Financial Behaviour on the Uptake of Health Insurance

A binary logistic regression analysis was conducted to determine the influence of financial knowledge, financial attitude, and financial behaviour on the uptake of health insurance. The dependent variable (having health insurance) was coded as 0 = no and 1 = yes. The baseline model correctly classified 64.9% of cases, predicting all 365 respondents as not having health insurance. With p -value < 0.01 and $(B = -0.616, SE = 0.110)$, it indicated that B was significant. The variables not in the equation test suggested that adding the independent variables would significantly improve the model, with a p -value < 0.001 for all the independent variables. The model with the three independent variables was statistically significant, with $\chi^2(3, N = 365) = 60.628, p < .001$, indicating that the model reliably distinguished those with health insurance and those without, as shown in the table below of Omnibus tests of model coefficients. The model correctly classified 71.2% of cases, an improvement from the baseline's 64.9%.

TABLE 27
Omnibus Test of Model Coefficients for Health Insurance Uptake

		Chi-square	df	Sig.
Step 1	Step	60.628	3	<.001
	Block	60.628	3	<.001
	Model	60.628	3	<.001

The results of the significance of financial attitude, financial behaviour, and financial knowledge on the uptake of health insurance are shown below:

TABLE 28**Binary Logistic Regression for Health Insurance Uptake**

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a						
Financial attitude	.770	.241	10.175	1	.001	2.160
Financial behaviour	.682	.216	9.935	1	.002	1.978
Financial Knowledge	.316	.202	2.439	1	.118	1.371
Constant	-7.151	.990	52.154	1	<.001	.001

The analysis shows that financial attitude, financial behaviour was statistically significant with $p\text{-value} < 0.05$, while financial knowledge was not statistically significant with $p\text{-value} > 0.05$. These findings suggest that while financial knowledge is important, positive financial attitude and consistent behaviours are more critical drivers of uptake of health insurance. The model further shows that respondents with a more positive financial attitude had 2.16 times higher odds of having health insurance compared to those with a less positive financial attitude. Similarly, individuals with stronger financial behaviour had 1.98 times higher odds of having health insurance than those with weaker financial behaviour. Without financial attitude, financial behaviour, and financial knowledge, it was unlikely one would take health insurance with only a chance of 0.001.

The binary logistic regression of measuring the likelihood of health insurance uptake is therefore:

$$\text{Logit (h)} = -7.151 + 0.770\text{FA} + 0.682\text{FB} + 0.316\text{FK}$$

Where

FA- Financial Attitude score

FB- Financial Behaviour score

FK- Financial Knowledge score

4.8.2 Effects of Financial Knowledge, Financial Attitude, and Financial Behaviour on the Uptake of Pension Scheme

A binary logistic regression analysis was conducted to determine the influence of financial knowledge, financial attitude, and financial behaviour on the uptake of a pension. The dependent variable (Has a Pension scheme) was coded as 0 = no and 1 = yes. The baseline model correctly classified 74.8% of cases, predicting all 365 respondents as not having a pension scheme. With p-value <0.01 and (B=-1.088), it indicated that B was significant. The variables not in the equation test suggested that adding the independent variables would significantly improve the model, with a p-value < 0.001 for all the independent variables. The model with the three independent variables was statistically significant, with $\chi^2 (4, N = 365) = 81.209$, $p < .001$, indicating that the model reliably distinguished those with a pension scheme and those without. The model correctly classified 74.8% of cases, an improvement from the baseline's 78.1%. The model correctly classified 94.1.0% respondents without a pension and only 30.4% of respondents with a pension, indicating that the model predicts non-uptake of a pension scheme better than uptake of a pension scheme.

From the table below, the analysis shows that financial attitude and financial behaviour were all statistically significant (p-value < 0.05) in influencing the uptake of pension. The analysis also shows that financial knowledge is not statistically significant (p-value > 0.05) in predicting uptake of the pension scheme. The analysis further shows that a unit increase in financial attitude was associated with 2.826 times higher odds of pension uptake, and a unit increase in financial behaviour was associated with 2.974 times higher odds of pension uptake. Comparing the various categories for financial knowledge, the analysis showed that respondents with medium financial knowledge had 2,784 times higher odds of taking up a pension than those with low financial knowledge. Further, respondents with high financial

knowledge had 3.983 times higher odds of taking up a pension than those with low financial knowledge. These findings suggest that, to increase pension uptake, interventions should go beyond financial education to include shaping positive financial attitudes as well as promoting good and consistent financial practices.

TABLE 29
Binary Logistic Regression for Pension Uptake

	B	S.E.	Wald	df	Sig.	Exp(B)
Financial attitude	1.039	0.249	17.411	1	<.001	2.826
Financial behaviour	1.09	0.283	14.816	1	<.001	2.974
Categorized Financial Knowledge			3.761	2	0.153	
Categorized Financial Knowledge (1)	1.024	0.785	1.703	1	0.192	2.784
Categorized Financial Knowledge (2)	1.382	0.786	3.091	1	0.079	3.983
Constant	-10.371	1.526	46.198	1	<.001	0

The binary regression analysis of measuring the likelihood of uptake of pension is therefore:

$$\text{Logit}(p) = -10.371 + 1.039FB + 1.090FA + 1.024FK1 + 1.382FK2$$

Where:

- **FB** - Financial behaviour scale score
- **FA** - Financial attitude scale score
- **FK₁** - dummy variable for *medium-level compared to low-level* financial knowledge.
- **FK₂** - dummy variable for *high-level* compared to low-level financial knowledge.

4.8.3 Moderation Effects of Social Capital on the Effect of Financial Literacy on Uptake of Health Insurance

When social capital is added as a predictor, the model fit improves, with the model explaining variances between 19.8% and 27.2% up from 15.3% and 21.1% in the baseline model without social capital. This indicated that social capital enhanced the explanatory power of the model suggesting that social capital play an important role in influencing ones decision to enroll in health insurance. Social capital emerged as a highly significant predictor ($p\text{-value} < 0.001$) and with the highest odds ratio 2.558 amongst all the predictors. This is an indicator that individuals in strong social networks and trust public institutions are more likely to access information, receive encouragement and emulate their peers in enrolling for health insurance. However, inclusion of social capital reduces the impact of financial attitude and financial behaviour, reducing their odds ratio from 2.160 and 1.978 to 1.749 and 1.764, respectively as shown below. This may suggest a partial mediation effect where social capital absorbs the influence of financial literacy on health insurance uptake

TABLE 30

Binary Logistic Regression for Health Insurance with Social Capital as an Independent Variable

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a Financial attitude	.559	.246	5.178	1	.023	1.749
Financial behaviour	.568	.224	6.408	1	.011	1.764
Financial Knowledge	.109	.217	.254	1	.614	1.115
Social_Capital	.939	.221	18.012	1	<.001	2.558
Constant	-8.252	1.064	60.144	1	<.001	.000

Looking at the moderation effects of social capital, none of the interactions is significant ($p\text{-value} > 0.05$). All the independent variables lose strength, with them becoming statistically not significant as $p\text{-values} > 0.05$, shown in the table below. This suggests that

social capital, therefore, does not moderate the effect of financial attitude, financial behaviour or financial knowledge on health insurance uptake but instead independently predicts uptake. These findings indicate that both financial literacy and social capital are critical determinants of health insurance uptake but operate in parallel rather than interactive manner.

TABLE 31

Binary Logistic Regression for Health Insurance with Social Capital as a Moderating Variable

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a Financial attitude	2.054	1.420	2.092	1	.148	7.796
Financial behaviour	-.389	1.243	.098	1	.754	.678
Financial Knowledge	.914	1.127	.659	1	.417	2.495
Social Capital	2.604	1.664	2.450	1	.118	13.519
Financial attitude by Social Capital	-.445	.416	1.147	1	.284	.641
Financial behaviour by Social Capital	.278	.375	.551	1	.458	1.321
Financial Knowledge by Social Capital	-.251	.331	.573	1	.449	.778
Constant	-13.559	5.352	6.417	1	.011	.000

4.8.4 Moderation Effects of Social Capital on Financial Literacy Effects on the Uptake of Pension

Similar to the findings on health insurance uptake, when social action was added as an independent variable, it improved the explanatory power of the model on pension uptake. This indicated that incorporating social factors such as trust, social networks and group membership enhanced the understanding of how Bodaboda riders make decisions about long-term commitments like pension contributions. However, social capital reduced the effects of financial attitude and financial behaviour on the uptake of pension, reducing their odds ratio from 2.826 and 2.974 to 2.389 and 2.631, respectively. This pattern indicates that while financial literacy remains a strong predictor of a rider's pension participation, part of its

influence maybe mediated by social capital. Social capital emerged as a positive and statistically significant ($p\text{-value}<0.05$) predictor of pension uptake. A unit increase in social capital was associated with 2.128 times higher odds of pension uptake.

TABLE 32
Binary Logistic Regression for Pension Uptake with Social Capital as an Independent Variable

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a Financial attitude	.871	.286	9.271	1	.002	2.389
Financial behaviour	.967	.258	14.043	1	<.001	2.631
categorized financial knowledge			2.370	2	.306	
categorized financial knowledge (1)	1.085	.830	1.712	1	.191	2.961
categorized financial knowledge (2)	1.252	.825	2.305	1	.129	3.497
Social_Capital	.755	.242	9.765	1	.002	2.128
Constant	-11.712	1.680	48.573	1	<.001	.000

When tested as a moderating variable, social capital did not significantly ($p\text{-value}>0.05$) alter the relationship between financial literacy and pension uptake. This therefore suggest that social capital does not moderate the effect of financial literacy on pension uptake. This emphasizes the need for dual intervention to enhance pension uptake through enhancing financial literacy as well as strengthening social structures to enhance enrolment as well as trust in pension contribution.

TABLE 33**Binary Logistic Regression for Pension Uptake with Social Capital as a Moderating Variable**

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	Financial attitude	.799	1.540	.270	1	.604	2.224
	Financial behaviour	3.136	1.420	4.873	1	.027	23.000
	categorized financial knowledge			.238	2	.888	
	categorized financial knowledge (1)	-.088	3.350	.001	1	.979	.916
	categorized financial knowledge (2)	.794	3.446	.053	1	.818	2.213
	Social_Capital	3.057	2.315	1.745	1	.187	21.266
	Financial attitude by Social_Capital	.006	.442	.000	1	.989	1.006
	Financial behaviour by Social_Capital	-.645	.409	2.496	1	.114	.524
	Social_Capital * categorized financial knowledge			.211	2	.900	
	Social_Capital by categorized financial knowledge (1)	.310	.966	.103	1	.748	1.363
	Social_Capital by categorized financial knowledge (2)	.097	.974	.010	1	.920	1.102
	Constant	-19.090	7.699	6.149	1	.013	.000

4.8.5 Summary of Hypothesis Testing

A summary of the outcomes of the hypothesis testing is shown in the table below:

TABLE 34

Summary of Hypothesis Testing

Hypothesis	Key findings	Decision	Conclusion
H₀1: Financial knowledge has no significant effect on the uptake of health insurance among Bodaboda riders in Murangá County.	p-value >0.05	Accept hypothesis H ₀	Financial Knowledge has no significant effect on the uptake of health insurance among Bodaboda riders in Murangá County.
H₀2: Financial attitude has no significant effect on the uptake of health insurance among Bodaboda riders in Murangá County.	p-value <0.05	Reject hypothesis H ₀	Financial attitude has a significant effect on the uptake of health insurance among Bodaboda riders in Murangá County.
H₀3: Financial behaviour has no significant effect on the uptake of health insurance among Bodaboda riders in Murangá County.	p-value <0.05	Reject hypothesis H ₀	Financial behaviour has a significant effect on the uptake of health insurance among Bodaboda riders in Murangá County.
H₀4: Financial knowledge has no significant effect on the uptake of pension schemes among Bodaboda riders in Murangá County.	p-value >0.05	Accept hypothesis H ₀	Financial Knowledge has no significant effect on the uptake of pension schemes among Bodaboda riders in Murangá County.
H₀5: Financial attitude has no significant effect on the uptake of pension schemes among Bodaboda riders in Murangá County.	p-value <0.05	Reject hypothesis H ₀	Financial attitude has a significant effect on the uptake of pension schemes among Bodaboda riders in Murangá County.
H₀6: Financial behaviour has no significant effect on the uptake of pension schemes among Bodaboda riders in Murangá County.	p-value <0.05	Reject hypothesis H ₀	Financial behaviour has a significant effect on the uptake of pension schemes among Bodaboda riders in Murangá County.
H₀7: Social capital does not have a significant moderating effect on the relationship between financial literacy and uptake of health insurance among Bodaboda riders in Murangá County.	P-values>0.05	Accept hypothesis H ₀	Social capital has no significant moderating effect on the relationship between financial literacy and uptake of health insurance among Bodaboda riders in Murangá County.

H₀8: Social capital does not have a significant moderating effect on the relationship between financial literacy and uptake of pension schemes among Bodaboda riders in Murangá County.	P-values>0.05	Accept hypothesis H ₀	Social capital does not have a significant moderating effect on the relationship between financial literacy and uptake of pension schemes among Bodaboda riders in Murangá County.
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4.9 Discussion of Findings

Financial literacy is a key tool in enabling households to effectively use the scarce resources at their disposal, assess their financial vulnerability, and enable them to make better financial decisions to safeguard themselves from financial vulnerability. Financial burden from health eventualities, threat of old-age poverty, remains a key risk for those in the informal sector who heavily rely on the social networks for financial services and information sharing. Assessing how financial literacy and social capital influence uptake of health insurance and pension is key in understanding how these relationships can be enhanced to ensure those in the informal sector, especially the transport sector in Kenya, are safeguarded against financial vulnerability from health risks and old age.

4.9.1 Financial Knowledge and Uptake of Social Protection Programs

The findings of this study indicate that the respondents possessed a moderate level of financial knowledge (M=3.37). While the respondents demonstrated strong abilities in creating personal budgets (M=3.92), evaluating business and financial risks (M=3.54), and distinguishing between simple and compound interest (M=3.42) and I budgeting, they had notable gaps, especially in knowing how to register for health insurance (M=3.17) and pension schemes (M=2.92). This aligned with the respondents' responses on their barriers to joining health insurance and pension schemes, which ranked the knowledge gap as the greatest barrier towards joining pension schemes and the fourth greatest barrier to joining health insurance. In

comparison, financial knowledge had the least weighted average ($M=3.37$) compared to financial attitude($M=3.79$) and financial behaviour($M=3.54$). While this may suggest that having the right financial attitude and consistent financial behaviour may have a greater immediate impact on health insurance and pension uptake, without adequate financial knowledge, positive attitudes and behaviours may not sustain uptake of social protection programs.

The results of the binary logistic regression analysis show that financial knowledge positively influences uptake of both pension and health insurance. A unit increase in financial knowledge would increase uptake of health insurance by 1.371 times. Bodaboda riders with medium financial knowledge had 2.784 times higher odds of taking up a pension scheme compared to those with low knowledge, while those with high financial knowledge had 3.983 times higher odds. An indication that financial knowledge had a stronger influence on the uptake of pension than health insurance. However, these effects were not statistically significant. These findings diverge from the findings of studies such as Waga et al. (2021) and Agunga (2017), which found financial knowledge to be a significant determinant of retirement planning and preparedness among the employees in the formal sector who were seeking retirement planning beyond the mandatory contributions to pension schemes.

The findings from this study show that financial knowledge alone may not statistically predict the uptake of health insurance and pension among the Bodaboda riders, but it also shows that riders with higher levels of financial knowledge are more likely to enroll in pension schemes and health insurance than their counterparts with low financial knowledge. This may suggest that financial knowledge is a key foundation, complementing financial attitude and financial behaviour, which have more influence on the uptake of social protection programs. The interventions targeting the riders should not only seek to cultivate positive financial attitudes and behaviour but should also seek to address the knowledge gaps, especially the

enrolment processes, as well as awareness of the existing options for pension schemes for those in the informal sector. Without addressing these gaps, positive financial attitude and behaviour may not translate into a sustained engagement.

4.9.2 Financial Attitude and Uptake of Social Protection Programs

The study found that respondents demonstrated a positive financial attitude with an overall weighted mean of 3.79, with high mean scores for budgeting and saving ($M=4.21$), recognition of the importance and impact of financial planning on one's future ($M=4.18$), and belief in the value of retirement planning ($M=4.06$). However, the willingness to reduce current spending to contribute towards health insurance ($M=3.24$) and pension ($M=3.19$) was low. This points to the attitude and behavioural gap where positive perceptions do not always translate into the desired behaviour. However, the respondents report high premiums and low and irregular income as a barrier towards registering for both pension and health insurance, and so the unwillingness to cut on expenditure may not necessarily be an unwillingness to adopt a new behaviour, but the unrealistic nature of the demand in light of the struggle to even meet the daily needs. As explained by Ajzen (1991) in the theory of planned behaviour, who argues that behaviours are determined by their intention, which is influenced by their attitude, the attitude of the people that matter in their life, as well as their assessment of their capability in light of the realities, resources, and challenges they are facing.

The binary logistic regression results showed that financial attitude positively influenced uptake of both pension and health insurance and was a statistically significant predictor of the uptake. A unit increase in financial attitude was associated with 2.16 times higher odds of health insurance uptake and 2.83 times higher odds of pension uptake. This is an indicator that, despite constraints of income, financial attitude does play a significant role in encouraging uptake of health insurance and pension, combined with other enabling factors. These findings align with Boyetey and Enu-kwesi (2022), who found that positive financial

attitude encouraged enrolment in micro-pension schemes in Ghana, but disagree with findings of studies by Omwombo and Adul (2022) and Onyango (2014), whose results found that financial attitude didn't statistically influence uptake of pension. However, these two studies found that while the informal sector workers valued retirement planning, it did not translate into enrolment, which aligns with this study.

This study concludes that financial attitude is an important driver of social protection uptake. Although Bodaboda riders recognize the importance of pension and health insurance, they remain challenged to enroll due to low income, poor information, and awareness of the programs, as well as concerns about the credibility of the programs' management. Policy interventions should therefore strengthen financial attitude by combining financial education with measures that address affordability, improved awareness, and rebuilding of trust in the institutions managing pension and health insurance.

4.9.3 Financial Behaviour and Uptake of Social Protection Programs

The findings of this study revealed that respondents demonstrated a moderately strong financial behaviour with a weighted mean of 3.54. The highest rated behaviour included: comparing prices before purchase ($M=4.32$), regularly saving a portion of their income ($M=3.66$) and participation in group savings ($M=3.57$). This reflected cost-consciousness and a valued saving culture. However, weakness was observed especially in recording of expenditure (2.74), paying bills or loans on time (3.48), and saving for emergencies (3.50). Poor recording of expenditures may also indicate the inability of respondents to fully understand how they spend their income, therefore not able to efficiently use the resources they have on irregular income, further jeopardizing their ability to join both health insurance and pension, guaranteeing them a safety net during medical emergencies and their old age.

The binary logistic regression analysis showed that financial behaviour positively influenced uptake of both health and pension and was a statistically significant predictor of health insurance uptake ($p\text{-value} = 0.002$) and pension uptake ($p\text{-value} < 0.001$). A unit increase in financial behaviour was associated with 1.98 times higher odds of health insurance uptake, while a similar increase corresponded to 2.97 times higher odds of pension uptake. These findings are consistent with the findings of Waga et al.(2021) and Tiwari et al.(2021). Waga et al.(2021) found that responsible financial behaviour significantly influences participation in voluntary pension savings among formal sector workers in Kenya, and Tiwari et al.(2021) observed that financial behaviour was a strong predictor of retirement planning. Trehan and Sinha(2020) also highlighted that negative financial behaviour, like poor self-control, undermines retirement outcomes.

The findings of this study show that financial behaviour positively and statistically influences the uptake of both health insurance and pension among the Bodaboda riders in Murang'a County. This implies that cost consciousness, prudent saving habits, and timely financial commitments directly enhance the likelihood of participation in the social protection programs. However, weaknesses in expenditure tracking and timely final obligations payment suggest that without strengthening these behaviours, gains of cost consciousness and saving culture may not be fully realized. Strengthening these behaviours through targeted financial training, reinforcing a savings discipline, as well as employing behavioural nudges that encourage timely financial commitment, may increase the financial resilience of the Bodaboda riders and encourage long-term participation in social protection programs.

4.9.4 Social Capital, Financial Literacy, and Uptakes of Social Protection Programs.

The weighted mean score ($M=3.15$) suggests a moderate level of social capital. The inferential statistics showed strength in informal social capital with high score noted in belief that their children will provide support in old age($M=3.56$), participation in community saving groups

(M=3.42), relying on social networks in times of medical emergency(M=3.36) and feeling comfortable discussing financial matters with family and friends and valuing their input in a financial decision(M=3.36). Respondents showed moderate encouragement from the community and stage leaders' encouragement to join the health insurance and pension scheme. Further, respondents showed extremely low trust in the management of health insurance(M=2.46) and pension schemes(M=2.60), indicating a deep distrust toward the formal financial institutions. These extremes in social capital highlight both the strength of the informal social capital and a critical barrier to the uptake of social protection programs.

When social capital was included in the model as an independent variable, it had a strong influence on the uptake of both health insurance and pension, and was a statistically significant predictor of both insurance and pension. A unit increase in social capital was associated with 2.56 times higher odds of health insurance uptake and 2.13 times higher odds of pension uptake. However, the moderation test showed that none of the interaction terms with financial literacy components, that is, financial knowledge, financial attitude, and financial behaviour, were statistically significant. Thus, social capital does not moderate the relationship between financial literacy and uptake of both health insurance and pension, but remains an independent predictor. The findings of this study, considering social capital as an independent predictor, are consistent with findings by Magambo et al. (2022), Wasike (2019), and Muranda et al. (2020) that belonging in community groups and trust in management in health insurance positively influenced uptake of health insurance. The findings were also consistent with Ngomba (2020) who concluded that membership in an association played a key role in influencing the decision to join a pension scheme.

The findings show that social capital directly influences both health insurance and pension uptake among the Bodaboda riders in Murangá. This underscores the role of peer networks, family, community groups, and trust in the financial institutions that play in shaping

financial decisions and ultimately influencing the uptake of social protection. The reduction in odds ratio for financial attitude and behaviour after including social capital implies that social capital can pull people away from acting on their positive attitudes, which is shown with a negative interaction between financial attitude and social capital.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study aimed to investigate the relationship between financial literacy, social capital, and the uptake of social protection schemes among Bodaboda operators in Murangá County, Kenya. The study had four objectives: to assess the effect of financial behaviour on social protection uptake, to analyze the effect of financial attitude on social protection uptake, to examine the effect of financial knowledge on social protection uptake, and to determine the moderating effect of social capital on the relationship between financial literacy and social protection uptake. The targeted population was 3,500 Bodaboda riders in Murangá County. Data was collected with a semi-structured questionnaire. Quantitative data were analyzed through descriptive statistics and inferential analysis, while qualitative data were analyzed using theme analysis. A binary logistic regression analysis was used to test the hypothesis and produce likelihood predictions of health insurance and pension uptake.

This chapter presents the study's conclusion, recommendations, and suggestions for further inquiry. It also captures how the findings contribute to the body of knowledge in Social Protection among the informal workers.

5.3 Conclusion

This study concludes that even though financial knowledge positively influences uptake of social protection programs, its influence on predicting the uptake of social protection programs was not statistically significant. Respondents showed a moderate level of financial knowledge, but with clear gaps in their knowledge of registration processes for both health insurance and pensions. The knowledge gap was further highlighted as the greatest barrier to pension uptake

and among the top four barriers to health insurance uptake. Even though financial knowledge is not a statistically significant predictor of both pension and health insurance, interventions addressing knowledge gaps, particularly registration processes and benefits and plans available for pension, should be enhanced to reinforce and sustain the positive attitudes and behaviour already present.

Financial attitude was both a positive and a significant predictor of the uptake of both health insurance and pensions. Respondents demonstrated a strong and positive attitude towards saving, budgeting, and retirement, but were less willing to cut current spending to contribute to both pension and health insurance. This may be less of unwillingness but inability to cut the current spending due to low and irregular income, doubled with high premium costs, especially for health insurance. Fostering a positive attitude, along with addressing affordability, can expand enrolment of the riders in both health insurance and pension uptake.

The study concludes that financial behaviour is both a positive and significant predictor of both health insurance and pension uptake. Though the respondents demonstrated consistent behaviour in savings and cost consciousness, they also demonstrated great weakness in expenditure tracking and timely payments of bills and other financial obligations. Strengthening these behaviours through financial training and behavioural nudges, as well as reinforcement of their saving and cost consciousness habits, may enhance financial resilience as it promotes efficient use of their resources, promoting their enrolment in the social protection programs.

This study concluded that social capital as an independent variable was positive and significant, but its moderating effect on financial literacy was statistically not significant. Informal networks, such as family, friends, and savings groups, provided encouragement to join social protection programs, while low trust in the formal financial institutions emerged as

a great barrier towards enrolment. Leveraging groups such as Bodaboda associations and rebuilding trust in insurance and pension institutions is key to expanding enrolment for the riders and other informal sector workers.

The findings suggest that to effectively expand social protection coverage among the Bodaboda riders and in extension the informal sector, effective strategies must go beyond improving financial knowledge to strengthening positive financial attitude and financial behaviour, rebuilding trust in the financial institutions, and leveraging the social networks to encourage enrolment.

5.4 Recommendations

Based on the findings of these studies, some recommendations are made in line with the study objectives.

5.4.1 Financial Knowledge and Social Protection Uptake.

The findings of this study conclude that, even though financial knowledge positively influences both health insurance and pension uptake, it is not statistically significant, but knowledge gaps, especially in registration processes, benefits, and the existence of the programs, remain a key barrier to the uptake of these programs. Targeted financial literacy programs should be developed to address gaps in financial knowledge. The government and institutions managing both health insurance and pension schemes should simplify registration processes, partner with Bodaboda associations and SACCOs to do awareness campaigns, and act as collection and registration agents, reducing barriers to access. The NGOS and development partners should support targeted financial literacy programs in collaboration with the government and Bodaboda groups, creating awareness of the already existing micro-pension schemes like Mbaao Pension Plan and Haba Haba Scheme, highlighting their importance in reducing health-related financial shocks and old-age poverty.

5.4.2 Financial Attitude and Social Protection Uptake

The findings of this study show that financial attitude is both a positive and significant predictor of health insurance and pension. Though the riders have a positive attitude towards pension and health insurance programs, they face affordability challenges due to low and irregular income. There is therefore a need to review the premiums, especially health insurance premiums, ensuring they are affordable and flexible. Those who enrolled for the micro-pensions listed affordability and flexibility of payments as a key reason for their uptake and have been contributing to the scheme actively.

Even though the Kenyan government has made efforts by introducing the means core model of determining the contributions for those in the informal sector, the process is inconsistent and still demands at least a monthly pay, failure to which limits access to medical services. In June 2025, the government launched Lipa SHA Pole Pole Plan, a plan that was to enable access to those in the informal sector by enabling them to access a loan on the Hustler Fund platform to pay for their yearly premium, and in return, they would pay the loan on the Hustler Fund platform flexibly. However, this model is challenged on many fronts. First those seeking to use the platform must have paid monthly premiums of at least four months which therefore fail to help citizens on-board; second this plan increases debt burden on citizens which also is not interest free thereby increasing cost of accessing medical insurance; thirdly, one is not guaranteed to access the whole premium amount as it is dependent on one's loan limit on the platform.

Kenya could successfully implement health insurance from a local and community perspective, modelled after Community-Based Health Insurance (CBHI) in Rwanda. Counties can pilot and later scale Ward-Based Health Insurance Schemes, enabling communities to elect scheme leaders who will oversee efficient mobilization and fund collection, partner with local health facilities, and identify and subsidize premiums for vulnerable households well known

within their communities. These ward-level leadership teams can also attract additional resources through partnerships with organizations to improve the quality of healthcare services. For the success of these programs, they will need strong political commitment, enhanced transparency, heightened engagement of the locals, as well as investment in health facilities enabling access to quality medical services.

5.4.3 Financial Behaviour and Social Protection Uptake

The study concludes that financial behaviour is both a positive and significant predictor of both health insurance and pension uptake. Despite demonstrated consistent behaviour in savings and cost consciousness, there was also demonstrated great weakness in expenditure tracking and timely payments of bills and other financial obligations. Enrolling those in the informal sector into both health insurance and pension schemes will demand efficient use of resources by informal sector workers. Strengthening saving culture and resource allocation by the riders through financial training and behavioural nudges may enhance financial resilience as it promotes efficient use of their resources, promoting their enrolment in the social protection programs.

The government could break down payments of health insurance into small and regular payments, like has been the case for pension contributions, and partner with mobile money transfer companies to enable automated checkoff for the period chosen by the riders to reduce decision friction. The government could also partner with the media to change the narrative about health insurance and pensions from how much they take off one's wages to highlight the immediate and future benefits of these programs, highlighting testimonials from those whose lives have been greatly impacted by the uptake of health insurance and pensions.

5.4.4 Social Capital and Social Protection Uptake

This study showed that informal networks, such as family, friends, and savings groups, provided encouragement to join social protection programs, while low trust in the formal financial institutions emerged as a great barrier towards enrolment. To expand social protection among the riders, it is critical to leverage on these groups such as Bodaboda associations for mobilization and registration. This not only increases access of information it also enhances mobilization enabling onboarding of the riders for health insurance and pension scheme as well as creating platforms for conducting the targeted financial knowledge forums. Rebuilding trust in health insurance and pension institutions is key to expanding enrolment for the riders and other informal sector workers. The government therefore need to rebuild trust in health insurance and pension institutions by fighting corruption, improving transparency, as ensuring reliable service delivery by these institutions. One way to uphold public accountability is to ensure health insurance beneficiaries seeking medical attention get a real-time text message of the amount charged for their hospital visit. This will ensure that hospitals don't over-claim for services offered as citizens can raise alarm if the amount and services charged don't align with what they accessed.

5.5 Contribution to the Body of Knowledge

This study makes several contributions to the body of knowledge. First, it extends the already existing literature on financial literacy and social protection among informal workers by focusing on Bodaboda riders in rural and peri-urban settings, a population overlooked in prior research that concentrated on those in the formal sector or the urban informal workers. Secondly, the study contributes to localized empirical evidence from Kenya's transport sector, offering a foundation for future research on the informal sector and social protection.

5.6 Areas for Further Research

The findings of this study showed that financial knowledge is statistically not significant in predicting the uptake of both health insurance and pension. However, it positively influences the uptake of both, with the influence even higher on the uptake of pensions. Longitudinal studies to examine how improvements in financial knowledge influence financial attitude, financial behaviour, and ultimately uptake of the social protection programs over time can be conducted. Secondly, social capital had no moderating influence on financial literacy effects on the uptake of social protection programs but had a strong influence on the uptake of social protection programs as an independent variable. Future studies could examine how social networks, peer influence, and group action can be leveraged to promote uptake of insurance and pension schemes.

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APPENDICES

Appendix I: Questionnaire

FINANCIAL LITERACY, SOCIAL CAPITAL, AND SOCIAL PROTECTION UPTAKE AMONG BODABODA RIDERS IN MURANGÁ COUNTY, KENYA.

Introduction

Thank you for taking the time to participate in this study. This questionnaire is part of an academic research project aimed at understanding the factors influencing the uptake of health insurance and pension schemes among Bodaboda riders in Murangá County. Your responses will help provide valuable insights into financial knowledge, attitudes, behaviours, and the role of social networks in shaping financial decisions. Please answer each question honestly. There are no right or wrong answers—we are only interested in your experiences and views. Your participation is completely voluntary, and all responses will be treated with strict confidentiality and used solely for academic purposes.

I have been explained to my rights in this process, the purpose of this study, how my responses will be used and I confirm that I am participating out of my own will with no coercion

Signature _____

Part A: Demographic Information

1. Age: _____ years

☐ under twenty-five ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65 and above

2. Gender: ☐ Male ☐ Female

3. Marital Status: ☐ Single ☐ Married ☐ Divorced/Widowed

4. Highest Level of Education:

☐ No formal education ☐ Primary ☐ Secondary ☐ College/University

Part B: Study Variables

Section I: Financial Knowledge

This section tests your understanding of basic financial concepts such as interest, inflation, and risk diversification. Please choose the most appropriate answer for each question.

Sno.	Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
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FK1	I know the difference between simple and compound interest.	☐	☐	☐	☐	☐
FK2	I am aware of how inflation affects the value of money	☐	☐	☐	☐	☐
FK3	I am confident in my ability to create a personal budget.	☐	☐	☐	☐	☐
FK4	I have the knowledge and skills to identify and evaluate risks in my financial and business activities	☐	☐	☐	☐	☐
FK5	I have attended a session where I have been trained on how to manage my finances.	☐	☐	☐	☐	☐
FK6	I know how to register for SHIF	☐	☐	☐	☐	☐
FK7	I know how to register for NSSF or Mbao Pension Scheme, or Haba Haba Scheme	☐	☐	☐	☐	☐

Section II: Financial Attitude

This section explores your personal attitudes toward money management, saving, and financial planning. Please indicate the extent to which you agree or disagree with each statement.

Sno.	Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
FA1	I feel confident about making long-term financial decisions.	☐	☐	☐	☐	☐
FA2	Budgeting and saving are important to me.	☐	☐	☐	☐	☐
FA3	I feel confident in managing my finances without external help.	☐	☐	☐	☐	☐
FA4	I believe that financial planning can significantly impact my future.	☐	☐	☐	☐	☐
FA5	I believe health insurance is worth paying for, even if I do not get sick often.	☐	☐	☐	☐	☐
FA6	I believe that setting aside money for retirement will be valuable in the future	☐	☐	☐	☐	☐
FA7	I am willing to reduce my current spending to contribute to a pension scheme. NSSF, Haba Scheme, Mbao pension scheme or any other	☐	☐	☐	☐	☐

FA8	I am willing to reduce my current spending to contribute to the health insurance, SHIF.	☐	☐	☐	☐	☐
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Section III: Financial Behaviour

This section asks about your actual financial practices, such as saving, budgeting, and paying bills. Please indicate how often you engage in each behaviour.

Sno.	Question	Never	Rarely	Sometimes	Often	Always
FB1	I plan how to spend my income each week/month.	☐	☐	☐	☐	☐
FB2	I regularly save a portion of my income.	☐	☐	☐	☐	☐
FB3	I compare prices before purchases.	☐	☐	☐	☐	☐
FB4	I keep records of my daily/weekly spending.	☐	☐	☐	☐	☐
FB5	I pay my bills, loans, and mobile credits (e.g. Fuliza, M-shwari) on time.	☐	☐	☐	☐	☐
FB6	I save for emergencies.	☐	☐	☐	☐	☐
FB7	I contribute to group savings or chamas regularly	☐	☐	☐	☐	☐

Section IV: Social Capital

This section focuses on the role of your social networks, including community groups and support systems, in influencing your financial decisions.

Sno.	Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
SC1	I participate in community groups or associations related to money or savings.	☐	☐	☐	☐	☐
SC2	I feel comfortable discussing financial matters with friends and family, and I value their recommendations when choosing financial products	☐	☐	☐	☐	☐
SC3	Community leaders or local officials encourage us to join health insurance or pensions.	☐	☐	☐	☐	☐
SC4	I can rely on my social network if I have a medical emergency.	☐	☐	☐	☐	☐
SC5	I believe that my children will take care of me in my old age.	☐	☐	☐	☐	☐

SC6	The health insurance (SHIF) is well-managed by its leadership.	☐	☐	☐	☐	☐
SC7	I believe the pension scheme (NSSF, Haba Haba Scheme, Mbao Pension Scheme) is well managed by its leadership.	☐	☐	☐	☐	☐

Section v: Social Protection Uptake

This section collects information about your participation in health insurance and pension schemes. Please answer each question to the best of your ability.

1. a. Do you currently have health insurance- SHIF?

☐ Yes ☐ No

b. Why did you choose to enroll or not enroll in health insurance?

2. Are you currently enrolled in a pension scheme (e.g., NSSF, Haba Haba scheme, Mbao Pension Plan)?

☐ Yes (If yes, specify: _____) ☐ No

Why did you choose to enrol or not enrol in the pension scheme?

3. Are you actively contributing (paying) to your health insurance?

☐ Yes ☐ No

4. Are you actively contributing (paying) to your pension scheme?

☐ Yes ☐ No

5. What would make health insurance or pension schemes more accessible or appealing to you?

The End.

Thank you for your participation.

Appendix II: Introduction Letter



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BOARD OF POSTGRADUATE STUDIES

KCAU/BPS/2025

Date: Thursday, June 19, 2025

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION (NACOSTI)
P.O BOX 30623-00100
NAIROBI

Dear Sir/Madam,

RE: NDIRANGU GRACE WAITHIRA- REG NO. 23/08162

It is my distinct pleasure to introduce Ndirangu Grace Waithira, a student at our institution pursuing a Master of Science in Development Finance degree in the School of Business.

Grace is conducting research on the topic: ***“Financial literacy, social capital and social protection uptake among bodaboda riders in Murang’a County, Kenya”*** Her study has been reviewed and approved by the University’s Ethics Review Committee Approval No. KCAUSERCSOB156. The Approval period is from 16th June 2025 to 16th June 2026.

Any assistance accorded to her is highly appreciated.

Yours faithfully,

DR. JACKSON NDOLO
DIRECTOR, BOARD OF POST GRADUATE STUDIES

Appendix III: KCAUSERC Ethics Clearance



Thika Road, Ruaraka
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KCA UNIVERSITY SCIENTIFIC & ETHICS REVIEW COMMITTEE

REF: KCAU/SERC/SOB0156

Date: 13th JUNE 2025

TO: NDIRANGU GRACE WAITHIRA (23/08162)

Dear Sir/Madam,

RE: FINANCIAL LITERACY, SOCIAL CAPITAL AND SOCIAL PROTECTION UPTAKE AMONG BODABODA RIDERS IN MURANG'A COUNTY, KENYA

This is to inform you that KCA University Scientific Ethics Review Committee (KCAUSERC) has reviewed and approved your above research proposal. Your application approval number is **KCAUSERC/SOB0156**. The approval period is **16th June 2025 – 16th June, 2026**.

This approval is subject to compliance with the following requirements;

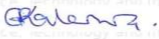
- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by **KCAUSERC**.
- iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **KCAUSERC** 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 **KCAUSERC** within 72 hours
- v. Clearance for 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 expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to **KCAUSERC**.

Prior to 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 also obtain other clearances needed.

Yours sincerely

Dr. Caroline Ntara
Chairperson
KCA University Scientific & Ethics Review Committee

Appendix IV: NACOSTI License

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 649935	Date of Issue: 30/June/2025
RESEARCH LICENSE	
	
This is to Certify that Ms. Grace Waithira Ndirangu of KCA University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Muranga on the topic: FINANCIAL LITERACY, SOCIAL CAPITAL AND SOCIAL PROTECTION UPTAKE AMONG BODABODA RIDERS IN MURANG'A COUNTY, KENYA for the period ending : 30/June/2026.	
License No: NACOSTI/P/25/4176082	
649935	
Applicant Identification Number	Deputy Director NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code
	
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