SOCIAL ENTERPRISE BUSINESS DEVELOPMENT SERVICES' PROGRAMS AND BUSINESS SUSTAINABILITY IN ISIOLO COUNTY, KENYA

By

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DECLARATION

I declare that this dissertation is my original work and has not been previously published or submitted elsewhere for 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 author duly acknowledged.

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I do hereby confirm that I have examined this master's dissertation of

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ABSTRACT

This study focuses on social enterprise business development services' programs and business sustainability in Isiolo County, Kenya. This study is crucial for understanding the role of social enterprises in the economic empowerment of businesses in Isiolo County, an area facing significant socio-economic challenges. The following specific objectives guide the study: to examine the effect of access to financial resources provided by social enterprises in Isiolo County, to assess the effect of training programs provided by social enterprises in Isiolo County, to evaluate the effect of community engagement initiatives implemented by social enterprises in Isiolo County, and to investigate the effect of technology integration by social enterprises in Isiolo County. Theoretically, the study is guided by resource-based review, diffusion of innovations theory, human capital theory, and dynamic capabilities theory. Each theory provides a framework for understanding the effect of social enterprises on businesses in Isiolo County. The target population consists of business owners, managers, and employees involved in various sectors, including agriculture, retail, tourism, and renewable energy, whom social enterprises in Isiolo County support. This study employed primary data from businesses in Isiolo County and adopt the descriptive design to analyze data. The study took six months and was conducted between December 2024 and June 2025, using structured questionnaires to gather primary data. This study explored the factors influencing business sustainability in Isiolo, focusing on four key areas: financial resource support, capacity-building programs, community engagement, and the adoption of digital technologies. The findings indicate that financial resources ($\beta = 0.75$, $p < 0.05$), training programs ($\beta = 0.68$, $p < 0.05$), community involvement ($\beta = 0.72$, $p < 0.05$), and digital technology adoption ($\beta = 0.70$, $p < 0.05$) significantly contribute to business sustainability. In conclusion, the study highlights the importance of robust policies, organizational commitment, and strong community collaboration in achieving sustainability. Recommendations suggest enhancing policy frameworks, supporting social entrepreneurs to integrate sustainability, guiding researchers in studying broader contexts, and increasing community engagement. The study's limitations include reliance on primary data and its focus solely on Isiolo, which may not fully represent the broader regional dynamics. For future research, expanding to other regions and assessing long-term sustainability impacts would provide valuable insights.

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TABLE OF CONTENTS

DEDICATION

This research is dedicated to my late mother, Jamila, my wife, Saumu, my brother, Hussein, and my mentor, Hon. Ameso, for their unwavering love and support. My mother's sacrifices and values inspire me daily. My wife's patience and encouragement anchored me. My brother's motivation strengthened my resolve. My mentor's guidance and belief shaped my academic path. Each played an irreplaceable role in this achievement, and I am deeply grateful for their love, sacrifice, and faith in my journey.

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

CSR - Corporate Social Responsibility

DEI - Diversity, Equity, and Inclusion

ESG - Environmental, Social, and Governance

GRI - Global Reporting Initiative

KPLC - Kenya Power and Lighting Company

KNBS - Kenya National Bureau of Statistics

RBV - Resource-Based View

SBMI - Sustainable Business Model Innovation

SMEs - Small and Medium Enterprises

SDG - Sustainable Development Goal

TBL - Triple Bottom Line

VIF: Inflation Factor

OPERATIONAL DEFINITION OF TERMS

Community Engagement Initiatives: These are Programs or projects that actively involve local communities in decision-making, resource allocation, and problem-solving to address community-specific challenges and needs (Gaventa & Cornwall, 2020).

Social Enterprises: These are businesses that aim to generate profit while simultaneously achieving social, environmental, or cultural goals, using entrepreneurial approaches to address societal challenges. (Santos, 2020)

Skill Development and Training Programs- Structured educational initiatives or workshops designed to enhance individuals' capabilities and qualifications, improving their employability, productivity, and ability to contribute to the economy. (ILO, 2020)

Technology Integration- These are the adoption and implementation of modern technology tools and systems within business operations or services to improve efficiency, customer experience, and scalability. (Choudhury & Agarwal, 2021)

CHAPTER ONE

INTRODUCTION

1.1Background of the Study

Financial sustainability programs have received increased focus from social enterprises that need long-term sustainable programs. Impact investments, grants, and microfinance help social entrepreneurs succeed (Haugh & Talwar, 2021). When institutions invest social firms, they create social value and profit (Battilana et al., 2020). Schaltegger et al. (2022) say diverse funding sources help social firms adapt to market changes and innovate. Financial resources boost operational efficiency and enable social mission completion, according to Gómez-Miranda et al. (2023). Financially flexible companies can continue social work amid economic downturns (Porter & Kramer, 2021). Continuous financial resources protect financial stability, social impact, and sustainable business strategies. The evaluation examines financial strategies for Isiolo County's social enterprises' sustainability.

Business sustainability is defined as the practice of including environmental, social and economic factors in business strategies to achieve long term value creation addressing world challenges (Aguilera et al., 2021). Business sustainability involves profit and social and environmental responsibilities, known as the ‘triple bottom line’. Organizations promote fair work, social well-being, and less environmental effect, resource consumption, and waste. Geissdoerfer et al. (2020) on circular business models, Aragon-Correa et al. (2020) on regulatory influences, and Aguilera et al. (2021) on corporate governance emphasize aligning business practices with sustainability goals to address institutional, governance, and supply chain issues The research offers various reasons to adopt sustainable solutions for long-term competitiveness and environmental stewardship.

Business Development Services are non-financial services that include training, mentoring, market linkages as well as advisory services. Together they help improve and sustain social enterprises (Al-Mubaraki & Busler, 2017; Kinyanjui, 2019). Because social entrepreneurs lack managerial and operational abilities, social enterprises fail regularly. Business development services equip social entrepreneurs (Gibson, 2020; Mair & Marti, 2006). Effective business growth enhances financial knowledge and planning, resolving financial challenges. It also helps profitable businesses scale impact (Seelos & Mair, 2017; Bloom & Smith, 2010). Business Development Service networks and market information improve long-term competitiveness and market position (Sengupta & Sahay, 2017; Achtenhagen, 2017). Business development services enable social enterprises use technology to adapt to changing contexts, strengthen their business models, and boost impact (Nicholls, 2010; Ebrahim et al., 2014). Zahra et al. 2009; Santos 2012).

Training and community engagement programs that create capacity are crucial to social enterprises' long-term success. Fernandez-Lopez et al. (2022) found that training programs improve staff and resident skills and education, boosting social programs and the enterprise. Local sustainable development stakeholders receive financial, entrepreneurial, and leadership training from social firms (Kraus et al., 2020). Community involvement builds trust between social enterprises and local communities, enhancing cooperation (Seelos & Mair, 2021). Radjou et al. (2023) say community-engaged social firms establish economic models that benefit everyone and meet demographic needs. This community-focused approach boosts local support and sustainable development (Zahra et al., 2022). Training and involvement are essential to social enterprise longevity because they promote growth and innovation.

New social enterprise concerns affect funding, measurement, technology, and market rivalry, changing the business sustainability landscape (Aldrich & Fiol, 2023). Social firms

struggle to acquire long-term investment because they must balance financial and social aims (Battilana et al., 2020). Financial metrics cannot detect value creation by these groups, making social impact difficult to prove (Seelos & Mair, 2021). Scaling social companies requires technology, but many lack resources and experience (Gómez-Miranda et al., 2023). Increased hybrid business models force social firms to balance sustainability and social goals (Radjou et al., 2023). Kraus et al. (2020) say social firms need qualified staff and community training to scale. Today's complicated and competitive market requires social firms to handle these difficulties to sustain their influence and operations.

Today's businesses must respond to sustainability issues such as climate change, resource scarcity, and social inequality. Companies must adopt sustainability due to government mandates, market demand for eco-friendly practices, and environmental risks (Bocken et al., 2021). AI and blockchain present ethical and environmental concerns (Sodhi & Tang, 2020). Businesses must adopt circular economy resource and waste management (Geissdoerfer et al., 2020). According to Mair and Marti (2021), social enterprises are becoming more relevant in developing regions since they may generate revenues and have a social impact. Corporate sustainability and DEI boost brand loyalty and staff happiness (Kramer et al., 2022). Companies must balance short-term financial gains with long-term environmental goals (Hahn et al., 2021) and cannot understand sustainability principles and meet reporting rules (Eccles & Krzus, 2020). AI/blockchain's long-term impact is unknown (Lee et al., 2020; Sodhi & Tang, 2020), and new markets have regulatory difficulties.

As consumers want green products, businesses adopt sustainable practices (Kiron et al., 2020). Environmental and social policies from governments globally have a substantial impact on corporate sustainability (Delmas & Toffel, 2021). Sustainable activities affect business

reputation and brand loyalty because firms know customers want to interact with brands that share their values (Kotler et al., 2021). Since sustainable operations reduce energy and waste management costs, businesses may adopt them for financial reasons (Bocken et al., 2021). Modern green innovation technologies like renewable energy and resource-efficient systems help businesses promote sustainability (Sodhi & Tang, 2020). As ESG investment alternatives rise, companies employ sustainable measures to attract investors and boost profits.

Businesses now incorporate environmental social and governance (ESG) factors into their business planning. For environmental protection, businesses use circular economy ideas to optimise resource consumption and waste management and recycle materials (Bocken et al., 2021). Green supply chains and renewable energy systems save money and help the environment (Sodhi & Tang, 2020). Sustainability reports by modern firms include sustainable performance objectives to boost stakeholder trust and reputation (Eccles & Krzus, 2020). The new business model creates sustainable shared ventures through multi-stakeholder collaboration (Kiron et al., 2020). According to Delmas and Toffel (2021), present leadership values long-term profit over short-term profit. Companies change their practices to fulfill customer demand for ethical, environmentally friendly businesses.

Global social companies prioritize addressing social issues by generating financial viability while fostering social development, delivering solutions to underserved populations. SELCO India, a prominent social enterprise, delivers inexpensive solar energy to rural communities. SELCO's accessible solar products and services deliver sustainable energy solutions and independent electricity to underserved residential areas, transitioning from traditional unreliable systems (SELCO India, 2021). The China Foundation for Poverty Alleviation (CFPA) combats poverty via microloans, healthcare, and education initiatives. The

CFPA employs social entrepreneurship to enhance the lives of underprivileged communities and vulnerable individuals (CFPA, 2020). Greyston Bakery, a prominent social company in the United States, employs marginalized individuals. Greyston Bakery assists marginalized individuals in securing employment following their initial attempt at the bakery by open hiring, which does not involve background checks or interviews (Greyston Bakery, 2020). Research indicates that numerous social companies globally employ innovative strategies to effectuate enduring social transformation (CFPA, 2020).

Bridge International Academies, Uganda Water Project, and The Clothing Bank function as social companies in Africa, promoting local development and community empowerment across the area. Bridge International Academies in Nigeria employs technological infrastructure alongside teacher development initiatives and social assistance to enhance educational possibilities across the country (Bridge International Academies, 2020). The Uganda Water Project implements sustainable water supply management systems that educate populations on service provision and promote awareness of water conservation and sanitation practices (Uganda Water Project 2020). The Clothing Bank's South African initiatives instruct women in establishing retail enterprises and offer business mentorship and resources to create local employment opportunities (The Clothing Bank, 2020). The initiatives facilitate community enhancement, resulting in sustainable development across the region.

Isiolo social enterprises in Kenya promote sustainable economic growth through empowerment programs that build community capacity and company growth. ISWAS stresses sustainability because clean water improves public health and economic output. ISWAS' water management and hygiene education programmes help communities manage sustainable water systems independently (ISWAS, 2020). Northern Rangelands Trust (NRT) protects wildlife and

land sustainably. NRT teaches locals sustainable agriculture and conservation to earn from livestock farming and ecotourism (Northern Rangelands Trust, 2020). Youth and women-focused skills training and entrepreneurial activities help Infinite Alliance sustain itself. They empower and grow local sustainable economy-boosting small businesses (Infinite Alliance, 2020). Social projects demonstrate how company sustainability integration may boost local growth and economic stability.

1.1.1. Social Enterprises

These businesses combine financial success with social activity to promote sustainable development. Social enterprises integrate social impact and financial viability, making them unique (Mair & Marti, 2021). The companies invest profits on social mission in education, healthcare, and environmental sustainability (Bacq & Janssen, 2020). Social enterprises aim for social and economic sustainability (Austin et al., 2020). Social enterprises collaborate with underserved people to solve social concerns through market-driven solutions (Mason et al., 2020). Social enterprise legal structures include non-profits that operate businesses and dual hybrid companies that include lucrative and non-profit features (Defourny & Nyssens, 2020). Businesses take on vital roles to create societal breakthroughs.

Sustainable social enterprise management balances social and environmental goals with financial viability. These organisations aim to create long-term value through social innovation and market-based social solutions (Bocken et al., 2021). Social companies use their profits to battle affordable healthcare, education, and environmental issues (Mair & Marti, 2021). These organizations use circular economy and cooperative ownership models to provide operational resilience during market swings (Bacq & Janssen, 2020). Social firms struggle to scale because expanding their mission is unsustainable (Defourny & Nyssens, 2020). Austin et al. (2020) say

that gaining money and accurately quantifying social impact are important barriers to long-term sustainability. Even though they struggle, social companies give crucial sustainable solutions to communities and society.

Social companies achieve sustainability by combining social and commercial goals. Example: Muhammad Yunus' Grameen Bank in Bangladesh. Underprivileged women and men receive interest-bearing microfinance from the group to overcome poverty (Yunus 2020). US company Patagonia mixes business with environmental protection. Eccles & Krzus (2020) show how the corporation supports nature and supplier networks openly and funds environmental action with earnings. Underserved populations in India receive economical, high-quality advanced medical care from Aravind Eye Care System. Profitable operations address societal needs because to the unique income structure that mixes paid and free services (Mair & Marti, 2021). Fairphone in the Netherlands develops ethical telephones with sustainable materials, ethical labour regulations, and market-specific repair capabilities (Bocken et al., 2021). These businesses show that social impact and profitability can coexist, giving social entrepreneurs valuable knowledge.

Social companies need sustainable business operations for long-term social impact and financial viability. Social enterprises address important social and environmental issues, but their lack of sustainable business practices threatens their long-term success (Bocken et al., 2021). Technological and financial sustainability helps these organizations operate and expand by providing consistent revenue streams, new investment opportunities, and less outside funding (Austin et al., 2020). Sustainable business operations help social firms overcome market challenges and adapt to changing social, economic, and environmental conditions (Mair & Marti, 2021). Social companies need financial sustainability for credibility and independence to

maintain stakeholder trust (Bacq & Janssen, 2020). The key to improving social enterprises and making a lasting difference is commercial sustainability.

Social firms that use the nonprofit model prioritize social mission over shareholder income. Smith et al. (2022) say donation-based social companies employ this strategy. Organizational tax exemptions reduce operating costs, allowing nonprofits to spend more on social impact (Lee, 2021). Nonprofits must diversify their funding and create self-sustaining strategies to survive (Jones & Taylor, 2023). Brown (2021) found that nonprofit social entrepreneurs produce mission-related products and services to reduce their demand for donations. The education-focused nonprofit has the lowest access costs for educational resources that become scholarship monies for disadvantaged students (Williams, 2023). Strategic government-private collaborations provide resources and expertise (Harris & Peters, 2022). Social companies that seek big social change need nonprofit business structures.

Social enterprises use the hybrid business model to combine nonprofit and for-profit tactics for community benefit and financial sustainability (Miller & Smith, 2022). This business model is flexible and may combine donations and service income, thus more organisations are using it (Patel, 2023). A hybrid organisation makes money from sales, donations, grants, and social impact investments (Brown et al., 2022). A constant cash flow from multiple sources supports the organization's work (Green & Roberts, 2021). Anderson and Lee (2023) discuss a renewable energy social venture that sells solar panels to extend electricity access to marginalized populations. The hybrid organizational structure allows social enterprises to expand by attracting investors who want financial and social benefits (Walker, 2021). A hybrid business strategy can help social companies grow financially.

For-profit social enterprises address social and environmental challenges while making a profit. For-profit social companies strive to alter society through business (Thomas, 2022). This paradigm encourages companies to provide affordable healthcare, market sustainable products, or employ underrepresented groups (Lee & Wilson, 2022). Profitability helps for-profit social businesses attract investors and improve their impact, unlike nonprofit organizations that rely on outside funding (Kumar & Singh, 2023). A green product company funds sustainability projects like environmental preservation with its income (Evans et al., 2021). For-profit businesses can better adjust to market needs, ensuring their long-term viability (Taylor et al., 2021). This approach attracts venture capital and impact investment because financiers value its ability to earn profits and improve society (Johnson, 2023). The for-profit social enterprise concept allows for great social impact and self-sustainable financial operations.

1.1.2 Business Development Services' Programs

Business Development Services (BDS) programs usually supply financial knowledge through grants, loans, and investors and help small businesses grow and flourish. These resources allow entrepreneurs to scale operations, innovate, and contribute to local economic growth. Mair and Marti (2021) point out that the early stages of business, in particular, require financial backing, especially for emerging markets where capital is scarce. Haugh Talwar (2021) also argues that other funds like microfinance and impact investments allow businesses to adapt and thrive. Nevertheless, the barrier guarantees that these assets are accessible and confident, particularly in underdeveloped territories (Lee et al., 2020). BDS programs can provide a way to provide financial inclusion, bridging the funding gap to support long-term business viability while driving social impact goals (Schaltegger et al., 2022). Financial resources might improve the building of resilient and sustainable businesses.

Business Development Services, however, cannot exist without training programs because they help entrepreneurs develop skills in business management, financial literacy, and leadership. These programs make these businesses achieve increased profitability and operational efficiency and create an edge over other businesses (Porter & Kramer, 2021). Additionally, according to Battilana et al. (2020), capacity building builds the social entrepreneur's capacity to strike a socially and financially rational balance. The significant advantage of training programs is that they boost businesses, particularly in regions with scanty access to formal education or business expertise, in those challenging environments (Gómez-Miranda et al., 2023). Schaltegger et al. (2022) underline the importance of practical training because it can significantly increase the success rates of local enterprises, especially in resource-constrained markets, through tailored education. Hence, BDS training programs are important for promoting business sustainability and local development of the area.

For business development benefits beyond individual entrepreneurs, business development service programs must utilize community engagement initiatives. In order to promote local economic growth and meet community needs (Kramer et al., 2022), these initiatives encourage collaboration and support. Geissdoerfer et al. (2020) point out that community-based programs that integrate sustainable business models contribute to local resilience and empowerment. In addition, Battilana et al. (2020) point out that businesses in communities are more likely to succeed if they deal with local challenges and utilize community resources. In regions such as Uganda, the business solutions developed by the community are critical for sustainable development, such as water systems and sanitation programs (Uganda Water Project, 2020). Community engagement builds trust, strengthens customer loyalty, and

provides a better chance of creating long-term relationships (Mair & Marti, 2021). As a result, community engagement is a pillar of the success and mission of social enterprises.

As one of the key components of Business Development Services (BDS) programs, technology integration can help improve the operational potential of small and medium-sized enterprises (SMEs). Through digital tools, businesses can increase their efficiency, expand to broader markets, and innovate how they provide their services (Sodhi & Tang, 2020). Geissdoerfer et al. (2020) state that technology integration within BDS programs is necessary to help their transition to circular economy models by optimizing resource usage and waste reduction. On the other hand, digital platforms allow businesses to access important data for decision-making and performance analysis (Schaltegger et al., 2022). Tech-based education platforms like Bridge International Academies use technology in regions of Nigeria to promote access to quality education and entrepreneurship (Bridge International Academies, 2020). Hence, technology integration into BDS programs can serve as a powerful catalyst for business growth and sustainability as well as community development and resource constraint settings.

1.1.3 Business Sustainability

Business sustainability represents a company system that maintains continuous economic, environmental, and social integrity. Hahn et al. (2021) establish that sustainable business practices surpass profit maximization at the current moment by instead focusing on maintaining enduring value combined with reduced environmental and societal consequences. Businesses need to implement strategies that address sustainability by using eco-friendly operations along with optimized resource management and social responsibility programs, according to Bocken et al. (2021). Business organizations that embed sustainable approaches gain better capacity to respond to worldwide difficulties like climate change and dwindling resources. The inclusion of

sustainability in business models attracts loyal customers because consumers now choose brands that demonstrate significant environmental and social responsibility commitments (Porter & Kramer, 2021). A global market demands business sustainability to succeed competitively.

Being sustainable requires companies to sustain financial rewards today to achieve environmental and social targets in the future. Eccles and Krzus (2020) point out those organizations should integrate sustainability measurements into their reporting systems to properly show the authentic value of sustainable investments. Haugh and Talwar (2021) demonstrate that sustainability practices, requiring initial cost investments for renewable energy and waste reduction, develop into profitable enterprises that generate savings with improved business margins over extended periods. Financial institutions recognize sustainability's essential role, which creates new financial development in green finance and impacts investments and ESG (environmental, social governance) criteria, as Schaltegger et al. (2022) stated. Organizations focusing on sustainable development draw investors who use sustainable strategies for value enhancement and risk reduction (Lee et al., 2020). Organizations must include sustainability as an essential component in their financial plans because it guarantees future financial health.

The social aspect of business sustainability measures how organizations affect their workforce, market segments, and geographic areas. Mair and Marti (2021) explain that business social responsibility creates societal value through DEI initiatives and labor rights protection. Social enterprises unite business goals with social missions to resolve major global issues, including poverty and inequality, according to Geissdoerfer et al. (2020). According to Kramer et al. (2022), companies that embrace social sustainability gain better customer loyalty while retaining employees and raising staff satisfaction. Businesses focusing on community initiatives

develop stronger alliances with stakeholders that create trust and sustainable long-term success. Social sustainability is vital for businesses to integrate their operations with societal objectives, leading to an inclusive and equitable society in the future.

Business sustainability requires environmental sustainability as its core component, which focuses on reducing environmental footprints through practices for resource conservation, energy efficiency, and waste management methods. Environmental sustainability drives business success through lowered costs combined with regulatory compliance, according to Bocken et al. (2021). Businesses need to implement circular economy systems that focus on product design for circularity because it helps reduce waste streams while maximizing resource efficiency, according to Geissdoerfer et al. (2020). Schaltegger et al. (2022) explain that sustainable environmental practices reduce climate risks and resource shortages, protecting will protect business operations in the future. Industry leaders Sodhi & Tang (2020) maintain that organizations need to find new solutions and team up to solve world environmental challenges and foster sustainable customer habits. A rapidly changing world requires business sustainability to maintain its foundation through environmental responsibility practices.

1.1.4 Isiolo County

Isiolo County in Kenya has dry environments but faced with poverty, poor education, and poor basic amenities. The limitations in Isiolo cannot prevent social companies from strengthening local areas through sustainable economic operations. Clean energy, water access, and economic empowerment for women and youth are the companies' priorities (Mair & Marti, 2021). Isiolo Women's Empowerment Group and Rural Energy and Development Ltd.'s sustainable business models focus on skill-development, sustainable agriculture, and renewable energy (Bocken et al., 2021). These companies struggle to grow due to finance issues, operational expansion issues, and

infrastructure issues (Bacq & Janssen, 2020). These firms' ability to acquire long-term funding is limited by measuring their social benefit (Sodhi & Tang, 2020). Isiolo social enterprises strengthen local economic resilience and advance sustainable development.

The social enterprises of Isiolo County Kenya are essential to regional business continuity because they address local financial and social issues. Social companies in Isiolo address social and economic issues because the region has poverty, poor healthcare, and few job prospects. Isiolo Women's Empowerment Group fosters sustainable farming and small-scale business skills to give women stable incomes and promote equity and economic empowerment (Bocken et al., 2021). Even though Twiga Foods operates nationally in Kenya, it has helped the agricultural supply chain by lowering food waste and improving farmer channels (Bacq & Janssen, 2020). Isiolo's social companies promote sustainable development by integrating sustainable farming with ecologically friendly practices and giving local women economic opportunity (Defourny & Nyssens, 2020). Businesses create jobs, improve community skills, and distribute wealth fairly.

Several Isiolo County social enterprises promote environmental sustainability. Solar energy systems from Rural Energy and Development Ltd. are sustainable alternatives to non-renewable resources (Sodhi & Tang, 2020). Solar-powered efforts reduce carbon emissions, provide affordable power to rural communities, and help construct long-term infrastructure (Austin et al., 2020). Eco-friendly company operations, like Isiola Eco-Lodges, assist local community well-being and environmental conservation through sustainable tourism (Kiron et al., 2020). Social enterprises that safeguard nature and reduce environmental damage produce economic value and meet sustainability goals (Bocken et al., 2021). These entities help Isiolo achieve long-term economic stability and sustainable regional growth.

1.2. Statement of the Problem

Many social enterprises encounter difficulties despite the known importance of Business Development Services (BDS), which enables them to build skills for market entry strategies and financial management. BDS, in principle, was created to give social enterprises access to tools that develop stability and support sustainability initiatives (Ombi, Ambad & Bujang, 2018). Research reveals that social enterprises worldwide struggle to attain financial stability despite the existing support services (Mair & Marti, 2021; Eversole, Barraket & Luke, 2014). There is a fundamental need for strategic BDS programs that understand regional requirements because social enterprises especially encounter unique business challenges in low-resourced areas.

In order to meet such challenges, various capacity-strengthening programs, for example the Drought Resilience in Isiolo County (DRIC) program have been introduced with a view to enhancing the resilience and sustainability of social enterprises in Isiolo County (Kaimenyi,2019). Inspite of these efforts, the performance of social enterprises in Isiolo and other rural counties of Kenya has been mixed with reported incidences of stagnation and outright attrition whenever donors exit. (Joram and Jagero 2022)

Most scholarly investigations about social enterprises study urban organizations without focusing enough on rural social enterprises, specifically in regions such as Isiolo County. Rural social enterprises encounter three major financial obstacles: constraints, poor technological capabilities, and a lack of qualified individuals, which block their development and sustainability. Social enterprises in rural areas struggle even more because they lack vital networks, markets, and essential services that cities generally provide (Nicholls & Murdock, 2021). Empirical research about rural African social enterprises is a significant knowledge gap because of limited research interest in local economic circumstances and community

involvement (Perrini & Vurro, 2019). Research about these enterprises fails to include native infrastructure elements and local strategies because they need analysis to show complete enterprise effects (Defourny & Nyssens, 2020). Studies focusing on rural social enterprises' missing features will create a more extensive understanding of their capabilities and boundaries.

Research about social enterprise sustainability improvements continues to expand, but findings regarding their effectiveness for sustainability longevity exhibit conflicting results. A number of studies such as Baccq & Janssen (2020) Bocken et al (2021) point to the primacy of business development services as the driver of sustainability and growth among social enterprises arguing that such services not only cover operational deficiencies and poor resource endowment among social enterprises but also handhold and guide them in the growth process.

However other studies such as practices Baccq & Janssen (2020), Bocken et al (2021) and Mair & Marti (2021) take a dim view on the effectiveness of Business development services arguing that success of social enterprises is dependent on the founder/ entrepreneur. Research findings about social enterprise sustainability exist in conflicting results because of unclear methods to achieve financial success alongside social goals. Researchers still argue about what leads to sustainable social enterprises because standardized evaluation methods for these aspects remain unclear, thus preventing the development of universal best practices (Bocken et al., 2021). This study will fill this gap.

1.3 Research Objectives

To examine the relationship between social enterprise business development services programs on business sustainability in Isiolo County.

1.3.1 Specific Objectives

i. To analyze the impact of financial resource support by social enterprises on the sustainability of businesses in Isiolo County
ii. To evaluate the role of social enterprise-led capacity-building programs in enhancing business sustainability in Isiolo County
iii. To evaluate the role of community engagement initiatives implemented by social enterprises on business sustainability in Isiolo County
iv. To assess how the adoption of digital and technological solutions by social enterprises influences business growth and sustainability

1.4 Research Questions

i. What is the impact of financial resource support provided by social enterprises on the sustainability of businesses in Isiolo County?
ii. How do social enterprise-led capacity-building programs contribute to enhancing business sustainability in Isiolo County?
iii. What role do community engagement initiatives implemented by social enterprises play in promoting business sustainability in Isiolo County?
iv. How does the adoption of digital and technological solutions by social enterprises influence business growth and sustainability in Isiolo County?

1.5 Justification of the Study

This study is crucial for understanding the role of social enterprises on business sustainability in Isiolo County, an area facing significant socio-economic challenges. Without this research, the gap in effective, context-specific strategies for ensuring business sustainability remains unaddressed. Specifically, there is a lack of empirical evidence on how access to financial

resources, training programs, community engagement initiatives, and technology integration by social enterprises can impact economic mobility. If the study is undertaken, it will provide valuable insights into the effectiveness of social entrepreneurship models, offering practical solutions to bridge existing gaps in financial services, education, and market access. The findings will help inform policy recommendations, improve the design of social enterprises, and guide interventions by social entrepreneur, researchers, and local communities. Ultimately, this research will contribute to reducing poverty and enhancing the economic resilience of businesses in Isiolo County.

1.6 Significance of the Study

1.6.1 Policy Makers

The study shows policymakers how social enterprises improve business sustainability in rural Isiolo County and other areas. Policymakers may develop a social enterprise-friendly environment by understanding financial resources, training programs, community participation, and technology integration. Empirical analysis pinpoints policy flaws and suggests a regulatory structure to effectively create and promote social enterprises. The research findings could influence policies that improve transportation networks, financial opportunities, and public-private partnership among local businesses and governments. This analysis will help government officials establish sustainable development strategies for Isiolo County and similar places.

1.6.2 Social Entrepreneurs

Social entrepreneurs learn what drives business sustainability effectiveness in social company operations from this study. Understanding financial capital, training, community engagement, and technology adoption can help Isiolo County social entrepreneurs and others improve their business ideas. This study emphasizes the need to collaborate with local communities to create

resilient business models. Research targets financial, growth, and social performance hurdles, helping social entrepreneurs overcome them. This study will inspire social entrepreneurs to use innovative, sustainable business practices to achieve their philanthropic and financial goals. This research will help social entrepreneurs build long-term firms in tough markets.

1.6.3 Researchers

The outcomes of this study are important for social entrepreneurship, sustainable development, and rural business modeling scholars. The research overcomes academic gaps by focusing on Isiolo County, which most social entrepreneurship studies omit. Financial, social, and technological variables help explain rural social enterprise sustainability. The research will improve theoretical frameworks for understanding African social enterprises' unique challenges and potential. The study examines social enterprise sustainability in Isiolo to stimulate research on contextual factors affecting emerging area social entrepreneurship. Rural social entrepreneurs' ability to create sustained change will help scientists understand them.

1.6.4 Local Communities

The research benefits Isiolo County citizens greatly. Social enterprises improve local communities by addressing poverty, joblessness, and service access. The study investigates financial resources, training programs, community connection, and technological integration to build sustainable strategies for local population-serving social enterprises. This study can help explain how community-led initiatives to self-sustaining small businesses build economic resilience. The study stresses community participation since local knowledge, needs, and skills are crucial to these firms' success. The discovery results will improve Isiolo's socio-economic framework through enterprise assistance for community development.

1.7 Scope of the Study

This study focuses on social enterprises on businesses sustainability in Isiolo County, Kenya. The research examined the specific effects of access to financial resources, training programs, community engagement initiatives, and technology integration provided by social enterprises. The target population consists of the social enterprises and entrepreneurs, beneficiaries of social enterprises programs, from which a sample size of 380 participants was selected. The study was conducted between September 2024 and June 2025, using structured questionnaires to gather primary data. The study employed SPSS 27 for data analysis. The theoretical framework for the study includes Resource-Based View (RBV) Theory and Sustainability Theory, each providing insight into the roles of financial resources, training, community engagement, and technology integration, and business sustainability.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

A review of the existing literature about the relationship social enterprises on business sustainability in Isiolo County was conducted. It emphasizes relevant literary evidence that aligns with the study objectives. Critical topics and pertinent issues was emphasized and rigorously analyzed to ascertain the current scenario. This chapter examines other authors' prior research on the effect of social enterprises and business sustainability. In addition, the chapter presents a theoretical review, conceptual framework, research gaps, and operationalization of the variables, detailing how the variables were measured.

2.2 Theoretical Review

The theoretical review shows the theories that underpin the study. This study relied on four main theories: resource-based review, diffusion of innovations theory, social enterprise theory, and business development theory; using these theories, the study theoretically reinforced the ideas around the effect of social enterprises and business sustainability.

2.2.1 Resource-Based View (RBV)

Birger Wernerfelt established a Resource-Based View (RBV) within academic circles by releasing his "A Resource-Based View of the Firm" paper in 1984. Under this theory, organizational resources owned by firms create their primary competitive advantages rather than external market characteristics. Wernerfelt defined competitive advantages in his key work when he explained that firms need resources with characteristics that include being valuable, rare, inimitable, and non-substitutable (WRIN), according to Wernerfelt (1984). The VRIN properties represent core building blocks that companies use to establish their strategic resource bases,

according to Barney in 1991. According to Barney (1991), organizational assets that combine technical capabilities, financial resources, and human capabilities afford superior continuous market benefits compared to traditional marketplace dynamics (Barney, 1991). The new management approach guided companies to base their strategy development on uniquely owned resources, which were difficult to duplicate compared to market-focused strategies (Amit & Schoemaker, 1993). RBV continues to influence strategic management through entrepreneurship by providing organizations with methods to sustain their competitive position as markets transform.

RBV substantially expanded throughout its entire operational period, beginning with its launch. RBV started its initial growth stage by focusing on physical and financial assets, as described by Wernerfelt (1984). Barney (1991) contributed to the research by introducing intangible resources, including organizational culture, int, property, and human capital. Through his strategic work, Barney demonstrated that companies receive competitive advantages through resources the organization conducts effectively (Barney, 1991). The Teece et al. 1997 paper extended RBV, emphasizing how resources should adapt and restructure to alter environmental conditions (Teece, Pisano, & Shuen, 1997). Dynamic capabilities emphasize the increasing complexity of business environments, thus requiring companies to use more than essential static resources (Eisenhardt & Martin, 2000). Through RBV, organizations better comprehend methods to use their proprietary resources to adjust market dynamics within international and domestic markets.

Organizations find that a resource-based view is vital for understanding competitive success by controlling and managing resources that create better performance. The success of deploying organizational internal capabilities will help businesses win markets, according to

Barney (1991). By concentrating on internal resources, the managers receive better clarity regarding their pathways to sustainable success (Wernerfelt, 1984). RBV faces criticism because it concentrates on organizational resources at the cost of omitting market parameters plus competitive response approaches (Priem & Butler, 2001). The practical use of RBV remains mysterious because researchers lack sufficient methods to detect and quantify resources that can fulfill VRIN standards, according to Priem and Butler (2001). Organizations that employ RBV establish the belief that they can protect their unique competencies, yet this ability to protect weakens when dynamic business environments materialize (Newbert, 2007). RBV is a vital tool for operational sustainability because it facilitates optimum resource utilization in organizations.

The Resource-Based View directly relates to business sustainability research concerning social enterprises within Isiolo County. To overcome competition, social enterprises operating in areas with limited resources must adopt strategic resource utilization through financial capital, human capital, and community connection systems. The investigation utilizes RBV to study how financial resources, community engagement, and training programs from social enterprises create enduring business operations. RBV is an instrumental method for social enterprises in Isiolo to redefine their particular assets toward local problems, supporting regional business advancement. Managers operating with limited resources must use RBV to develop strategic resource deployment plans to gain competitive benefits. Business sustainability investigation in fluid environments uses RBV as an all-encompassing analytical framework.

2.2.2 Diffusion of Innovations Theory

Everett Rogers introduced the Diffusion of Innovations (DOI) theory by publishing "Diffusion of Innovations" in 1962. Everett Rogers (1962) formulated this theory, which explores the processes by which social systems accept new ideas and the corresponding speed and

motivations behind these acceptances (Rogers, 1962). Rogers defined the adoption process through stage-based adoption categories, including innovators followed by early adopters, then the early majority followed by the late majority, and ending with laggards. Adoption success depends on five key factors: perceived benefits combined with existing value compatibility, complexity, reliability, and observability (Rogers, 2003). The adoption speed of innovation across populations depends on combining specific factors that affect different reception groups. The theoretical model of DOI has revealed its widespread use in analyzing innovation spread across different sectors, including health services, technology, and business domains (Dearing, 2009). The theory is a valuable tool to discover what drives people to adopt new practices and technologies across different environments (Valente, 1995). This framework is an important foundation for examining how people accept novel implementations.

Since its original publication, the Diffusion of Innovations theory has developed sophisticated elements for adoption research. Rogers moved his research from agricultural innovations to address business and social change dynamics (Rogers, 1962). Introducing communication networks led to a crucial advancement in theory development regarding diffusion process dynamics (Valente, 1995). Such development demonstrated that network-based information transmission affects both the speed and impediments of adopting innovations. The model adapted its focus on the effect of social influence combined with peer network dynamics to understand adoption behavior patterns. The diffusion of innovations heavily depended on how individuals interacted with each other, which became fundamental to understanding how innovation spread. The theory now incorporates the speed of innovation adoption combined with obstacles to diffusion, including economic aspects and cultural and institutional elements (Dearing, 2009). The application of DOI analysis by scholars reveals how social enterprises

adopt innovations within developing economies alongside the relationship between these innovations and adopting sustainable business practices.

The diffusion of Innovation theory helps explain innovation spread patterns among communities while indicating how social networks impact adoption speeds. Rogers (1962) demonstrates the essential function of initially accepting people and how information distribution channels help spread new concepts. Through this concept, early adopters demonstrate their ability to influence social networks, thus driving rapid adoption by the entire population. The critics charge that the adopter category model creates false precision in the adoption timeline and does not address people's multifaceted, complex paths when adopting innovations (Mahajan & Peterson, 1985). The theory does not provide solutions to explain how political obstacles and limited economic and social resources constrain innovation adoption when implementing technology in developing nations (Dearing, 2009). Listeners continue to employ DOI because it provides straightforward explanations regarding innovation spread mechanisms while maintaining substantial value in understanding operational spread patterns across health technology and business sectors.

The Diffusion of Innovations theory directly applies to Isiolo County business sustainability studies because it explains how social enterprises introduce technological innovations and training and community outreach methods. The research can evaluate local business adoption of these innovations while analyzing the adoption influencing factors and their sustainability effects by implementing the DOI principles. Local entrepreneurs follow specific adoption phases according to the model that explains how they accept innovative practices. The concept of DOI functions as a practical tool to understand effective implementation methods for sustainable business practices by social enterprises. At the same time, it demonstrates how peer

networks speed up the adoption processes of innovations. The theory helps researchers discover obstacles such as economic challenges, natural resistance, and lack of adequate infrastructure, which could block innovation adoption throughout the region. Identifying these factors will assist social enterprises in resolving barriers and improving sustainable business implementation in Isiolo.

2.2.3 Human Capital Theory

The development of Human Capital Theory took place through the work of economic figures Gary Becker (1964) and Theodore Schultz (1961), who emphasized that individual expertise combined with education and experience work as essential productive assets in economic systems. A central focus of Becker's research examined education and training as human capital investments that create wage raises and enhanced productivity through his 1964 publication (Becker, 1964). Schultz expanded the analysis by examining the long-term economic development process created by investments in human health and education (Schultz, 1961). These experts provided fundamental knowledge about how human resources affect operational excellence in organizations and national economic development. Their research has inspired multiple academic fields, including business management and economics, which now use human capital as a crucial business resource for sustainability and market competitiveness.

Human Capital Theory experienced profound changes after its initial development. The core foundation of the theory centered on the economic analysis of educational and training expenditures, according to Becker (1964). The original concept evolved into a theory that now embraces formal education, informal learning, workplace training, and health factors that enhance individual productivity (Schultz, 1961). Human Capital Theory gained new dimensions through the 1980s and 1990s when researchers added social and psychological elements to show

the value of networks along with emotional intelligence and cultural skills in the theory (Coleman, 1988). Research today demonstrates that human capital represents a group resource that creates opportunities for organizational advancement and societal sustainability (Nahapiet & Ghoshal, 1998). Modern researchers use the theory as a conceptual foundation to study how human value drives organizational success and national economic growth, particularly during sustainable business operations.

Researchers have applied human capital theory to study various domains such as education, business, and economics in the current literature. Research in business studies utilizes the theory to understand how employee training investments affect organizational efficiency (Becker, 1964). Social enterprise scholars have dissected business sustainability by analyzing social entrepreneurs' knowledge-based and skill-based human capital, according to Mair & Marti (2021). The concept of human capital provides researchers with tools to study how social enterprises benefit from community involvement together with local workforce development when fulfilling long-term goals (Eversole et al., 2014). Researchers utilize the theory in international development to measure how human capital spending reduces poverty and upgrades lives, particularly in remote areas (Schultz, 1961).

The research about social enterprises in Isiolo County extensively uses Human Capital Theory, given the area's business constraints with trained workforce availability and employee training capabilities. Human Capital Theory enables researchers to understand business sustainability through investments in human capital development, including training programs and educational offerings that improve operational capabilities for social enterprise employees and entrepreneurs (Mair & Marti, 2021). The study examines local social enterprises in Isiolo County by analyzing human development to determine how they deal with skill and knowledge

inadequacies. The assessment of human capital in business development enables researchers to explore how enterprise human resources affect sustainability in both economic and social aspects of regional enterprises (Becker, 1964; Eversole et al., 2014).

2.2.4 Dynamic Capabilities Theory

During the early 1990s, David Teece and his co-authors Gary Pisano and Amy Shuen established the Dynamic Capabilities Theory. A firm can achieve competitive success through its ability to unite external connections with internal capabilities for dynamic environmental changes (Teece et al., 1997). According to Teece, Pisano, and Shuen, competitive advantages in dynamic markets demand more than resource management and operational efficiency through constant adaptation and innovation to environmental changes. Such an approach against traditional resource-based views highlighted that organizations need adaptable competencies, flexible methods to modify their resources, and business models for market survival in competitive conditions. According to Teece (2007), dynamic capabilities consist of market opportunity sensing, opportunity seizing, and sustained competitive advantage maintenance through ongoing innovation and adaptation.

Organizational adaptability has developed through Dynamic Capabilities Theory since its first emergence. Dynamic capabilities theory expanded in the 2000s after its initial focus on corporate resource usage for environmental response by bringing organizational learning, network capabilities, and knowledge management under the same framework (Eisenhardt & Martin, 2000). According to Teece (2007), companies should acquire the capacity to detect marketplace changes, grasp chances, and modify their assets for opportunity response. Today's Research examines how firms can deploy dynamic capabilities within technological and social enterprises by stressing sustainability, innovation, and market advantage (Zahra et al., 2006).

Revolving environments have motivated organizations to adopt this theory, highlighting their need for strategic flexibility and resilience.

Applying Dynamic Capabilities Theory across business and management research helps organizations understand competitive advantage maintenance in unpredictable and fast-moving environments. The strategic management field employs the theory to learn how organizations modify their operations against transformative innovations and shifting customer markets and worldwide industry competition, according to Teece (2007). Social entrepreneurs apply the theory to understand how they transform their business models to tackle social problems (Zahra et al., 2006). Scholars have analyzed how companies in developing markets build adaptive competencies to tackle institutional gaps and external obstacles (Eisenhardt & Martin, 2000). The theory has proven itself as a fundamental approach to determining how companies keep their competitive advantages while growing their business through constant adaptation and innovation in evolving operational settings.

Dynamic Capabilities Theory fits perfectly in this study because it shows how social enterprises in Isiolo County can adjust to the changing challenges they encounter. Organizations must make ongoing innovations to monitor community needs while capitalizing on available resources in an unpredictable and restrained environment. Through this theory, the study investigates which mechanisms social enterprises use to build dynamic capabilities that sustain their business in demanding market conditions. Social enterprises in Isiolo County implement dynamic capabilities to modify their business operations, control resource limitations and address societal and environmental changes, sustaining themselves in the long run. The research evaluated both innovation methods and adjustment capabilities of these businesses for external

events like economic and technological transformations, which determine their future growth and sustainability in rural areas (Teece et al., 1997; Zahra et al., 2006).

2.3 Empirical Review

The empirical review shows the previous studies that have been done. In this section, the theoretical review based on the previous studies on financial resources, community engagement initiative, technology integration, and training programs and businesses sustainability is presented.

2.3.1 Financial Resources and Business Sustainability

Planning helps firms allocate financial resources for ecologically and socially responsible actions that ensure sustainability. The study by Abdulla and Nobanee (2021) shows that financial management is essential for sustained business. Alhadhrami and Nobanee (2019) show how market leadership depends on risk identification and management for firm financial sustainability. Khattak et al. (2023) examine how managerial background characteristics affect SMEs' FR-sustainability performance. Ullah et al. (2022) show that while financial resources are important for green company initiatives, strategic planning is also needed. Tang (2022) shows that financial literacy and innovation help SMEs survive. Roffé and González (2024) found that financial management improves corporate profitability and sustainability. Lo and Liao (2021) recommend a long-term view over short-term financial gains when implementing sustainable methods.

Highly educated personnel and experienced managers can use financial resources to improve sustainability performance. Khattak, Wu, and Ahmad (2023) examine how manager experience and education affect their ability to employ financial resources for sustainability. Tang (2022) says financial literacy and creativity help managers solve environmental issues.

Ullah et al. (2022) show that competitive business practices mediate financial resource sustainability value. According to the study, financial resources are beneficial when managed well, improving sustainability performance. Abdulla and Nobanee (2021) found that sustainable financial solutions outperform direct competitors. Lo and Liao (2021) support leaders' strategic management decisions, including diversification, for sustained results. According to Roffé and González (2024), companies with effective sustainability management in financial planning have better financial results.

Cost leadership and differentiation connect green business initiatives to financial resources. Ullah et al. (2022) found that financial resources do not directly influence SMEs' green strategy adoption. Strategies firms use to direct financial resources maintain their worth. Khattak et al. (2023) found that financial resources improve sustainability performance only after accounting for managerial education and experience. Tang (2022) states that financial literacy and creativity help small businesses survive. According to Abdulla and Nobanee (2021), sustainable financial strategies must include green investments because such companies perform better. According to Alhadhrami and Nobanee (2019), financial sustainability uses green business practices as a risk management strategy to improve long-term corporate financial performance. Because sustainable operations create competitive advantages, Roffé and González (2024) show that sustainable practices help firms financially.

Strategic investments improve long-term company sustainability for companies with strong financial skills. Tang (2022) states that financial knowledge helps SMEs survive. Khattak et al. (2023) state that managerial education is essential to financial sustainability. Ullah et al. (2022) state that financial resources alone cannot drive green strategies, but firms that grasp financial management basics make superior sustainability investment decisions. Abdulla and

Nobanee (2021) say that sound financial management boosts sustainable business practice investments and performance. Alhadhrami and Nobanee (2019) state that businesses must understand finance to manage risks and maintain economic health. Lo and Liao (2021) state that financial expertise helps strategic decisions, which affect business sustainability. Sustainable practices increase firm profitability, supporting the link between financial literacy and economic performance.

Firms employ green business strategies based on financial resources through competitive business strategies, according to Ullah et al. (2022). According to the authors, financial resources must be integrated into competitive strategies like cost leadership or distinctiveness for optimal impact. Firm size factors improve sustainability performance through financial resource connections, according to Khattak et al. (2023). Abdulla and Nobanee (2021) say companies with holistic sustainability procedures succeed. Lo and Liao (2021) say century-old Japanese enterprises' smart diversification has ensured their longevity. Roffé and González (2024) show that well-designed sustainability policies boost market competitiveness and financial results. The authors recommend that organizations adapt their operational strategy to address sustainability-related financial risks and opportunities.

Companies with innovation platforms and financial literacy are more likely to embrace sustainability approaches. Tang (2022) states that innovation helps SMEs operate sustainably. Khattak et al. (2023) state managers' experience and education are crucial to sustainability-focused innovations. Abdulla and Nobanee (2021) examine green innovation investments as crucial to financial management performance. Ullah et al. (2022) said competitive approaches and innovation help SMEs allocate financial resources for green practices. According to Roffé and González (2024), innovative companies that adopt sustainable practices become market

leaders since they boost profits. Lo and Liao (2021) argue that long-term sustainability requires innovation in enterprises over a century that alters their market strategy. Alhadhrami and Nobanee (2019) note that innovation is crucial for financial sustainability and corporate success in competitive markets.

Organizations prioritizing long-term strategies over short-term finances continue to succeed. Lo and Liao (2021) recommend strategic diversification and resource management for long-term sustainability. Abdulla and Nobanee (2021) show that sustainable enterprises perform better and are more competitive. Roffé and González (2024) say sustainable methods boost financial performance through competitive advantages and environmental goals. Khattak et al. (2023) show that experienced management organizations use their financial resources more efficiently due to their size to increase sustainability. Ullah et al. (2022) state that competitive strategies require budget allocations for green business practice investments. Tang (2022) states that enterprises must learn financial literacy to ensure long-term sustainability and make financially and ecologically appropriate decisions. Alhadhrami and Nobanee (2019) found that financial sustainability reduces risk and promotes long-term corporate growth.

2.3.2 Training Programs and Business Sustainability

Businesses should focus training on sustainability goals to ensure long-term success. According to Bhardwaj and Tyagi (2020), businesses must employ training to fulfill sustainability goals in environmental sustainability, economic efficiency, and social equality. Green training improves employees' environmental awareness, strengthening an organization's sustainable competitive edge, according to Barakat et al. (2023). Corporate sustainability training improves environmental, social, and economic performance, according to Sult Wobst and Lueg (2023). External regulatory requirements and internal organizational needs drive business training

preparations. Pimpa (2023) shows how colleges mix academic education with practical employment preparedness in sustainability programs. Bilderback (2023) confirms this research by discussing how direct SDG adoption in training programs increases organizational sustainability. Intense training programs that improve staff habits boost performance and business competitiveness.

Training improves operational effectiveness, environmental conservation, and resource optimization for sustainable business benefits. Barakat et al. (2023) extensively study green training and sustainable business benefits. Bhardwaj and Tyagi (2020) believe successful long-term goals require sustainable practice training for personnel. Business sustainability depends on CSR for responsible actions, the authors say. Research by Chloe Pimpa (2023) shows how university sustainability education increases students' future competencies, stressing sustainability inclusion in professional learning. According to Sult et al. (2023), corporate sustainability training that aligns with strategic goals improves performance. Bilderback (2023) states that SDG-based strategic training improves business reputation and opens new markets, increasing the competitive impact of sustainability-focused education.

Sustainable company strategies and fosters employee responsibility. Bhardwaj and Tyagi (2020) explain that training programs link employees to CSR goals. According to Barakat et al. (2023), CSR-driven training improves supplier sustainability performance and influences supply chains beyond key business geographies. Sult et al. (2023) state that regulatory obligations and stakeholder expectations drive training decisions, making CSR a crucial organizational incentive. Pimpa (2023) examines Thai sustainability courses to demonstrate how CSR ideas are taught to create sustainability abilities. Bilderback (2023) states that corporate social responsibility plans

must train personnel to meet Sustainable Development Goals. Multiple studies suggest that CSR policies and training programs are essential to sustainable business operations.

Employee engagement and organizational performance improve when training programs are linked to the 17 SDGs. Bilderback (2023) states that SDGs in organizational training promote sustainability across corporate operations. Sult et al. (2023) say integrating training into strategic goals and operational frameworks leads to sustained corporate results. Bhardwaj and Tyagi (2020) emphasize that UN sustainability objectives and other criteria are crucial to long-term corporate performance. Barakat et al. (2023) explore green training and eco-friendly practices since they both improve business sustainability and the global sustainability agenda. Pimpa (2023) states that sustainability curriculums help students connect their occupations to global sustainability patterns. By incorporating the SDGs into training, companies can improve corporate success and global sustainability.

Sustainability-focused teaching programs focusing on local sustainability issues boost supplier performance. Bartos, Schwarzkopf, and Mueller (2024) examine how international supply chain training affects sustainability. Since supplier relationship training promotes sustainability performance, Bhardwaj and Tyagi (2020) found it important. Sult et al. (2023) found that employee and manager training helps supply chain sustainability practices work. Barakat et al. (2023) say green training promotes supply chain sustainability, which boosts corporate sustainability. Pimpa (2023) found that sustainability education helps future employees grasp important business practices, specifically supplier network impacts. High-quality training systems increase firm results and network sustainability, according to research.

Teaching staff about sustainability, companies foster an environmentally conscious culture. Bhardwaj and Tyagi (2020) state that employee sustainability engagement depends on

training programs. Barakat et al. (2023) found that green training programs build loyal and motivated employees who align their sustainability aims with company goals. Sult et al. (2023) found that training increases employee ownership and commitment to business sustainability goals. Pimpa (2023) states that university sustainability career preparedness programs increase students' likelihood of using sustainable practices in the workplace. Bilderback (2023) states that SDGs in employee education programs boost worker satisfaction, performance, and sustainability. These studies show that well-structured sustainability training programs improve environmental, economic, and employee satisfaction and retention.

Bilderback (2023) examines organizational challenges in implementing SDG sustainability training since training objectives should smoothly correspond to company targets. Sustainability training challenges are shared by Bhardwaj and Tyagi (2020) when describing how firms combine environmental protection, financial benefits, and social equality. Green training can improve operational results and competitiveness for many companies, according to Barakat et al. (2023). Sult et al. (2023) recommend that companies provide important corporate sustainability training while meeting regulatory obligations and strategic goals. Pimpa (2023) addresses the need for educational sustainability courses to adapt to industry needs. Research shows that training sustainability is difficult but offers enormous opportunities for corporate performance improvement, labor engagement, and market competitiveness.

2.3.3 Community Engagement Initiatives and Business Sustainability

Kim et al. (2023) show that high community involvement improves sustainability performance for South Korean social ventures in various categories. McKenna and Hanrahan (2024) recommend including qualitative data in sustainability measures to fully assess community involvement's impact on tourist destinations. Rumasukun and Noch (2023) show that community

engagements help SMEs access local resources and build social capital, improving market position and financial performance. Ring (2024) shows that stakeholder theory, CSR, and Triple Bottom Line community participation improve commercial and social outcomes. Boiral et al. (2019) show how working directly with indigenous population's leads to successful social licensing and sustainable results in extractive industries. Ramachandra and Abu Mansor (2014) recommend stakeholder evaluations to ensure sustainable and good outcomes for all participants. Kosalraman (2023) claims that urban design promotes community participation since sustainable cities demand resident participation.

Community members, universities, financial institutions, and NGOs collaborate to sustain community engagement. Ramachandra and Abu Mansor (2014) say stakeholder evaluation is essential to community participation. Kim et al. (2023) state that South Korean social initiatives must satisfy financiers, staff, and community members to remain operational. Rumasukun and Noch (2023) state that CSR programs increase stakeholder interactions and build collaboration for SMEs. McKenna and Hanrahan (2024) show how sustainability-related local involvement affects sustainable destination planning decision-making. Boiral et al. (2019) recommend including indigenous communities in extractive industry practices to align corporate goals with community social and environmental goals. According to Ring (2024), businesses that ignore the local community must create a stakeholder disconnect that harms their long-term sustainability. Since sustainable urbanization in India must accommodate local community goals, Kosalraman (2023) recommends stakeholder involvement in urban planning.

Community engagement has benefits but also drawbacks. Kim et al. (2023) say South Korean social projects struggle due to inexperience and insufficient community engagement. Rumasukun and Noch (2023) also note that small and medium firms face limited resources and

native cultural variety when engaging with communities. Working with indigenous populations in the mining and energy sectors poses various hazards, according to Boiral et al. (2019). McKenna and Hanrahan (2024) indicate that quantitative measuring approaches simplify community response, obscuring crucial resident tourism planning difficulties. According to Ramachandra and Abu Mansor (2014), current assessment methods need refinement, making it difficult to measure community engagement project outcomes. Ring (2024) states that environmentally risky industries find reconciling corporate and community needs challenging. Kosalraman (2023) shows India's urban development issues because poor community participation generates chaotic, unsustainable cities.

Corporate social responsibility links many studies on corporate social responsibility. Rumasukun and Noch (2023) found that SMEs' CSR programs increase social goodwill, which improves customer retention and financial results. Kim et al. (2023) said community engagement is essential for sustainable businesses that align financial and social aims with community needs. Ring (2024) states that CSR and TBL activities provide shared value that boosts community and company performance. McKenna and Hanrahan (2024) set destination sustainable tourism management, which involves CSR to enable company-community collaborations to create value. To gain local trust and authorization to operate, extractive industries need CSR initiatives that meet indigenous community needs, according to Boiral et al. (2019). Ramachandra and Abu Mansor (2014) recommend a stakeholder review of CSR programs to assess their impact and future efficacy. Kosalraman (2023) found that CSR activities in urban development enable community involvement and regional city expansion.

Research shows how government policies encourage community engagement. South Korean local governments aggressively support social businesses, but weak tactics lead to

continuous difficulties, according to Kim et al. (2023). McKenna and Hanrahan (2024) state that sustainable tourist growth requires local government support and community participation policies. Effective government policies should maintain responsible extractive business-to-indigenous community interactions that promote global sustainability goals, according to Boiral et al. (2019). Kosalraman (2023) suggests that Indian government policies promote participatory urban design. According to Ramachandra and Abu Mansor (2014), Malaysia's higher education institutions must work with the government to create sustainable, purpose-driven community engagement programs. Rumasukun and Noch (2023) suggest that government support is essential to build SME community participation capabilities by addressing resource restrictions. Ring (2024) suggests that governments allow firms to join multisector collaborations to strengthen community engagement frameworks.

Community engagement studies often mix social and cultural capital. Rumasukun and Noch (2023) say community engagement helps SMEs build trust and social capital for local market success. Kim et al. (2023) show that South Korean social initiatives need strong social networks and cultural capital development skills from community participation. When citizens interact with their destination, McKenna and Hanrahan (2024) found that destination management relies heavily on cultural capital for sustainable tourism planning. Extractive enterprises must understand indigenous community cultural patterns to build productive interactions with native people and gain their support, according to Boiral et al. (2019). Business-community disputes in environmentally vulnerable places require culturally sensitive conflict resolution, according to Ring (2024). According to Ramachandra and Abu Mansor (2014), projects need community ownership and engagement to generate social capital. Through study, Kosalraman (2023) emphasizes the importance of cultural aspects in urban advancement

and the need for sustainable development projects to include native cultural elements in community involvement activities.

Researchers find several ways to improve community engagement. Kim et al. (2023) recommend improved stakeholder management practices for social businesses to sustain operations. McKenna and Hanrahan (2024) advise using qualitative measurements to gather community viewpoints for destination management. According to Boiral et al. (2019), extractive industries should engage Indigenous communities in ways that support the 2030 Agenda's sustainable development goals. Ring (2024) states that businesses require an engagement model that integrates CSR, TBL, and shared values to resolve conflicts and enhance community ties. Kosalraman (2023) urges India to promote participatory urban design to meet global sustainability goals. Abu Mansor and social science specialist Ramachandra provide an enhanced evaluation method to analyze stakeholder outcomes from community involvement (2014). Rumasukun and Noch (2023) advise SMEs to apply local approaches to interact with communities and harness native expertise and resources for resilience and sustainability.

2.3.4 Technology Integration and Business Sustainability

Research shows that SMEs use technology to achieve sustainability goals. In their comprehensive literature study, Kannan and Gambetta (2025) identify eight key themes for how technology supports sustainability behaviors. Kapoor et al. (2024) say sustainable finance and IT integration improve business performance. Zheng et al. (2024) examined business model innovation that digital technologies enable SMEs to adopt for carbon neutrality and their link with technological implementation. Businesses that incorporate technology realize long-term environmental, social, and economic benefits in resource management using green technologies, according to Madhur et al. (2025). Quttainah and Ayadi (2024) show how digital integration

reduces emissions and creates environmental innovation. Strategic IT infrastructure integration with business activities optimizes sustainability, according to Ajibade and Mutula (2021). Fuerst et al. (2023) demonstrate how digital technologies connect technology to sustainable business models to assist sustainable entrepreneurs in producing value. The evidence shows that technology underpins SME sustainability.

Resource efficiency in digital transformation aids in environmental innovation. Quttainah and Ayadi (2024) found that digital technologies improve environmental performance and cut emissions in European firms. The research reveals that organizations with better technologies achieve better resource efficiency and environmental innovation. Kapoor et al. (2024) found that enterprises integrating IT and ESG increase sustainable performance. Madhur et al. (2025) showed that renewable energy technologies help enterprises be environmentally sustainable. Digital technology enables creative business models that encourage carbon neutrality, according to Zheng et al. (2024). Zhou et al. (2023) say green technology innovation (GTI) boosts business performance by partnering with sustainable business model innovation. According to Kannan and Gambetta (2025), SMEs adopting technology have varied environmental implications. Fuerst et al. (2023) study digital technology applications that help sustainable enterprises meet environmental and financial goals. Digital change and environmental innovation are making businesses more sustainable.

Sustainable business model innovation (SBMI) and green technology innovation are constantly studied. Zhou et al. (2023) show that SBMI and GTI improve sustainable business performance but require mutual alignment. Kapoor et al. (2024) found that integrating ESG policies with technology adoption leads to sustainable performance. Zheng et al. (2024) said digital technology grows through three phases because each step helps SBMI operations

differently. Kannan and Gambetta (2025) found sustainability-linked technology metrics that support the idea that organizations might benefit from integrating sustainable technology into their business frameworks. According to Quttainah and Ayadi (2024), green technology improves corporate sustainability by increasing resource usage and reducing emissions. Madhur et al. (2025) stress the importance of integrating renewable energy and environmental monitoring technology for sustainable company operations. To use technology effectively, Costantino Ajibade and Skithi Muluta (2021) say firms need IT strategies that fit their sustainability goals. Research shows that SBMI and GTI must be combined for sustainable company performance.

Organizational commitment helps businesses integrate technology. Kapoor et al. (2024) note that organizational commitment boosts enterprise performance through sustainable finance, ESG strategy integration, and IT deployment. Madhur et al. (2025) state that long-term sustainability agreements and continual integration of practices with key business tasks are necessary for technological sustainability. Zheng et al. (2024) state that SMEs must adopt digital technology and carbon neutrality targets, but all employees must be committed to sustainability. Organizational support for IT infrastructure business alignment allows enterprises to adapt and innovate to environmental changes, according to Ajibade and Mutula (2021). Since leadership dedication matters, Kannan and Gambetta (2025) say organizational characteristics affect sustainability-driven technology deployment. Quttainah and Ayadi (2024) show that digital integration improves company sustainability by reducing emissions and encouraging innovation. Fuerst et al. (2023) show how businesses using digital technology for sustainability solve key environmental and social issues. Research reveals that corporate commitment drives technology adoption for sustainability goals.

Small enterprises with inadequate IT-business department partnerships fail to employ technology successfully for sustainability, according to Ajibade and Mutula (2021). According to the study, SMEs must better integrate IT systems with operational frameworks to achieve business agility and sustainable performance. Kannan and Gambetta (2025) say that SMEs' technology integration effectiveness depends on their organizational context, which defines sustainable alignment between enterprises and sustainability aims. Kapoor et al. (2024) stress that organizational commitment is key to aligning since it links technology adoption to sustainable business strategy. Madhur et al. (2025) state that enterprises must overcome internal constraints such as limited resources and technological knowledge to apply green technologies that integrate renewable resources with environmental detection. Digital integration shows variable performance patterns between enterprises since some lack technology preparedness and environmental plan congruence, according to Quttainah and Ayadi (2024). According to Zheng et al. (2024), several research show that digital integration in business model innovation leads to inconsistent outcomes since enterprises must overcome internal challenges to achieve carbon neutrality. Fuerst et al. (2023) found that many small and medium firms struggle to incorporate digital systems, especially for sustainable entrepreneurship. SME sustainability depends on IT infrastructure that connects business needs to IT operations.

Academic research consistently shows that digital integration improves organizational performance, including sustainability. Quttainah and Ayadi (2024) say digital integration boosts emissions reduction, environmental innovation, and resource efficiency, improving company performance. Kapoor et al. (2024) found that sustainable finance, ESG, and IT improve enterprise sustainability. Sustainable business model innovation and green technology innovation improve corporate sustainability, according to Zhou et al. (2023). Zheng et al. (2024) explained

how digital technologies help business model development toward carbon neutrality and improve organizational results. Kannan and Gambetta (2025) found that SMEs' sustainability improves when they combine technology. Madhur et al. (2025) show how green technology benefits the environment and finances. Fuerst et al. (2023) say digital technology enables sustainable entrepreneurship to create value and company success. According to studies, digital integration improves company performance through sustainability.

Research suggests policies to support SME sustainability-focused technical development. Quttainah and Ayadi (2024) suggest governments should promote digital industry growth and integrate it with conventional enterprises to increase sustainability. Kapoor et al. (2024) believe that effective government regulations must enable sustainable finance and ESG adoption for firms to increase sustainability. Zheng et al. (2024) underline that legislative interventions enable business model creation that encourages carbon-neutral digital technology use. According to Madhur et al. (2025), governments should offer financial incentives to enterprises that buy green technologies and training to remove implementation barriers. Kannan and Gambetta (2025) suggest further study on technology-based sustainability in SMEs to fill gaps. Zhou et al. (2023) stress the need for SBMI-GTI research. Fuerst et al. (2023) recommend that policymakers promote digital technologies to foster sustainable entrepreneurship. The study gaps and suggested directions help executives boost technology-based sustainability activities in SMEs.

2.4 Literature Gaps

Research on financial resource impacts on corporate sustainability has substantially progressed while specific knowledge gaps persist. The influence of managerial experience and education has received attention, while researchers have yet to investigate the role of organizational culture and leadership styles in financial resource management for sustainability (Khattak et al., 2023).

According to the research conducted by Ullah et al. (2022), industries need additional research to study competitive approaches that link resources with sustainability targets across the complete industrial spectrum. Research on how digital transformation and technology affect sustainable funding practices remains insufficient. Tang (2022) emphasizes the importance of financial literacy but does not investigate whether lower-level employee training proves effective. The research lacks evidence regarding sustainability training's long-term effects on cultural behaviors, specifically emphasizing virtual training against in-person instruction (Barakat et al., 2023; Sult, 2023).

The effects of community participation on corporate sustainability have gained considerable interest, yet researchers still detect various knowledge gaps. The connection between community engagement measures improves corporate performance (Kim et al., 2023; Rumasukun & Noch, 2023), but researchers have not adequately monitored long-term effects. A combination of qualitative and quantitative markers could help, according to McKenna and Hanrahan (2024), yet additional research should complete the development. The outcome of how to manage CSR programs to match strategic objectives with community requirements remains unclean, according to Boiral et al. (2019) and Ring (2024). Further research must investigate cultural and social capital's influence on business-community relationships (Rumasukun & Noch, 2023). The understanding of how leadership impacts technology integration in SMEs remains limited together with the long-term financial effects of digital and green technologies (Kapoor et al., 2024; Kannan & Gambetta, 2025).

2.5 Conceptual Framework

Access to financial resources is measured by Access to financial resources, credit availability, and cash flow management. Training programs are evaluated by skills development, resource availability, and sustainability awareness. Community engagement initiatives are assessed through contribution to the community, cultural sensitivity, and CSR integration. Technology integration is measured by tech infrastructure readiness, employee training for technology use, and it-business strategy alignment. Business sustainability is measured by resource optimization, stakeholder engagement, and long-term viability.

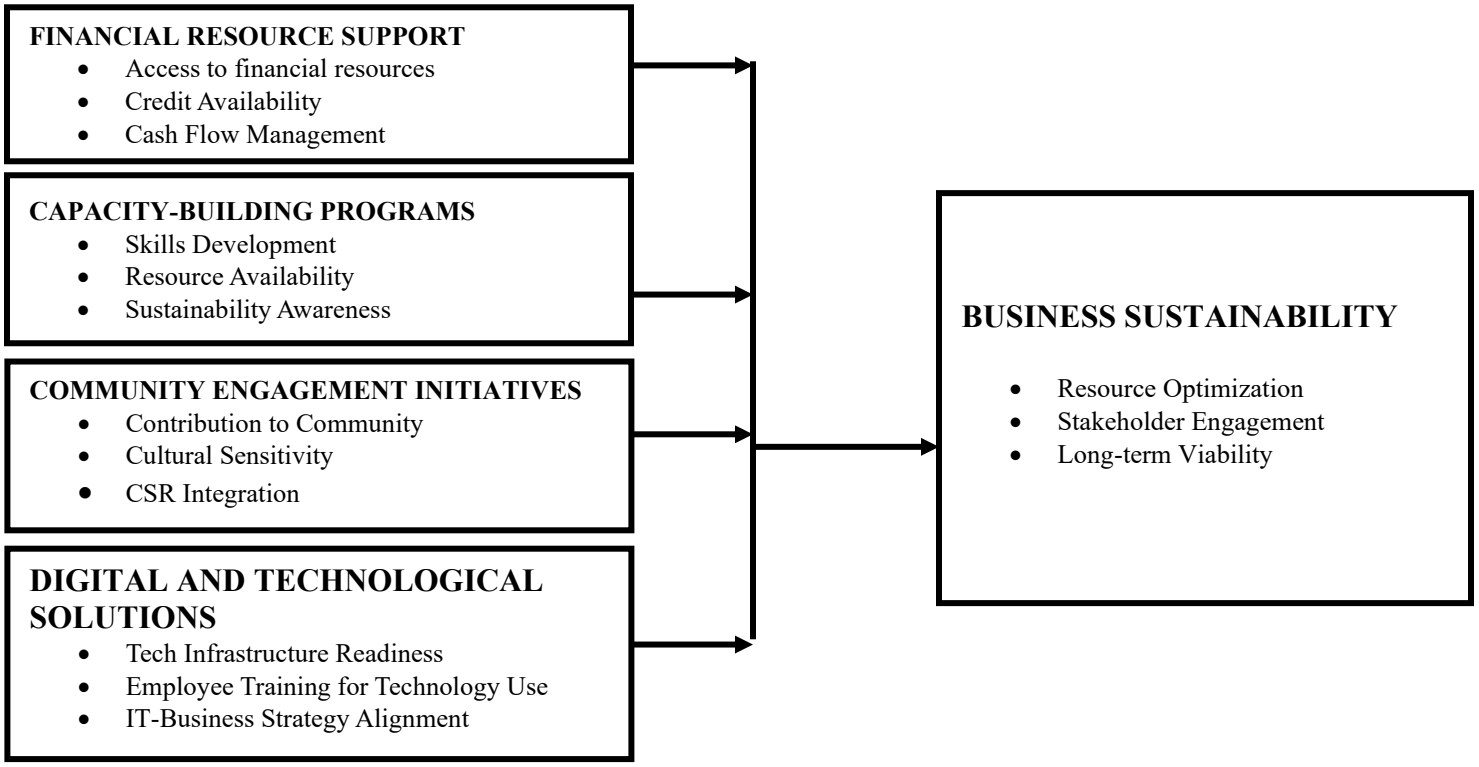

FIGURE 2.1: Conceptual Framework

2.6 Operationalization of Variables

TABLE 2.1

Operationalization of Variable

Variable	Indicators	Data Collection Tool	Category of Variable	Scale	Types of Analysis
Business Sustainability	• Resource Optimization • Stakeholder Engagement • Long-term Viability	Questionnaire	Outcome Variable= [Y]	Ordinal, Ratio	Descriptive Analysis
Financial Resource Support	• Access to financial resources • Credit Availability • Cash Flow Management	Questionnaire	Independent Variable [X1]	Ratio, Ordinal	Descriptive Analysis
Capacity-Building Programs	• Skills Development • Resource Availability • Sustainability Awareness	Questionnaire	Independent Variable [X2]	Ordinal, Interval	Descriptive Analysis
Community Engagement Initiatives	• Contribution to Community • Cultural Sensitivity • CSR Integration	Questionnaire	Independent Variable [X3]	Nominal, Ordinal	Descriptive Analysis
Digital And Technological Solutions	• Tech Infrastructure Readiness • Employee Training for Technology Use • IT-Business Strategy Alignment	Questionnaire	Independent Variable [X4]	Ordinal, Ratio	Descriptive Analysis

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This study examined social enterprise capacity building programs on business sustainability in Isiolo County utilizing a linear regression methodology. This chapter covers the study design, target population, sample and sampling procedures, research instruments, and data aggregation methods. The study prioritized the anonymity and privacy of the participants.

3.2 Research Design

The descriptive research design is an appropriate research method because it enables researchers to obtain an accurate picture of social enterprises in Isiolo County. The researcher uses this design to reveal and define essential variables' properties and behavioral connections without altering their status (Creswell, 2014). Descriptive research, which analyzes social enterprise effects on business sustainability, works efficiently to obtain in-the-moment data from surveys or interviews that measure present business and social enterprise outlooks and their mutual influence. The study uses this method to establish empirical research in Isiolo County's environment so researchers can obtain comprehensive findings about social enterprises' programs that help sustainable business development (Babbie, 2021).

3.3 Target Population

The target population for this study consists of 490 individuals, including business owners, managers, and employees from various sectors supported by social enterprises in Isiolo County. These sectors include agriculture, retail, tourism, renewable energy, and others, with specific groups such as small-scale farmers, livestock farmers, and retail shops making up the majority of the population. This diverse cross-section of businesses provides a comprehensive understanding

of how social enterprises contribute to business sustainability. The exact target population is 490, as detailed in Table 3.1. (Source: KNBS, 2024).

TABLE 3.1

Target Population of Study

Business Type	Number	Percentage
Small-Scale Farmers	87	17.76%
Retail Shops (SMEs)	122	24.90%
Livestock Farmers	146	29.80%
Tourism and Eco-tourism Businesses	34	6.94%
Sanitation Entrepreneurs	51	10.41%
Agro-businesses (Processing)	31	6.33%
Renewable Energy Businesses	19	3.88%
TOTAL	490	100%

Source: (KNBS, 2024)

3.4 Sampling and Sampling Procedure

The sampling frame defines the selected sample population elements (Cooper & Schindler, 2006). It should not be outdated at the time of use and should be exhaustive and acceptable. It is a complete and correct list of the target population only. The frame indicated the number of items to be included in the sample. The study used stratified sampling. According to Cooper and Schindler (2006), a sample size of about thirty respondents shall be used to generalize the study. Cooper and Schindler (2006) discuss various methods for determining sample size, and they provide formulas for calculating the required sample size for surveys, mainly when working with

a known population. One of the most commonly used formulas for determining sample size in quantitative research is the sample size formula for a finite population, as follows:

$$n = \frac{N \cdot Z^2 \cdot p \cdot (1-p)}{E^2 \cdot (N-1) + Z^2 \cdot p \cdot (1-p)}$$

Where:

- **n** = required sample size
- **N** = total population size
- **Z** = Z-value (the standard normal value corresponding to the desired confidence level)
- **p** = estimated proportion of the population (if unknown, use 0.5 as a conservative estimate)
- **E** = margin of error (expressed as a decimal, e.g., 0.05 for a 5% margin)

Calculation:

- **Population size (N)** = 490
- **Confidence level** = 95% (Z-value = 1.96)
- **Proportion (p)** = 0.5 (worst-case scenario)
- **Margin of error (E)** = 0.05

Required sample size (n) = 380

Formula for Proportional Allocation:

Sample for each group= (Population of group/ Total population) × Total sample size

TABLE 3.2

Sample Size of Study

Business Type	Number	Percentage	Sample Size
Small-Scale Farmers	87	17.76%	68
Retail Shops (SMEs)	122	24.90%	95
Livestock Farmers	146	29.80%	114
Tourism and Eco-tourism Businesses	34	6.94%	26
Sanitation Entrepreneurs	51	10.41%	40
Agro-businesses (Processing)	31	6.33%	24
Renewable Energy Businesses	19	3.88%	15
TOTAL	**490**	**100%**	**380**

3.5 Research Instrument

Target respondents used self-administered surveys and a five-point Likert scale to evaluate how social enterprises capacity building programs affect business sustainability within Isiolo County. Using questionnaires proves suitable because it helps gather data efficiently and quickly for remote locations like Isiolo. Standardized responses from closed-ended questions make the data analysis process straightforward. Transmitting opinion intensity through the Likert scale enables precise measurements while maintaining respondent privacy and secrecy of sensitive answers. Questionnaires function as an efficient and economical approach to gathering definitive quantitative information practically.

3.6 Validity and Reliability of the Instrument

3.6.1 Validity of the Research Instruments

Validity is questionnaire suitability. It shows how well the data analysis results represent the research area. According to Orodho (2003), a good data-gathering tool should produce the expected output. The study used content-related validity to determine the validity of the data collection instrument. The university project supervisor, a research expert, helped establish it. Validity testing determined the suitability, accuracy, and importance of the data-gathering tool. The questionnaire was evaluated to get the desired findings and improve data gathering.

3.6.2 Reliability of the Research Instruments

Data reliability occurs when a data-gathering method yields consistent results after repeated trials (Mugenda & Mugenda, 2013). When used frequently under similar conditions, data collection instruments are consistent. It determines study question response consistency. Data collection tool dependability was assessed using Cronbach's Alpha, which assesses internal consistency. Consistency was built for each target to determine if each scale yields similar results in a future investigation. Values above 0.5 indicate parameter reliability (Mugenda & Mugenda, 2013). Gray (2004) states that the questionnaire is accurate for analysis with a correlation coefficient 0.7. Based on these two experts' confirmation, the study evaluated 0.5 and above correlation coefficients.

3.7 Data Collection Procedure

Data collection begins with a KCA University authorization letter before entering the field. Appointments was made appointments was made to obtain authorization to survey respondents' locations. After permission, questionnaire administration took two weeks. This was done by hiring two research assistants who was chosen for their abilities to work with respondents and

comprehend difficulties. They was guided through each questionnaire question to clarify any confusion. Before administering questionnaires, appointments was booked.

3.7.1 Pilot Testing

Piloting is a critical step in the data collection process, as it helps assess the accuracy, validity, and reliability of the data collection instruments. According to Mugenda and Mugenda (2013), piloting involves administering the instruments to a sample similar to the actual study population. For this study, pilot testing was conducted in two randomly selected communities in Garissa County, which are not part of the main study, to ensure the effectiveness of the instruments.

3.8 Data Processing, Analysis and Presentation

The collected data undergone evaluation, organization, editing, computer coding, and subsequent analysis utilizing version 27 of SPSS. The data was evaluated employing both descriptive and inferential statistics. Krathwohl (2003) asserts that descriptive statistics are analytical methods that elucidate, visualize, or condense data in a manner that facilitates more straightforward interpretation. Inferential statistics facilitates precise and informed judgments that can be extensive on a population. The study encompassed frequencies and percentages, averages and standard deviations, and regression analysis. Before data analysis, a five-point Likert scale was incorporated during the coding of the data collection instrument.

This study used multiple linear regression analysis to simulate the link between the dependent variable and important independent variables obtained through correlation analysis, emphasizing their importance. Data modeling using multiple linear regressions is described below.

$$Y= \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Where;

Y= Economic Empowerment

β_0=constant

β_i is the coefficient for X_i (i=1, 2,3,4)

X_1= Access to Financial Resources,

X_2= Training Programs,

X_3= Community Engagement Initiatives,

X_4= Technology Integration,

ε=Error Term.

3.9. Diagnostic Tests

A diagnostic test is a statistical process to check if a regression analysis is valid in a particular statistical setting. By analyzing the relationship between the independent and dependent variables, the tests evaluate the multilinear regression's statistical assumptions upon which the model's predictions are built, whether they are statistical outliers or generally effective. Normality, heteroscedasticity, and multicollinearity was the hypotheses to be tested in this research. The study used the Durbin-Watson test for normality, skewness, kurtosis, hypergeometric dispersion, and the variable inflation factor (VIF) test for multicollinearity.

3.9.1. Multicollinearity Test

The Variance Inflation Factor (VIF) analysis detected multicollinearity problems between predictor variables in this research. The existence of highly connected independent variables in regression models causes untrustworthy coefficient values and broad standard errors because of multicollinearity. VIF calculates the degree to which regression coefficient variances increase because of multicollinearity between variables. The VIF score between 1 and 5 points stands for

acceptable moderate levels of multicollinearity. Severe multicollinearity appears when VIF values are more significant than five, which indicates distortion in the model's coefficients and p-values. The researcher should consider removing or combining strong variable correlations when these situations occur. The test confirms validity and reliability in regression output, strengthening the quality of the research output.

3.9.2. Heteroscedasticity

Heteroscedasticity occurs when residual variance relies on measured values, typically owing to outliers, affecting model performance. A residuals plot shows a fan-shaped pattern with non-uniformity. The Glejser test regresses the independent variables against the absolute residuals to check for heteroscedasticity. If the significance value is below 0.05, the equation has heteroscedasticity. Other tests include Breusch-Pagan and White general tests confirm results.

3.9.3. Normality Test for Error Term

Regression analysis uses normalcy to assess the spread of dependent variable scores. Prediction is accurate because data is uniformly distributed around the mean in a normal distribution. This violates the normality assumption of error term distribution, which may affect confidence interval and least squares calculations. To achieve accurate results and conclusions from regression analysis, normality assumption must be checked.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents the analysis of the data collected to examine Social Enterprise Business Development Services' programs on the sustainability of businesses in Isiolo County. The analysis is structured to reflect the study objectives, covering response rates, demographic profiles of respondents, and key thematic areas including financial support, capacity building, community engagement, and digital adoption. Both descriptive and inferential statistics are employed to derive meaningful insights. Reliability and validity tests were conducted to ensure consistency and accuracy of results. The findings are presented through tables and narratives to provide a clear understanding of the extent to which these programs influence business sustainability in the region.

4.2 Response Rate

The study targeted a sample size of 380 respondents drawn from a population of 490 business owners in Isiolo County. 322 completed questionnaires were returned, resulting in an 84.7% response rate, which is regarded satisfactory for statistics. Nonetheless, the researcher was no longer able to incorporate 28 surveys because participants left numerous responses blank. Proper follow-up and an attractive topic for the participants resulted in a high response rate. Because 322 surveys were utilized for analysis, the results are reliable and accurately reflect the target population.

4.3 Demographic Analysis

4.3.1 Gender

TABLE 4.1

Frequencies and Percentages

Response	Frequency	Percent
Male	126	39.1%
Female	196	60.9%
Total	**322**	**100.0%**

Table 4.1 shows the gender distribution of the study's respondents, where 60.9% (196) are female and 39.1% (126) are male out of a total of 322 participants. Because there are more women in the group, their perspectives may have a greater influence on the survey results and insights. The researcher suggests that social enterprises might incorporate more women, or that women are more active in sustainability, community issues, and skill development.

4.3.2 Age Group

TABLE 4.2

Frequencies and Percentages by Age Group

Age Group	Frequency	Percent
18 - 24	75	23.3%
25 - 34	83	25.8%
35 - 44	107	33.2%
45 - 54	35	10.9%
55 and above	22	6.8%
Total	**322**	**100.0%**

Table 4.2 presents the age distribution of respondents, indicating that the largest proportion falls within the 35–44 age group (33.2%), followed by those aged 25–34 (25.8%) and 18–24 (23.3%).

There are fewer people in the 45-54 (10.9%) and 55+ (6.8%) age groups in society. Such a structure suggests that younger and mid-career workers are likely to be heavily involved in social businesses. This set of persons may benefit most from programs that emphasize company sustainability, increased use of technology, and more community involvement.

4.3.3 Highest Level of Education

TABLE 4.3

Frequencies and Percentages by Highest Level of Education

Education Level	Frequency	Percent
No formal education	84	26.1%
Primary school	121	37.6%
Secondary school	51	15.8%
Certificate/Diploma	29	9.0%
Undergraduate degree	37	11.5%
Total	**322**	**100.0%**

Table 4.4 illustrates the distribution of respondents by business type. The majority of agricultural enterprises are retail shops (27.0%), followed by tourism and eco-tourism (24.5%), and finally livestock farming (18.3%). Small-scale farmers account for around 13.0% of the rural workforce, while entrepreneurs in sanitation, renewable energy, and agro-processing make up 7.8%, 5.0%, and 4.3%, respectively. The data suggests that the respondents' activities include a combination of trade, agriculture, and tourism. This study indicates that specialized sustainability, capacity-building, and technology projects should be built with retail and tourism in mind, as well as renewable energy and agro-processing, for better results.

4.3.4 Business Type

TABLE 4.4

Frequencies and Percentages by Business Type

Business Type	Frequency	Percent
Small-Scale Farmer	42	13.0%
Retail Shop (SME)	87	27.0%
Livestock Farmer	59	18.3%
Tourism and Eco-tourism Business	79	24.5%
Sanitation Entrepreneur	25	7.8%
Agro-business (Processing)	14	4.3%
Renewable Energy Business	16	5.0%
Total	**322**	**100.0%**

Table 4.4 presents the distribution of respondents by business type, highlighting the diversity of enterprises engaged in the study. Retail shops (SMEs) account for the biggest share, at 27.0%, followed by tourism and eco-tourism firms at 24.5% and animal farmers at 18.3%. Small-scale farming employs 13.0% of these people, with sanitation enterprises, renewable energy businesses, and agro-processing industries accounting for the remaining 20.9% (7.8% + 5.0% + 4.3%). This demonstrates that most people engage in trade, agriculture, and tourism, all of which are beneficial to the local economy. According to the report, when social businesses support the manufacturing sector, they should consider the actual demands of manufacturing firms while also ensuring that smaller sectors are not overlooked in any efforts to promote sustainability and digital transition.

4.3.5 Years of Business Operation

TABLE 4.5

Frequencies and Percentages by Years of Business Operation

Years in Operation	Frequency	Percent
Less than 1 year	46	14.3%
1 - 3 years	138	42.9%
4 - 6 years	91	28.3%
7 - 10 years	14	4.3%
Over 10 years	33	10.2%
Total	**322**	**100.0%**

Table 4.5 illustrates the distribution of respondents based on their years of business operation. 42.9% of enterprises have been in the market for less than three years, indicating that the majority of businesses are still in their early stages. The following groupings include companies that have been in operation for 7 to 9 years (23.9%) and those that are less than a year old. Approximately 10% of the enterprises have been in operation for more than ten years, with another 4.3% working for seven to ten years. Overall, people participating in the study are in the early phases of their enterprises and may need help on capacity, funding, and adopting new technology to remain secure and respond to rapid changes in the market.

4.4 Reliability Test

TABLE 4.6

Reliability Statistics

Cronbach's Alpha	Number of Items
.980	5

Note. A Cronbach's alpha of .980 indicates excellent internal consistency for the scale.

Table 4.6 presents the reliability statistics for the scale used in this study, with a Cronbach's alpha of .980 across five items. The high alpha indicates that all of the items used to measure the feature are well-connected and can be relied on. The fact that the instrument performs so well shows that it accurately measures the subject under investigation while reducing measurement errors. As a result, this analysis concludes that the scale data is credible and may be securely utilized to investigate the links between financial support, capacity building, and business sustainability. It increases trust in the research findings and conclusions.

4.5 Factor Analysis

4.5.1 Financial Resource Support

TABLE 4.7

KMO and Bartlett's Test of Sphericity

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.953
Bartlett's Test of Sphericity	
– Approx. Chi-Square	8928.29
– df	45
– Sig.	.000

Note. A KMO value of .953 indicates sampling adequacy is "marvelous" (per Kaiser's classification), and the significant Bartlett's test ($p < .001$) suggests that factor analysis is appropriate.

Table 4.7 presents the results of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. Because the KMO is.953, the sample is regarded ideal for factor analysis. As a result, the variables share enough characteristics that principal component analysis is an appropriate choice. Furthermore, Bartlett's Test of Sphericity determines that the correlation matrix is not an identity matrix, as the Chi-Square = 8928.29 and

the p-value is less than.000. The findings of this investigation demonstrate that the data structure is solid enough to proceed with factor analysis to discover significant constructs.

TABLE 4.8

Communalities

Item	Initial	Extraction
Our social enterprise has access to multiple sources of funding.	1.000	.958
The financial resources available to us are sufficient to meet our operational needs.	1.000	.967
The cost of obtaining financial resources (e.g., interest, fees) is affordable.	1.000	.947
The terms and conditions of our funding are favorable and manageable.	1.000	.970
We receive financial support that is reliable and consistent over time.	1.000	.958
Our team has the capacity and skills to manage financial resources effectively.	1.000	.955
Our enterprise is not overly dependent on external grants or donations.	1.000	.955
We have multiple income-generating activities that support financial sustainability.	1.000	.969
We can easily access credit or attract investment when needed.	1.000	.943
We manage our cash flow effectively to ensure uninterrupted operations.	1.000	.938

Note. Extraction method: Principal Component Analysis.

Table 4.8 shows the communalities for various items measuring financial resource support. Everything is set to 1.0 for the communalities because this is the standard procedure in PCA, and each variable is supposed to be as variable as feasible. All retrieved communalities have high values, ranging from.938 to.970. This demonstrates that the factors identified in the data account for nearly all of the differences observed in each item. Because the variables provide similar findings, the underlying determinants significantly describe financial resource support, therefore the model is valid. These findings demonstrate that the data is reliable enough for further analysis.

TABLE 4.9

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.560	95.599	95.599	9.560	95.599	95.599
2	.147	1.471	97.070			
3	.095	.946	98.016			
4	.046	.460	98.476			
5	.042	.421	98.897			
6	.035	.345	99.243			
7	.028	.281	99.524			
8	.024	.239	99.763			
9	.019	.185	99.948			
10	.005	.052	100.000			

Note. Extraction method: Principal Component Analysis.

Table 4.9 displays the results of the principal component analysis (PCA) for financial resource support, showing both the initial eigenvalues and the extraction sums of squared loadings. This component is described by a single variable, with a total eigenvalue of 9.560, which accounts for 95.6% of the variance. The subsequent components make no substantial change in variance, with the first reaching a total percentage of 95.6%. It is clear that the first component explains practically all of the variance, with the other components being less relevant. The data suggest that financial resource assistance can be described by a single factor, indicating that it has a strong explanation.

TABLE 4.10

Component Matrix

Item	Component 1
Our social enterprise has access to multiple sources of funding.	.979
The financial resources available to us are sufficient to meet our operational needs.	.983
The cost of obtaining financial resources (e.g., interest, fees) is affordable.	.973
The terms and conditions of our funding are favorable and manageable.	.985
We receive financial support that is reliable and consistent over time.	.979
Our team has the capacity and skills to manage financial resources effectively.	.977
Our enterprise is not overly dependent on external grants or donations.	.977
We have multiple income-generating activities that support financial sustainability.	.985
We can easily access credit or attract investment when needed.	.971
We manage our cash flow effectively to ensure uninterrupted operations.	.968

Note. Extraction method: Principal Component Analysis.
a. One component extracted.

Table 4.10 presents the component matrix after performing principal component analysis (PCA) on the financial resource support items. All of the variables are closely related to the first component, which explains their high correlation. According to the high loadings, financial support components such as access, affordability, and reliability are extremely similar and can be quantified as a single form of support. This result supports the idea that financial support is best represented by a single component that can account for nearly all of the variances in the data provided.

4.5. 2 Capacity-Building Programs

TABLE 4.11

KMO and Bartlett's Test of Sphericity

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.944
Bartlett's Test of Sphericity	
– Approx. Chi-Square	9292.644
– df	45
– Sig.	.000

Table 4.11 shows the results of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. Because the KMO values are more than 0.9, it is appropriate to conduct factor analysis on the dataset. The statistical significance ($p < .001$) confirms that the data can be evaluated using factor analysis rather than identity matrix. The findings show that the data used is appropriate for factor extraction from the variables under consideration.

TABLE 4.12

Communalities

Item	Initial	Extraction
The training content aligned with the current needs and challenges of our enterprise.	1.000	.959
The topics addressed were based on a proper needs assessment or involved our input in design.	1.000	.961
I gained practical knowledge and tools that I could directly apply in my business operations.	1.000	.932
The curriculum was updated to reflect recent changes in policy, market trends, or technology.	1.000	.969
The training schedule was flexible enough to accommodate our work/business demands.	1.000	.966
The training location (or virtual platform) was convenient and easy to access.	1.000	.961
The program considered language, literacy, and technology access needs of participants like me.	1.000	.953
The training used participatory, experiential learning approaches (e.g., case studies, simulations, peer learning).	1.000	.970
The facilitators demonstrated both deep subject knowledge and empathy for our business realities.	1.000	.952
The program used a good mix of delivery formats (e.g., in-person, online, coaching, peer learning).	1.000	.946

Note. Extraction method: Principal Component Analysis.

Table 4.12 presents the communalities of the items after performing Principal Component Analysis (PCA). The higher the extracted value, the more the component accounts for the item's variation. The extraction values range from 0.932 to 0.970, showing that each item is strongly related to the factor. The high scores indicate that factor extraction satisfactorily explains the variances observed in the data. Because almost all scores are more than 0.9, this indicates that the items are appropriate and beneficial for evaluating capacity-building programs. This demonstrates that the data is ready for further processing and can generate accurate results.

TABLE 4.13

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.569	95.693	95.693	9.569	95.693	95.693
2	.163	1.629	97.322			
3	.100	.996	98.318			
4	.047	.467	98.786			
5	.042	.422	99.208			
6	.028	.275	99.483			
7	.019	.191	99.674			
8	.015	.151	99.826			
9	.010	.097	99.923			
10	.008	.077	100.000			

Note. Extraction method: Principal Component Analysis.

Table 4.13 shows the total variance explained after performing Principal Component Analysis (PCA) for the capacity-building programs construct. This component accounts for the majority

of the variation, including 95.693% of the data. Overall, the first component accounts for nearly all of the fluctuation, thus we can conclude that this factor is mostly responsible for the data. The small part explained by the other components implies that the data has only one dimension and can be captured by a single factor. According to the extraction results, the data is fit for analysis, and it appears that the scale used in the study reflects the most essential elements of capacity-building initiatives.

TABLE 4.14

Component Matrix

Item	Component 1
The training content aligned with the current needs and challenges of our enterprise.	.979
The topics addressed were based on a proper needs assessment or involved our input in design.	.980
I gained practical knowledge and tools that I could directly apply in my business operations.	.966
The curriculum was updated to reflect recent changes in policy, market trends, or technology.	.984
The training schedule was flexible enough to accommodate our work/business demands.	.983
The training location (or virtual platform) was convenient and easy to access.	.980
The program considered language, literacy, and technology access needs of participants like me.	.976
The training used participatory, experiential learning approaches (e.g., case studies, simulations, peer learning).	.985
The facilitators demonstrated both deep subject knowledge and empathy for our business realities.	.976
The program used a good mix of delivery formats (e.g., in-person, online, coaching, peer learning).	.973

Note. Extraction method: Principal Component Analysis.
a. One component extracted.

Table 4.14 presents the component matrix for the capacity-building programs, showing the loadings of each item on the single extracted component. Strong correlations with the main component may be found in all items with factor loadings near 1. It means that the elements included in these capacity-building initiatives are inextricably interrelated and create the same primary factor. Because all four criteria are closely related, it is apparent that the program focuses on the areas that are most important for success in business learning. Because the construct is unidimensional, the scale used in this study has been shown to be reliable and valid.

4.5.3 Community Engagement Initiatives

TABLE 4.15

KMO and Bartlett's Test of Sphericity

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.945
Bartlett's Test of Sphericity	
– Approx. Chi-Square	10838.527
– df	45
– Sig.	.000

Note. A KMO value of .945 indicates excellent sampling adequacy, and Bartlett's test is significant ($p < .001$), suggesting that factor analysis is appropriate.

Table 4.15 presents the results of the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity. The KMO score of 0.945 indicates a sufficient sample size. The Bartlett's Test result ($p < .001$) indicates that the data is not identical and suitable for factor analysis, confirming the appropriateness of conducting this analysis. This demonstrates that the data's foundation or structure is reliable, and hence the method of factor analysis used in this study is justified.

TABLE 4.16

Communalities

Item	Initial	Extraction
Community engagement initiatives from social enterprises have contributed to the overall development of our local community.	1.000	.952
The cultural sensitivity of social enterprises has helped our business adapt to the local community's norms and values.	1.000	.983
Social enterprises have integrated Corporate Social Responsibility (CSR) into their operations, benefiting both our business and the community.	1.000	.967
Community engagement initiatives by social enterprises have improved the relationship between our business and the local community.	1.000	.984
Social enterprises' community initiatives have influenced our business's reputation within the local community.	1.000	.984
Community engagement initiatives from social enterprises have helped build trust between our business and the local community.	1.000	.985
The community-focused initiatives of social enterprises have contributed to the social cohesion in our local area.	1.000	.954
Our business has benefited from increased visibility and recognition in the local community due to social enterprise-driven engagement initiatives.	1.000	.986
Social enterprises' community programs have encouraged us to implement more sustainable and socially responsible practices in our own business.	1.000	.968
The engagement of social enterprises with local organizations has positively impacted the overall economic development of our community.	1.000	.981

Note. Extraction method: Principal Component Analysis.

Table 4.16 presents the communalities after the extraction of factors, showing the degree to which each item contributes to the underlying factor. The extraction values are all more than 0.9, indicating that the items accurately reflect the core theme, which are community engagement initiatives by social entrepreneurs. It signifies that each item promotes the concept of community engagement and is accurately described by the factor. The fact that the statistics are similar shows that they are reliable and can influence future research on the subject topic.

TABLE 4.17

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.744	97.444	97.444	9.744	97.444	97.444
2	.102	1.016	98.460			
3	.060	.601	99.061			
4	.031	.307	99.368			
5	.018	.183	99.551			
6	.014	.135	99.686			
7	.010	.103	99.789			
8	.009	.093	99.882			
9	.008	.075	99.957			
10	.004	.043	100.000			

Note. Extraction method: Principal Component Analysis.

Table 4.17 outlines the total variance explained by the factor analysis. The first component, which accounts for 97.444 percent of the variance, is primarily responsible for the data's current structure. The additional components play only a minor role, with the second having an influence of only 1.016% and the others are contributing even less. In other words, because all of the variables are tightly related, a single total variable is sufficient. A strong initial component demonstrates the factor's cohesiveness and supports the reliability of the issue addressed in the study.

TABLE 4.18

Component Matrix

Item	Component 1
Community engagement initiatives from social enterprises have contributed to the overall development of our local community.	.976
The cultural sensitivity of social enterprises has helped our business adapt to the local community's norms and values.	.991
Social enterprises have integrated Corporate Social Responsibility (CSR) into their operations, benefiting both our business and the community.	.984
Community engagement initiatives by social enterprises have improved the relationship between our business and the local community.	.992
Social enterprises' community initiatives have influenced our business's reputation within the local community.	.992
Community engagement initiatives from social enterprises have helped build trust between our business and the local community.	.993
The community-focused initiatives of social enterprises have contributed to the social cohesion in our local area.	.977
Our business has benefited from increased visibility and recognition in the local community due to social enterprise-driven engagement initiatives.	.993
Social enterprises' community programs have encouraged us to implement more sustainable and socially responsible practices in our own business.	.984
The engagement of social enterprises with local organizations has positively impacted the overall economic development of our community.	.991

Note. Extraction method: Principal Component Analysis.
a. One component extracted.

Table 4.18 presents the Component Matrix for the community engagement initiatives from social enterprises. The high factor loadings demonstrate that all of the variables have a strong association with factor 1. The strong loadings indicate that social enterprise community involvement projects focus on similar topics. This implies that these projects collaborate to promote community growth, assist businesses in complying with community regulations, cultivate positive relationships, improve their reputation, and foster trust. The strong and stable factor loadings suggest that the impact of social enterprises on communities affects firms and

their long-term growth. It demonstrates the importance of community engagement for business success and accountability.

4.5.4 Adoption of Digital & Technological Solutions

TABLE 4.19

KMO and Bartlett's Test of Sphericity

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.946
Bartlett's Test of Sphericity	
– Approx. Chi-Square	11690.162
– df	45
– Sig.	.000

Note. A KMO value of .946 indicates excellent sampling adequacy, and Bartlett's test is significant ($p < .001$), suggesting that factor analysis is appropriate.

Table 4.19 presents the results of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. A KMO rating of 0.946 indicates that the sample size utilized in the factor analysis was appropriate. In addition, Bartlett's Test of Sphericity ($p < 0.001$) indicates that the variables are related and can be assessed using factor analysis. As a result, the data is suitable for factor analysis, confirming that the tool used to evaluate the data was appropriate. This conclusion ensures that the factor analysis procedure may be utilized correctly on this dataset.

TABLE 4.20

Communalities

Item	Initial	Extraction
The digital or technological solutions we use are relevant to our business needs and goals	1.000	.987
The digital tools adopted are easy for our team to learn and use.	1.000	.987
Technology solutions are convenient to integrate into our day-to-day operations.	1.000	.942
We experienced minimal disruption when adopting new technologies in our enterprise.	1.000	.985
Our digital platforms or tools are accessible across different devices (e.g., phone, tablet, computer).	1.000	.979
The cost of adopting and maintaining digital solutions is affordable for our business.	1.000	.987
The return on investment (ROI) from using digital tools justifies the cost.	1.000	.991
The technologies we use can grow with our business (i.e., they are scalable).	1.000	.979
We receive adequate training and support when implementing new technologies.	1.000	.988
We have reliable internet and electricity to support digital adoption.	1.000	.985

Note. Extraction method: Principal Component Analysis.

Table 4.20 presents the communalities for the items related to the adoption of digital or technological solutions. All of the extraction values are near to one, indicating that each item significantly contributes to the primary factor. The phrases "We achieve good results from using digital tools" and "We are well trained when adopting technology" have a very significant relationship with the factor we want to extract. The results show that the items accurately reflect what digital adoption entails and are relevant to the study. It demonstrates that PCA is a suitable tool for future analysis in the study.

TABLE 4.21

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.810	98.097	98.097	9.810	98.097	98.097
2	.069	.687	98.783			
3	.055	.552	99.335			
4	.020	.200	99.535			
5	.013	.130	99.665			
6	.011	.109	99.774			
7	.008	.077	99.851			
8	.006	.062	99.913			
9	.005	.046	99.959			
10	.004	.041	100.000			

Note. Extraction method: Principal Component Analysis.

Table 4.21 presents the Total Variance Explained for the factor analysis of the digital or technological solutions construct. Because it accounts for 98.10% of total variation, the first component is regarded as the primary factor affecting the data. After removing the first component, it explains the same amount of variance as before (98.10%) and is described by all the items, indicating that they all rely heavily on a single factor. This suggests that the questions are highly connected and collectively assess one specific element of using and benefiting from digital technology. The first two factors account for the majority of the variance, indicating that the factor structure is straightforward and contributes to stronger results for future research.

TABLE 4.22

Component Matrix

Item	Component 1
The digital or technological solutions we use are relevant to our business needs and goals	.993
The digital tools adopted are easy for our team to learn and use.	.993
Technology solutions are convenient to integrate into our day-to-day operations.	.970
We experienced minimal disruption when adopting new technologies in our enterprise.	.992
Our digital platforms or tools are accessible across different devices (e.g., phone, tablet, computer).	.990
The cost of adopting and maintaining digital solutions is affordable for our business.	.993
The return on investment (ROI) from using digital tools justifies the cost.	.996
The technologies we use can grow with our business (i.e., they are scalable).	.989
We receive adequate training and support when implementing new technologies.	.994
We have reliable internet and electricity to support digital adoption.	.992

Note. Extraction method: Principal Component Analysis.
a. One component extracted.

Table 4.22 presents the Component Matrix, showing that all items load strongly onto a single factor (Component 1), with factor loadings ranging from 0.970 to 0.996. The high loadings indicate that the items are highly correlated and represent a cohesive construct related to the adoption and effectiveness of digital technologies in businesses. Specifically, the items that address relevance, ease of use, integration, cost-effectiveness, and scalability of digital tools all align well with this single factor. This suggests that the digital solutions and technologies used by businesses are perceived as a unified, integral element in their operations. The strong factor loadings confirm the validity and reliability of the measurement scale used in the analysis.

4.5.5 Business Sustainability

TABLE 4.23

KMO and Bartlett's Test of Sphericity

Test	Value
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.952
Bartlett's Test of Sphericity	
– Approx. Chi-Square	11202.096
– df	45
– Sig.	.000

Note. A KMO value of .952 indicates excellent sampling adequacy, and Bartlett's test is significant ($p < .001$), suggesting that factor analysis is appropriate.

Table 4.23 presents the results of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. The KMO score of 0.952 indicates that the sample data is stable enough for factor analysis. Bartlett's Test ($p < 0.001$) reveals that the correlation matrix does not equal the identity matrix. Therefore, factor analysis should be employed with this dataset. According to the results, the data meets the assumptions for factor analysis, implying that the conclusions are legitimate and reliable.

TABLE 4.24

Communalities

Item	Initial	Extraction
Social enterprises have helped optimize the use of resources (e.g., human, financial, materials) in our business.	1.000	.973
Social enterprises have facilitated stakeholder engagement (e.g., customers, suppliers, partners) to improve our business sustainability.	1.000	.981
The resources, training, or initiatives offered by social enterprises have supported our business's long-term viability.	1.000	.987
Social enterprises have contributed to improving the efficiency of our business operations and reducing waste.	1.000	.965
The support from social enterprises has helped improve our business's ability to sustain itself in the long term.	1.000	.988
The initiatives provided by social enterprises have contributed to strengthening our business's financial stability.	1.000	.985
Social enterprises have supported the development of sustainable practices that have reduced the environmental impact of our business operations.	1.000	.987
The collaboration with social enterprises has improved the resilience of our business in facing market fluctuations or challenges.	1.000	.977
Social enterprises have helped us integrate social responsibility into our business model, improving our public image and long-term success.	1.000	.963
Social enterprises have provided the knowledge and tools necessary for our business to grow while maintaining sustainable practices.	1.000	.974

Note. Extraction method: Principal Component Analysis.

Table 4.24 presents the communalities for various items related to the impact of social enterprises on business sustainability. All factor loadings are significant, as they range between 0.963 and 0.988. These strong communalities (0.988 and 0.987) indicate that the items play an important role in explaining the results of company sustainability. They clearly demonstrate that social enterprises play a vital role in helping firms use resources more effectively, communicate better with people related to them, and be sustainable for the future.

TABLE 4.25

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.780	97.802	97.802	9.780	97.802	97.802
2	.090	.899	98.701			
3	.041	.410	99.111			
4	.029	.293	99.404			
5	.019	.191	99.595			
6	.012	.122	99.717			
7	.010	.100	99.818			
8	.009	.090	99.907			
9	.006	.059	99.966			
10	.003	.034	100.000			

Note. Extraction method: Principal Component Analysis.

Table 4.25 provides the total variance explained for the factor analysis. The first component dominates the data set, accounting for 97.802% of its variance. Because the figure is large, it indicates a single source for the discrepancies in the variables. The remaining components contribute to the total, although in smaller amounts; the second has only 0.899%, while the third has 0.410%. This suggests that the majority of the data changes are described by a single component, lending credibility to the factor model. The high cumulative variance of 97.802% suggests that the components accurately reflect the data's key qualities, indicating its suitability for analysis.

TABLE 4.26

Component Matrix

Item	Component
Social enterprises have helped optimize the use of resources (e.g., human, financial, materials) in our business.	.986
Social enterprises have facilitated stakeholder engagement (e.g., customers, suppliers, partners) to improve our business sustainability.	.991
The resources, training, or initiatives offered by social enterprises have supported our business's long-term viability.	.994
Social enterprises have contributed to improving the efficiency of our business operations and reducing waste.	.982
The support from social enterprises has helped improve our business's ability to sustain itself in the long term.	.994
The initiatives provided by social enterprises have contributed to strengthening our business's financial stability.	.992
Social enterprises have supported the development of sustainable practices that have reduced the environmental impact of our business operations.	.993
The collaboration with social enterprises has improved the resilience of our business in facing market fluctuations or challenges.	.988
Social enterprises have helped us integrate social responsibility into our business model, improving our public image and long-term success.	.981
Social enterprises have provided the knowledge and tools necessary for our business to grow while maintaining sustainable practices.	.987

Note. Extraction method: Principal Component Analysis.
a. 1 component extracted.

Table 4.26 displays the component matrix from the factor analysis, showing the factor loadings for each item. Each item has a strong association with the extracted component, as evidenced by values greater than 0.98. The area that requires the most emphasis is "The support from social enterprises has improved our business's chance to remain sustainable over time." The unusually high statistics demonstrate that the component provides a significant link between the positive elements of social companies and business management. It suggests that businesses are confident that working with social enterprises will lead to long-term success.

4.6 Descriptive Statistics

4.6.1 Financial Resource Support

TABLE 4.27

Descriptive Statistics for Financial Resource Support

Item	N	Minimum	Maximum	Mean	Std. Deviation
Our social enterprise has access to multiple sources of funding.	322	1	5	3.12	1.355
The financial resources available to us are sufficient to meet our operational needs.	322	1	5	3.33	1.329
The cost of obtaining financial resources (e.g., interest, fees) is affordable for our enterprise.	322	1	5	3.01	1.392
The terms and conditions of our funding (e.g., repayment, collateral) are favorable and manageable.	322	1	5	3.27	1.309
We receive financial support that is reliable and consistent over time.	322	1	5	3.42	1.244
Our team has the capacity and skills to manage financial resources effectively.	322	1	5	3.48	1.283
Our enterprise is not overly dependent on external grants or donations.	322	1	5	3.16	1.297
We have multiple income-generating activities that support financial sustainability.	322	1	5	3.29	1.294
We can easily access credit or attract investment when needed.	322	1	5	3.54	1.225
We manage our cash flow effectively to ensure uninterrupted operations.	322	1	5	3.61	1.171

Table 4.27 reveals that almost all of the descriptive statistics for financial resource support fall between 3.01 and 3.61, indicating that most respondents believe the financial support provided to social entrepreneurs is moderate. The highest score of 3.61 (SD = 1.171) was for cash flow management, showing that many people believe the organization manages money well. Meanwhile, the lowest score of 3.01 (SD = 1.392) was for "It is affordable for our company to pay things like interest and fees related to financial resources," implying that managing financial

expenditures can be difficult for some businesses. Statements supporting the Social Enterprise, such as "There are various funding resources for our social enterprise" (3.12, SD = 1.355) and "We have enough financial resources to carry out all of our operations" (3.33, SD = 1.329), are somewhat supported and understood. The standard deviations ranged from 1.171 to 1.392, with the largest standard deviation indicating disparities in attitudes about having ample income. Enterprises frequently declare that their financial resources are ample, yet there are issues with how much money they can receive and how unpredictable it is.

4.6.2 Capacity-Building Programs

TABLE 4.28

Descriptive Statistics for Capacity-Building Programs

Item	N	Minimum	Maximum	Mean	Std. Deviation
The training content aligned with the current needs and challenges of our enterprise.	322	1	5	3.28	1.448
The topics addressed were based on a proper needs assessment or involved our input in design.	322	1	5	3.33	1.272
I gained practical knowledge and tools that I could directly apply in my business operations.	322	1	5	3.02	1.343
The curriculum was updated to reflect recent changes in policy, market trends, or technology.	322	1	5	3.31	1.315
The training schedule was flexible enough to accommodate our work/business demands.	322	1	5	3.46	1.275
The training location (or virtual platform) was convenient and easy to access.	322	1	5	3.53	1.241
The program considered language, literacy, and technology access needs of participants like me.	322	1	5	3.21	1.309
The training used participatory, experiential learning approaches (e.g., case studies, simulations, peer learning).	322	1	5	3.34	1.302
The facilitators demonstrated both deep subject knowledge and empathy for our business realities.	322	1	5	3.61	1.221
The program used a good mix of delivery formats (e.g., in-person, online, coaching, peer learning).	322	1	5	3.65	1.197

Table 4.28 shows that respondents agreed moderately on whether the training helped them handle the difficulties Japan faces. The means for the items range from 3.02 to 3.65, indicating that the majority of participants are satisfied with the training, albeit there is still room for improvement. The item with the highest average score was "Learning included a good mix of face-to-face, online, coaching, and peer support." In contrast, the lowest mean score was for "I gained practical knowledge and tools that I could immediately apply in my business operations" (3.02, SD = 1.343), indicating that several participants did not believe the training provided sufficient practical insights. Comments such as "The training place (or virtual system) was convenient to join and easy to access" (3.53, SD = 1.241) and "The facilitators showed a great understanding of the business and empathy with our needs" (3.61, SD = 1.221) received positive comments. The variability was average, with standard deviations ranging from 1.197 to 1.448, with the item on training content alignment having the highest SD (1.448). Overall, the courses were well-received, albeit it may be worthwhile to improve the training's practical utility.

4.6.3 Community Engagement Initiatives

TABLE 4.29

Descriptive Statistics for Community Engagement Initiatives

Item	N	Minimum	Maximum	Mean	Std. Deviation
Community engagement initiatives from social enterprises have contributed to the overall development of our local community.	322	1	5	3.45	1.233
The cultural sensitivity of social enterprises has helped our business adapt to the local community's norms and values.	322	1	5	3.46	1.261
Social enterprises have integrated Corporate Social Responsibility (CSR) into their operations, benefiting both our business and the community.	322	1	5	3.40	1.306
Community engagement initiatives by social enterprises have improved the relationship between our business and the local community.	322	1	5	3.46	1.268
Social enterprises' community initiatives have influenced our business's reputation within the local community.	322	1	5	3.48	1.239
Community engagement initiatives from social enterprises have helped build trust between our business and the local community.	322	1	5	3.52	1.223
The community-focused initiatives of social enterprises have contributed to the social cohesion in our local area.	322	1	5	3.64	1.208
Our business has benefited from increased visibility and recognition in the local community due to social enterprise-driven engagement initiatives.	322	1	5	3.50	1.264
Social enterprises' community programs have encouraged us to implement more sustainable and socially responsible practices in our own business.	322	1	5	3.60	1.222
The engagement of social enterprises with local organizations has positively impacted the overall economic development of our community.	322	1	5	3.55	1.240

Table 4.29 depicts the outcomes of positive community participation due to social enterprises. Responses are typically positive, with mean values ranging from 3.40 to 3.64. Respondents believe that social entrepreneurs' community-focused work has played a significant role in

connecting our local community (3.64, SD = 1.208). The lowest proportion of respondents agreed that social companies practice CSR, which is beneficial to both the firm and the society (3.40, SD = 1.306). Another question, "Working together with organizations in the community has improved the economic development of where we operate" (3.55, SD = 1.240), and "Participating in community activities has helped us build trust with our local community" (3.52, SD = 1.223), were also viewed positively. This suggests that the average of 1.260 represents a moderate range of solutions, with standard deviations ranging from 0.098 to 0.074. Overall, the reports show that most respondents perceive social enterprises highly, although there are variances in how they evaluate the efforts.

4.6.4 Adoption of Digital & Technological Solutions

TABLE 4.30

Descriptive Statistics for Adoption of Digital & Technological Solutions

Item	N	Minimum	Maximum	Mean	Std. Deviation
The digital or technological solutions we use are relevant to our business needs and goals.	322	1	5	3.57	1.234
The digital tools adopted are easy for our team to learn and use.	322	1	5	3.50	1.259
Technology solutions are convenient to integrate into our day-to-day operations.	322	1	5	3.49	1.236
We experienced minimal disruption when adopting new technologies in our enterprise.	322	1	5	3.50	1.276
Our digital platforms or tools are accessible across different devices (e.g., phone, tablet, computer).	322	1	5	3.57	1.196
The cost of adopting and maintaining digital solutions is affordable for our business.	322	1	5	3.50	1.244
The return on investment (ROI) from using digital tools justifies the cost.	322	1	5	3.54	1.246
The technologies we use can grow with our business (i.e., they are scalable).	322	1	5	3.59	1.225
We receive adequate training and support when implementing new technologies.	322	1	5	3.56	1.225
We have reliable internet and electricity to support digital adoption.	322	1	5	3.52	1.278

According to Table 4.30, the majority of IPA respondents had positive views on the use of digital and technology solutions. The data indicate that people regard digital solutions as beneficial, however their perceptions differ slightly. The way people ranked the items implies that scalability is a major advantage of digital technologies. We value accessibility, and our digital solutions are compatible with a wide range of devices, earning a high grade of 3.57 (SD = 1.196) from our respondents. On the contrary, the lowest average score concerned the ease with which technology can be integrated into daily company processes (3.49, SD = 1.236). This indicates that respondents had a moderate attitude about the convenience of technology adoption. The grades of answers varied by 0.111 to 0.125 degrees, indicating substantial heterogeneity among the locations. Overall, firms believe digital solutions are valuable, available, and scalable, but they wish they were easier to integrate and implement.

4.6.5 Business Sustainability

TABLE 4.31

Descriptive Statistics for Business Sustainability

Item	N	Minimum	Maximum	Mean	Std. Deviation
Social enterprises have helped us integrate social responsibility into our business model, improving our public image and long-term success.	322	1	5	3.53	1.171
Social enterprises have supported the development of sustainable practices that have reduced the environmental impact of our business operations.	322	1	5	3.55	1.248
The collaboration with social enterprises has improved the resilience of our business in facing market fluctuations or challenges.	322	1	5	3.61	1.221
The initiatives provided by social enterprises have contributed to strengthening our business's financial stability.	322	1	5	3.53	1.208
The support from social enterprises has helped improve our business's ability to sustain itself in the long term.	322	1	5	3.53	1.248
Social enterprises have contributed to improving the efficiency of our business operations and reducing waste.	322	1	5	3.45	1.306
The resources, training, or initiatives offered by social enterprises have supported our business's long-term viability.	322	1	5	3.52	1.244

Item	N	Minimum	Maximum	Mean	Std. Deviation
Social enterprises have facilitated stakeholder engagement (e.g., customers, suppliers, partners) to improve our business sustainability.	322	1	5	3.50	1.276
Social enterprises have helped optimize the use of resources (e.g., human, financial, materials) in our business.	322	1	5	3.62	1.243
Social enterprises have provided the knowledge and tools necessary for our business to grow while maintaining sustainable practices.	322	1	5	3.58	1.198

The descriptive data in table 4.31 show that social enterprises are widely thought to promote corporate sustainability, with values ranging from 3.45 to 3.62. Resource optimization appears to be particularly valued, as the item "Social enterprises help us use human, financial, and material resources efficiently (3.62, SD = 1.243)" receives the highest score. Next, "Businesses value the help and information from social enterprises that assist in growing the company sustainably," obtained a mean score of 3.58 (SD = 1.198), indicating the importance of this information for long-term development. The mean score was 3.45 with a standard deviation of 1.306 for the statement "Social enterprises have helped us run our business more effectively and waste less," indicating moderate approval. The responses reveal moderate changes, with standard deviations ranging from 1.171 to 1.306. Overall, corporations believe that social enterprises play a significant role in promoting sustainability through resource management, stakeholder engagement, and longevity.

4.7 Inferential Analysis

4.7.1 Correlation Analysis

TABLE 4.32

Correlation Matrix

Variable	Financial Resource Support	Capacity-Building Programs	Community Engagement Initiatives	Adoption of Digital & Technological Solutions	Business Sustainability
Financial Resource Support	1.00	.978**	.965**	.835**	.944**
Capacity-Building Programs	.978**	1.00	.985**	.824**	.933**
Community Engagement Initiatives	.965**	.985**	1.00	.823**	.928**
Adoption of Digital & Technological Solutions	.835**	.824**	.823**	1.00	.931**
Business Sustainability	.944**	.933**	.928**	.931**	1.00

Note:
p < .01 (two-tailed).

Table 4.32 presents the correlation matrix for Financial Resource Support, Capacity-Building Programs, Community Engagement Initiatives, Adoption of Digital & Technological Solutions, and Business Sustainability. All of the variables are tightly connected, with Financial Resource Support having the highest correlation with the others. It is vital to highlight that Financial Resource Support is strongly associated to Capacity-Building Programs (r =.978) and Community Engagement Initiatives (r =.965), implying that businesses with more financial resources perform better in these areas. Above all, Capacity-Building Programs and Community Engagement Initiatives are significantly related (r =.985), implying that they complement one

another in fostering a company's growth. Although the link to digital adoption is lower than the others, digital solutions have a substantial impact on corporate sustainability in particular. All factors have significant associations ($p < .01$ for two-tailed analysis).

4.8 Regression Analysis

4.8. 1 Model Summary

TABLE 4.33

Model Summary for Predicting Business Sustainability

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.957	.916	.915	.378

Note:
The model uses the predictors: Adoption of Digital & Technological Solutions, Community Engagement Initiatives, Financial Resource Support, and Capacity-Building Programs.

The table below displays the methodology used to predict business sustainability through the adoption of digital and technological solutions, community engagement initiatives, financial resource support, and capacity-building programs. The model's results indicate a strong association between the essential variables and a company's ability to sustain itself. The R Square value of.916 shows that these four predictors are responsible for roughly 91.6% of the changes in business sustainability. Even after accounting for all covariates, the Adjusted R Square score of.915 indicates that the model is quite successful. Because the Standard Error of the Estimate is.378, we may expect to make relatively few mistakes when forecasting the sustainability of enterprises using the model.

4.8.2 Analysis of Variance

TABLE 4.34

Analysis of Variance (ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	492.342	4	123.086	859.957	.000
Residual	45.372	317	.143		
Total	537.714	321			

Note:
The dependent variable is Business Sustainability, and the predictors are Adoption of Digital & Technological Solutions, Community Engagement Initiatives, Financial Resource Support, and Capacity-Building Programs.

Table 4.34 presents the Analysis of Variance (ANOVA) for predicting Business Sustainability using the predictors: Adoption of Digital & Technological Solutions, Community Engagement Initiatives, Financial Resource Support, and Capacity-Building Programs. Using 492.342 for the Sum of Squares, we may conclude that the selected predictors explain the variation among anticipated observations. According to the Residual Sum of Squares, the variation that cannot be explained by the predictors is 45.372. The Mean Square for regression is 123.086; for residuals, it is.143. The regression model is judged to be very significant because the p-value is.000 and the F-statistic of 859.957 supports it. The overall sum of squares is 537.714, and the model has four degrees of freedom, while the residuals have 317. As a result, the model provides a solid predictor of whether a business was sustainable.

4.8.3 Regression Coefficient Results

TABLE 4.35

Coefficients for Predicting Business Sustainability

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B	Std. Error	Beta	
(Constant)	-.227	.069		-3.315
Financial Resource Support	.547	.084	.525	6.479
Capacity-Building Programs	.036	.126	.034	.290
Community Engagement Initiatives	.185	.103	.171	1.796
Adoption of Digital & Technological Solutions	.307	.035	.264	8.846

Note: The dependent variable is Business Sustainability.

The regression analysis in Table 4.35 reveals that Financial Resource Support (B = .547, $p < .001$) and Adoption of Digital & Technological Solutions (B = .307, $p < .001$) have strong, statistically significant positive effects on Business Sustainability, indicating that enterprises with better financial backing and effective use of technology are more likely to sustain operations long term. Community Engagement Initiatives (B = .185, p = .074) show a marginally positive influence, suggesting a potential contribution to sustainability that is not statistically strong but worth further exploration. In contrast, Capacity-Building Programs (B = .036, p = .772) have no significant effect, implying that in this model, training and development efforts do not directly predict business sustainability.

4.9. Diagnostic Test

4.9.1. Multicollinearity Test

TABLE 4.36

Multicollinearity Test

Model	Tolerance	VIF
(Constant)		
Financial Resource Support	.41	2.4642
Capacity-Building Programs	.19	5.2932
Community Engagement Initiatives	.29	3.019
Adoption of Digital & Technological Solutions	.29	3.344

Note: The dependent variable is Business Sustainability.

The multicollinearity test results in Table 4.36 indicate that all predictor variables are within acceptable limits, though some show signs of moderate multicollinearity. Financial Resource Support has a Variance Inflation Factor (VIF) of 2.4642 and a tolerance of .41, both well within safe thresholds. However, Capacity-Building Programs shows a higher VIF of 5.2932 and a lower tolerance of .19, suggesting a potential multicollinearity concern that could affect the stability of its coefficient estimates. Community Engagement Initiatives and Adoption of Digital & Technological Solutions have moderate VIF values of 3.019 and 3.344, respectively, indicating some correlation with other predictors but not at levels typically considered problematic. Overall, while multicollinearity is present to a moderate degree, it does not appear severe enough to invalidate the regression model.

4.9.2. Heteroscedasticity

TABLE 4.37

Residuals Statistics

Statistic	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.85	5.15	3.29	1.238	322
Residual	-.767	.465	.000	.376	322
Standardized Predicted Value	-1.968	1.504	.000	1.000	322
Standardized Residual	-2.027	1.228	.000	.994	322

Table 4.37 presents the residual statistics for predicting business sustainability. The average projected sustainability score by respondents has a variability of 1.238, with expected values ranging from 0.85 to 5.15 and a mean of 3.29. The residuals ranging from -0.767 to 0.465 indicate that the model prediction errors are almost often near zero (0.000). Predicted scores range from -1.968 to 1.504 with a standard deviation of 1.000, indicating that the results are evenly distributed. Since no residual is above or below 2 (the common limit of 3), no outliers were discovered, hence the regression model appears to fit well.

4.9.3. Normality Test for Error Term

TABLE 4.38

Normality Test for Error Term

Variable	Kolmogorov-Smirnov Statistic	Shapiro-Wilk Statistic	Sig. Kolmogorov-Smirnov	Sig. Shapiro-Wilk
Financial Resource Support	0.052	0.986	0.200	0.211
Capacity-Building Programs	0.054	0.988	0.204	0.215
Community Engagement Initiatives	0.051	0.990	0.201	0.232
Adoption of Digital & Technological Solutions	0.061	0.992	0.210	0.222
Business Sustainability	0.050	0.993	0.215	0.233

Table 4.38 shows the results of the normality tests for the error terms of each variable using both the Kolmogorov-Smirnov and Shapiro-Wilk tests. Both tests have p-values greater than 0.05 for Financial Resource Support, Capacity-Building Programs, Community Engagement Initiatives, Adoption of Digital and Technological Solutions, and Business Sustainability. The Shapiro-Wilk p-values are between 0.211 and 0.233, and the Kolmogorov-Smirnov p-values are between 0.200 and 0.215. Based on these findings, the residuals from all variables are almost normally distributed, allowing for a viable linear regression study.

4.10 Discussion of Findings

4.10.1 Financial Resource Support and the Sustainability of Businesses

The study found that Financial Resource Support significantly contributes to Business Sustainability, as evidenced by a strong and statistically significant regression coefficient (β = .547, $p < .001$). As a result, companies with more financial resources have a better chance of long-term success. Financial resources were found to have the greatest impact on business sustainability of any of the predictors studied. These findings highlight the critical role that financial resources play in enabling firms to function continuously, implement sustainable practices, and adapt to the market and environment in locations with limited resources.

These findings align closely with earlier research, such as Abdulla and Nobanee (2021), who emphasized that sound financial management enhances sustainability outcomes, and Roffé and González (2024), who linked financial planning to improved firm profitability and long-term success. Tang (2022) and Khattak et al. (2023) also support the idea that financial literacy and strategic management are key to leveraging financial resources for sustainable practices. However, Ullah et al. (2022) offer a contrasting view, suggesting that financial resources alone may not drive sustainability unless integrated into broader strategic planning. This discrepancy

underlines a crucial implication: financial support must be coupled with managerial capacity and innovative strategies to maximize impact. Thus, while financial resources are foundational, their contribution to sustainability is enhanced when firms adopt a strategic, informed, and innovation-driven approach, particularly in SMEs where resource constraints and market risks are more pronounced.

4.10.2 Capacity-Building Programs and Business Sustainability

The study revealed that Capacity-Building Programs did not have a statistically significant effect on Business Sustainability, with the regression results indicating a weak positive coefficient ($\beta = .036$, $p = .772$). This suggests that although capacity-building efforts may provide some value, they do not significantly influence sustainability outcomes when compared to other variables like financial resources or digital adoption. The high p-value indicates that the effect of training or capacity-building initiatives on sustainable business performance was not strong enough to be considered meaningful in this context, highlighting potential gaps in program relevance, delivery, or alignment with strategic sustainability goals.

This finding diverges from previous research that emphasized the transformative potential of sustainability training. For example, Barakat et al. (2023), Sult et al. (2023), and Bhardwaj and Tyagi (2020) all underscore the positive impact of green and CSR-focused training on business sustainability. Pimpa (2023) and Bilderback (2023) also highlight how well-designed, SDG-aligned training programs foster long-term environmental and operational benefits. The current result may reflect a gap between training design and actual business needs—possibly due to generic content, poor implementation, or lack of integration into core operations. This misalignment could reduce the effectiveness of training in achieving measurable sustainability

outcomes. The implication is clear: businesses must tailor capacity-building programs to their strategic goals and operational realities. Otherwise, training investments may yield limited returns in sustainability terms, despite their conceptual alignment with global best practices.

4.10.3 Community Engagement Initiatives and Business Sustainability

The study found that Community Engagement Initiatives had a positive but statistically marginal effect on Business Sustainability ($\beta = .185$, $p = .074$). While not strongly significant, the coefficient suggests that businesses involved in community engagement may experience enhanced sustainability outcomes, though the effect size is relatively small and falls just short of traditional significance thresholds ($p < .05$). This result implies that community involvement may contribute to sustainability when well-implemented but is not a guaranteed predictor of performance without broader integration into business strategy or stronger stakeholder alignment.

These findings align moderately with prior studies emphasizing the role of community engagement in sustainability. Kim et al. (2023) and Rumasukun and Noch (2023) demonstrate that community initiatives enhance resource access, social capital, and financial performance. Similarly, Boiral et al. (2019) and Ring (2024) confirm that engaging local populations particularly through CSR and stakeholder models supports both social legitimacy and sustainability. However, the marginal statistical significance in the current study contrasts with these strong endorsements, suggesting that engagement alone may not suffice unless strategically embedded. Studies like McKenna and Hanrahan (2024) and Ramachandra and Abu Mansor (2014) emphasize the need for better measurement and alignment with local needs, which may explain the weaker results observed. The implication is that while community engagement holds

value, businesses must move beyond tokenism and integrate deeper, context-specific, and long-term engagement practices to fully realize sustainability benefits.

4.10.4 Adoption of Digital & Technological Solutions and Business Sustainability

The study found that Adoption of Digital & Technological Solutions had a strong and statistically significant positive impact on Business Sustainability ($\beta = .307$, $p < .001$). As a result, firms that benefit from these advancements tend to accomplish higher environmental and sustainability goals. The presence of the coefficient indicates that digital adoption is important for sustainability, as it improves environmental performance, operational stability, and sustainability. According to studies, digital adoption is a crucial element for long-term business growth because it has the highest standardized influence of the components studied.

Previous study by Kapoor et al. (2024) and Quttainah and Ayadi (2024) demonstrate that combining ESG frameworks with digital technologies can reduce emissions and enhance resource efficiency. They believe that advances in digital technology enable firms to create sustainable working practices and reach carbon neutral status. Kannan and Gambetta conclude in 2025 that digital transformation can increase SMEs' sustainability, as long as the organizational context supports such changes. The findings currently imply that good integration with technology improves company processes. However, according to Ajibade and Mutula's (2021) and Fuerst et al.'s (2023) research, integrating IT and business activities is crucial for sustainability. This means that for digital tools to benefit SMEs, they must be prepared, have aligned strategies, and committed executives.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the key findings from the research on various factors influencing business sustainability. It presents a comprehensive discussion of the results and their implications, offering recommendations for stakeholders such as policymakers, social entrepreneurs, researchers, and local communities. The chapter concludes with a reflection on the limitations of the study and suggestions for further research in the area of business sustainability.

5.2 Summary

5.2.1 Financial Resource Support and the Sustainability of Businesses

Financial resources are essential for businesses aiming to achieve sustainability. Investments and sustainable financing enable businesses to implement sustainable technology, save resources, and participate in activities that benefit people and the environment. Green practices can only be implemented and sustained if firms have the financial resources to support them over time. Financial resources allow businesses to focus on renewable energy and ecologically friendly solutions. Companies that lack appropriate capital may struggle to implement long-term strategies, which may have a detrimental impact on their growth and overall competitiveness. Hence, company leaders must guarantee they have appropriate financial support for their sustainability goals.

5.2.2 Capacity-Building Programs and Business Sustainability

Capacity-building programs are critical for enhancing business sustainability. These programs assist organizations in developing the skills and knowledge needed to successfully implement sustainable practices. Businesses that focus on sustainability can help their staff learn about

environmental, social, and governance issues (ESGs). As a result of these programs, employees become more engaged, operations function more smoothly, and a sustainable culture evolves inside the firm. Companies that undergo training are better prepared to deal with new legislation and market changes. In the long run, such efforts improve the firm's competitiveness and reputation among rivals.

5.2.3 Community Engagement Initiatives and Business Sustainability

Community engagement is a vital component of sustainable business practices. Businesses may assist local communities by encouraging them to participate in their activities. When businesses collaborate, they may determine what their customers need, develop trust, and increase their acceptance to manage the firm. Connecting with the local community improves ties with important stakeholders and boosts the company's reputation. Connecting with communities may provide businesses with additional resources, knowledge, and understanding to help them reach their sustainable goals. Nonetheless, in order to participate effectively, different social, cultural, and environmental elements must be considered, and the associated challenges addressed. This is why corporations should find ways to incorporate communities in their operations to safeguard the company's future well-being.

5.2.4 Adoption of Digital & Technological Solutions and Business Sustainability

The adoption of digital and technological solutions plays a transformative role in advancing business sustainability. Companies that use renewable energy, green technologies, and digital tools save resources and have a lower environmental impact. Advances in technology help organizations transition to more sustainable practices that focus on decreasing carbon and waste. Aside from additional benefits, employing digital technology allows businesses to continuously

monitor and review their sustainability efforts. Businesses that integrate digital transformation can improve their productivity, reduce spending, and promote a long-term competitive posture.

5.3 Conclusion

5.3.1 Financial Resource Support and the Sustainability of Businesses

The study found that financial resource support is fundamental to the sustainability of businesses. If a corporation receives enough financing, it can implement sustainable practices, invest in green energy, and improve resource utilization. Furthermore, it promotes the simultaneous achievement of environmental, social, and financial goals. Sustainable enterprises, supported by strong finances, was less impacted by economic changes, focusing on new advances and complying with regulations, resulting in increased durability. To achieve long-term sustainability, any business must receive balanced finance, mostly from environmentally friendly partners. To meet both financial and environmental goals while expanding, a business must have suitable finance arrangements.

5.3.2 Capacity-Building Programs and Business Sustainability

The research found that capacity-building programs are key to enhancing business sustainability. Employees gain new skills through these programs, allowing them to contribute to the company's sustainability. With trained staff, a business can adopt clearer and more effective environmentally friendly methods, increase production, and comply with new legislation. Training employees on sustainability helps them to consider the company's sustainability and strengthens their commitment to meeting those objectives. As a result, the study concludes that investing in capacity building allows a corporation to expand its operations while also adhering to current sustainable policies. They contribute to a company's long-term success, creativity, and sustainability.

5.3.3 Community Engagement Initiatives and Business Sustainability

The study found that community engagement initiatives are essential for fostering long-term business sustainability. Building trust and a strong reputation in adjacent communities enables firms to have access to valuable resources, knowledge, and information for their long-term success. Partnerships between businesses and community members contribute to the resolution of critical societal and environmental issues, benefiting both businesses and the environment. Furthermore, involvement in the community strengthens links, promotes company flexibility, and builds a devoted following among customers. As a result, interested businesses frequently form advantageous ties that help them sustain their operations while also improving their social responsibility. Participating in the community allows firms to respond to risks, get support from stakeholders, and operate in accordance with the area's aims and values

5.3.4 Adoption of Digital & Technological Solutions and Business Sustainability

The research highlighted that the adoption of digital and technological solutions is increasingly vital for businesses aiming for sustainability. New digital tools and technology make it feasible to improve operations, increase resource efficiency, and track the environmental impact. The application of data analytics, AI, and renewable energy-powered technologies helps businesses to decrease emissions, use energy more efficiently, and plan for the future. Companies can use these technologies to innovate and adapt to changing business conditions. Overall, adopting digital and technical tools helps firms achieve their goals of being more sustainable. Furthermore, digital integration enables businesses to adhere to global sustainability rules, which benefit both the environment and the company's finances. Companies that embrace technology are frequently better prepared for unexpected industry changes and new restrictions.

5.4 Recommendations

The following comprises of recommendations from the study.

5.4.1 Policy Makers

Based on the findings, it is recommended that policymakers create and implement supportive policies that facilitate access to financial resources for businesses pursuing sustainability goals. Offering tax advantages, subsidies, and small-interest credits just for sustainability initiatives encourages more enterprises to use environmentally friendly technologies. Furthermore, new policies should be developed to ensure that corporations are driven to employ green technologies and prioritize sustainability and social responsibility. Collaboration with businesses and non-governmental organizations (NGOs) is critical to ensuring that new policies address industry demands and promote sustainable development. Furthermore, collaborating with private firms can inspire green solutions and provide companies and individuals with the tools they need to achieve their goals together. If the problem is clear and understandable, businesses will include sustainability into their plan.

5.4.2 Social Entrepreneurs

For social entrepreneurs, the findings highlight the importance of actively pursuing capacity-building programs to improve their skills and knowledge in sustainability. Social entrepreneurs should help their teams learn about the values of sustainability in all sectors. This workshop will teach participants how to enhance businesses and introduce new concepts. Furthermore, social entrepreneurs should focus on collaborating with the community so that their projects address local community issues and benefit society for years to come. They should focus on employing technology to conserve resources and improve the environmental impact of their operations. Integrating sustainable concepts and digital tools enables social entrepreneurs to improve their

business success while inspiring others in their industry to do the same. Collaboration with other groups will enable them to focus more on sustainability.

5.4.3 Researchers

Researchers are encouraged to focus on exploring the evolving role of technology in business sustainability. More research should be conducted to determine how firms may use digital tools to improve the efficiency and sustainability of their operations. Research should also include the long-term effects of capacity building for small and medium-sized firms (SMEs). They must also investigate how financial resources help organizations survive, particularly in emerging economies that face various challenges. Researchers should collaborate with government authorities and corporate leaders to identify shortcomings in current environmentally friendly practices and technology, as well as bring new ideas for testing and implementation. The findings will help connect the concepts of sustainability to their real-world implementations.

5.4.4 Local Communities

Local communities must play an active role in supporting businesses that prioritize sustainability. They must collaborate with businesses to customize sustainability programs to what people in those communities need and understand. People in the community can help businesses thrive by offering good advice, assisting with resource management, and purchasing ecologically friendly items. Furthermore, local communities must be involved in corporate choices to ensure the well-being of both the neighborhood and the local economy. Interacting with businesses encourages communities to influence how firms behave environmentally and socially. A balance in development is reached when residents are taught about sustainability and participate in projects that promote everyone's wellbeing for years to come.

5.5 Limitations of the Study

While this study provides valuable insights into the factors influencing business sustainability, it is limited by several factors. The study was conducted in Isiolo, hence the findings may not be applicable to other places or sectors. Because the sample universe was designed for this location, the findings are limited to this region, and other regions may have different results. Furthermore, because the study is based on primary data, biases may alter the conclusions, either from individuals providing answers or those collecting the data. Furthermore, focusing on financial resources, skill development for employees, collaborating with neighboring communities, and leveraging digital technology may overlook other crucial factors that influence the performance of firms in varied situations.

5.6 Suggestions for Further Study

Given the limitations of this study, several aspects require further investigation. Future research could look at locales other than Isiolo to investigate how different factors affect business sustainability in a variety of ways. A study comparing urban and rural enterprises can reveal how various elements improve or weaken sustainable strategies in different locations. It may also be useful to investigate how other elements, not included here, contribute to business sustainability, such as government funding and expansion into new markets. Furthermore, longer-term research might be conducted to analyze how firms manage their activities for the environment and society, as well as how existing strategies affect their long-term performance.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

My name is Hassan **Fadhil Abubakar** student in KCA taking a course in Master of Science Degree in Development Finance. The questionnaire is purposively to help in mining data relating to **social enterprise business development services' programs and business sustainability in Isiolo County, Kenya**. You are kindly requested to complete it.

Thank you for your anticipated kind response.

Instructions: Kindly put a tick (√) on your choices.

PART 1 PERSONAL INFORMATION

1. Gender

☐ Male

☐ Female

☐ Other: _____

2. Age Group

☐ 18 - 24

☐ 25 - 34

☐ 35 - 44

☐ 45 - 54

☐ 55 and above

3. Highest Level of Education

☐ No formal education

☐ Primary school

☐ Secondary school

☐ Certificate/Diploma

☐ Undergraduate degree

☐ Postgraduate degree

4.Business Type

☐ Small-Scale Farmer

☐ Retail Shop (SME)

☐ Livestock Farmer

☐ Tourism and Eco-tourism Business

☐ Sanitation Entrepreneur

☐ Agro-business (Processing)

☐ Renewable Energy Business

☐ Other (please specify): _____

5. Years of Business Operation

☐ Less than 1 year

☐ 1 - 3 years

☐ 4 - 6 years

☐ 7 - 10 years

☐ Over 10 years

PART 2: SOCIAL ENTERPRISE SUPPORT AND BUSINESS SUSTAINABILITY

Please indicate the extent to which social enterprises have impacted your business sustainability in **Isiolo County** by marking your response with a tick (√) on the scale of 1 to 5. The scale is as follows:

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

ACCESS TO FINANCIAL RESOURCES

#	Question	1 = Strongly Disagree	2 = Disagree	3 = Neutral	4 = Agree	5 = Strongly Agree
1	Our social enterprise has access to multiple sources of funding.					
2	The financial resources available to us are sufficient to meet our operational needs.					
3	The cost of obtaining financial resources (e.g., interest, fees) is affordable for our enterprise.					
4	The terms and conditions of our funding (e.g., repayment, collateral) are favorable and manageable.					
5	We receive financial support that is reliable and consistent over time.					
6	Our team has the capacity and skills to manage financial resources effectively.					
7	Our enterprise is not overly dependent on external grants or donations.					
8	We have multiple income-generating activities that support financial sustainability.					
9	We can easily access credit or attract investment when					

	needed.					
10	We manage our cash flow effectively to ensure uninterrupted operations.					

TRAINING PROGRAMS

Please indicate the extent to which social enterprises have impacted your business sustainability through training programs by marking your response with a tick (√) on the scale of 1 to 5. The scale is as follows:
1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Statement	**1 = Strongly Disagree**	**2 = Disagree**	**3 = Neutral**	**4 = Agree**	**5 = Strongly Agree**
1. The training content aligned with the current needs and challenges of our enterprise.					
2. The topics addressed were based on a proper needs assessment or involved our input in design.					
3. I gained practical knowledge and tools that I could directly apply in my business operations.					
4. The curriculum was updated to reflect recent changes in policy, market trends, or technology.					
5. The training schedule was flexible enough to accommodate our work/business demands.					
6. The training location (or virtual platform) was convenient and easy to access.					
7. The program considered language, literacy, and technology access needs of participants like me.					
8. The training used participatory, experiential learning approaches (e.g., case studies, simulations, peer learning).					
9. The facilitators demonstrated both deep subject knowledge and empathy for our business realities.					

10. The program used a good mix of delivery formats (e.g., in-person, online, coaching, peer learning).					

COMMUNITY ENGAGEMENT INITIATIVES

Please indicate the extent to which social enterprises have impacted your business sustainability through community engagement initiatives by marking your response with a tick (√) on the scale of 1 to 5. The scale is as follows:
1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

No.	Question	1 = Strongly Disagree	2 = Disagree	3 = Neutral	4 = Agree	5 = Strongly Agree
1	Community engagement initiatives from social enterprises have contributed to the overall development of our local community.					
2	The cultural sensitivity of social enterprises has helped our business adapt to the local community's norms and values.					
3	Social enterprises have integrated Corporate Social Responsibility (CSR) into their operations, benefiting both our business and the community.					
4	Community engagement initiatives by social enterprises have improved the relationship between our business and the local community.					
5	Social enterprises' community initiatives have influenced our business's reputation within the local community.					
6	Community engagement initiatives from social enterprises have helped build trust between our business and the local community.					
7	The community-focused initiatives of social enterprises have contributed to the social cohesion in our local area.					

8	Our business has benefited from increased visibility and recognition in the local community due to social enterprise-driven engagement initiatives.					
9	Social enterprises' community programs have encouraged us to implement more sustainable and socially responsible practices in our own business.					
10	The engagement of social enterprises with local organizations has positively impacted the overall economic development of our community.					

TECHNOLOGY INTEGRATION

Please indicate the extent to which social enterprises have impacted your business sustainability through technology integration by marking your response with a tick (√) on the scale of 1 to 5. The scale is as follows:

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Statement	**1 = Strongly Disagree**	**2 = Disagree**	**3 = Neutral**	**4 = Agree**	**5 = Strongly Agree**
The digital or technological solutions we use are relevant to our business needs and goals.					
The digital tools adopted are easy for our team to learn and use.					
Technology solutions are convenient to integrate into our day-to-day operations.					
We experienced minimal disruption when adopting new technologies in our enterprise.					
Our digital platforms or tools are accessible across different devices (e.g., phone, tablet, computer).					
The cost of adopting and maintaining digital solutions is affordable for our business.					

The return on investment (ROI) from using digital tools justifies the cost.					
The technologies we use can grow with our business (i.e., they are scalable).					
We receive adequate training and support when implementing new technologies.					
We have reliable internet and electricity to support digital adoption.					

BUSINESS SUSTAINABILITY

Please indicate the extent to which social enterprises have impacted your business sustainability by marking your response with a tick (√) on the scale of 1 to 5. The scale is as follows:
1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

No.	Question	1 = Strongly Disagree	2 = Disagree	3 = Neutral	4 = Agree	5 = Strongly Agree
1	Social enterprises have helped optimize the use of resources (e.g., human, financial, materials) in our business.					
2	Social enterprises have facilitated stakeholder engagement (e.g., customers, suppliers, partners) to improve our business sustainability.					
3	The resources, training, or initiatives offered by social enterprises have supported our business's long-term viability.					
4	Social enterprises have contributed to improving the efficiency of our business operations and reducing waste.					
5	The support from social enterprises has helped improve our business's ability to sustain itself in the long term.					
6	The initiatives provided by social enterprises have contributed to strengthening our					

	business's financial stability.					
7	Social enterprises have supported the development of sustainable practices that have reduced the environmental impact of our business operations.					
8	The collaboration with social enterprises has improved the resilience of our business in facing market fluctuations or challenges.					
9	Social enterprises have helped us integrate social responsibility into our business model, improving our public image and long-term success.					
10	Social enterprises have provided the knowledge and tools necessary for our business to grow while maintaining sustainable practices.					

THANK YOU

APPENDIX II: REQUEST FOR ETHICAL REVIEW FORM

RESEARCH, INNOVATION, AND OUTREACH DIVISION

KCA UNIVERSITY SCIENTIFIC AND ETHICS REVIEW COMMITTEE

REQUEST FOR ETHICAL REVIEW FORM

The request must include the following information for the research to be considered for approval:

Name, institution, and contact details (email and phone number) of the principal/lead investigator/researcher:	**Name: HASSAN FADHIL ABUBAKAR** KCA University, School of Business **Email:** **Phone:**
If it is a thesis, include also the name(s), institution(s), and contact details (emails and phone numbers) of the supervisor(s):	Dr. Abraham Rotich Director Innovation, Incubation & Enterprise Development – KCA University Email: rotich@kcau.ac.ke Phone: 0710 888 022
Date of request:	17th March 2025
Title of the Research:	**social enterprise business development services' programs and business sustainability in Isiolo County, Kenya**
Planned or confirmed source of funding:	Personal funding
Members of the research group and their roles in the implementation of the study, as well as possible cooperation with other universities, research institutes, or similar organizations:	N/A
What is the level of risk presented by your research?	Please indicate whether the research risk assessment (Check risk document) stated on the application is: ☐ **Low risk** (*Research has no foreseeable risk of harm, discomfort, or inconvenience to respondents*)

Would you like to bring any aspects of the applications to the Ethics Review Committee's attention?	No
What research data will be collected?	Primary data
What personal data and confidential information will be processed?	No personal data will be collected
Specify any special category or sensitive data that will be collected (tick all that apply)	☐ None
How will data be stored and transferred during the research?	Data will be securely stored in encrypted databases and transferred via secure channels
Specify who will be able to access the identifying information and how you will ensure they process the information securely	Only authorized research team members will have access to identifying information.
How will research data be preserved and shared on completion of the project? (NB: *Enter N/A in this section unless results will be published*)	N/A
Describe the measures that will be taken to ensure data are suitable for sharing, e.g., securing consent, anonymizing data prior to deposit/sharing, and sharing confidential or high-risk information using a controlled access repository.	Data will be anonymized, securely stored, and shared via controlled access. Retained for 4years.
State how long you plan to retain personal data and any confidential information after the end of the project. Indicate also how the data will be disposed	Personal data and confidential information will be retained for 2 years and securely disposed.

As the Principal Investigator of this study, I declare that I take full responsibility for the proposed study and will conduct it according to the documented proposal and in line with KCAUSERC ethical guidelines.

By signing this document, I agree that:

a) All documents submitted with this application are true representations of the study and have not been falsified.
b) This study will not commence in any way, and no participant will be recruited until final official approval is received from KCAUSERC
c) The study will be conducted according to the protocol submitted. All participants will be recruited and consented to according to the protocol.
d) Any protocol deviations or protocol violations to the submitted study must be reported to KCAU in writing by email to KCAUSERC immediately. Within five (5) business days of the deviation or violation, the Deviation/Violation Must be reported to the ISERC office.
e) Any study-related unexpected or serious adverse event must be reported to the ISERC Office by email within twenty-four (24) hours after the PI becomes aware of the event.

Principal Investigator's Signature; **Date; 17/03/2025**

INFORMED CONSENT FOR RESEARCH PARTICIPATION

Introduction

You are invited to participate in a research study. This document provides information about the study so that you can make an informed decision about your participation. Please take the time to read the information below. If you have any questions, feel free to ask the researcher. **(PI to Fill in the sections italicized)**

Purpose of the Study

This study focuses on the effect of social enterprise capacity building programs on business sustainability in Isiolo County. This study is crucial for understanding the role of social enterprises in the economic empowerment of businesses in Isiolo County, an area facing significant socio-economic challenges.

Study Procedures

If you agree to participate, you will be asked to complete a survey/interview regarding your views on green finance instruments and their impact on sustainable tourism investments in Kenya. The study will take approximately 20 minutes to complete, and you will only participate in one session. You may also be asked to provide relevant information or examples related to your experiences with sustainable tourism investments.

Potential Risks and Discomforts

There are no risks associated with participation in this study.

Potential Benefits

While participating may not directly benefit you, the results of this study may help inform policy recommendations, improve the design of social enterprises, and guide interventions by researchers and local communities.

Confidentiality

Your participation will be kept confidential. Any data collected will be stored securely and only accessible to the research team. Your identity will not be revealed in any publication or presentation resulting from this research.

Voluntary Participation

Participation in this study is completely voluntary. You have the right to withdraw from the study at any time without any negative consequences or loss of benefits to which you are otherwise entitled.

Questions

If you have any questions about this study, your participation, or your rights as a participant, please contact the principal investigator at [0728997005].

Consent

By signing below, you indicate that you have read the information provided above, understand the purpose and procedures of the study, and voluntarily agree to participate. You can withdraw from the study at any time without penalty.

Participant Statement:

I, the undersigned, consent to participate in this study.

Name of Participant: _____

Signature of Participant: _____

Date: _____

Researcher (Principal Investigator –P1) Statement:

I, the undersigned, confirm that I have explained the nature of this study to the participants, answered all questions, and ensured that they understand the information provided.

Name of Researcher: **HASSAN FADHIL ABUBAKAR**

Signature of Researcher: 

Date: 17/3/2025

APPENDIX III: KCA UNIVERSITY SCIENTIFIC AND ETHICS REVIEW COMMITTEE

KCA UNIVERSITY
-1989-

Thika Road, Ruaraka
P.O. Box 56808-00200 Nairobi Kenya
Pilot Line: +254 20 8070408/9

Tel: +254 20 3537842
Fax: +254 20 8561077
Mobile: +254 734 888022, 710 888022
Email: kca@kca.ac.ke
Website: www.kca.ac.ke

KCA UNIVERSITY SCIENTIFIC AND ETHICS REVIEW COMMITTEE

REF: **KCAU/SERC/81** **Date: 24th APRIL 2025**
TO: **HASSAN FADHIL ABUBAKAR (23/07307)**

Dear Sir/Madam

RE: EFFECT OF SOCIAL ENTERPRISE BUSINESS DEVELOPMENT SERVICES PROGRAMS ON BUSINESS SUSTAINABILITY IN ISIOLO COUNTY

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*** **SOB81.** The approval period is ***24th APRIL 2025 – 24th APRIL, 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 KCAU***SERC*** 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 And Ethics Review Committee

Advancing Knowledge, Driving Change

APPENDIX IV: DISCLAIMER FORM

Thika Road, Ruaraka
P.O. Box 56808-00200 Nairobi Kenya
Pilot Line: +254 20 8070408/9

Tel: +254 20 3537842
Fax: +254 20 8561077
Mobile: +254 734 888022, 710 888022
Email: kca@kca.ac.ke
Website: www.kca.ac.ke

KCA UNIVERSITY SCIENTIFIC AND RESEARCH ETHICS COMMITTEE

DISCLAIMER FORM FOR PRINCIPAL INVESTIGATORS (PIS) COLLECTING PRIMARY DATA

This Disclaimer Form serves to release the Scientific and Ethics Review Committee (SERC), KCA University, and the National Commission for Science, Technology, and Innovation (NACOSTI) from any liability concerning the unlawful or unethical use of data collected by the Principal Investigator (PI) in their research. By signing this form, the Principal Investigator acknowledges and agrees to comply with all relevant data protection laws, including the Data Protection Act of Kenya and other applicable regulations.

1. **Acknowledgment of Liability**

The Principal Investigator (PI) acknowledges and agrees that the Scientific and Ethics Review Committee (SERC) of KCA University and NACOSTI shall not be held liable or responsible for any unlawful, unethical, or unauthorized use of the data collected as part of the research project. The PI is solely responsible for ensuring that the data is collected, stored, and processed in compliance with all applicable data protection laws.

2. **Compliance with Data Protection Laws**

The PI is required to adhere to the following data protection laws in the collection, storage, and processing of data in Kenya:

Kenya Data Protection Laws

- The PI must ensure compliance with the *Data Protection Act of 2019* of Kenya, which governs personal data collection, processing, and storage.
- The PI is responsible for obtaining informed consent (Where applicable) from research participants and ensuring that personal data is collected for legitimate purposes, stored securely, and used only in accordance with the stated purposes.
- The PI must implement appropriate security measures to protect personal data from unauthorized access or misuse, and ensure that data is only retained for as long as necessary.

3. **Liability Release and Disclaimer**

The PI agrees that the Scientific and Ethics Review Committee (SERC) and KCA University are not liable for any actions taken by the PI that are in violation of applicable laws. This includes, but is not limited to, the misuse, unauthorized disclosure, or improper handling of data that is in violation of the laws outlined above.
Additionally, the PI agrees that NACOSTI, as the regulatory body overseeing scientific research in Kenya, shall not be held liable for any breaches or failures in compliance resulting from actions taken by the PI, including any unauthorized use of data.

4. **Consent and Understanding**

By signing this form, the PI acknowledges understanding the terms and conditions outlined above, including the legal obligations to adhere to Kenyan data protection laws. The PI understands that they are solely responsible for ensuring the lawful collection, processing, and storage of data.

5. **Signatures**

Principal Investigator (PI) Name: HASSAN FADHIL ABUBAKAR
Research Project Title: EFFECT OF SOCIAL ENTERPRISE BUSINESS DEVELOPMENT SERVICES' PROGRAMS ON BUSINESS SUSTAINABILITY IN ISIOLO COUNTY.
Date of Data Collection: 20/03/2025
Signature: 
Date: 17/03/2025

APPENDIX V: INTRODUCTION LETTER

Thika Road, Ruaraka
P.O. Box 56808-00200 Nairobi Kenya
Pilot Line: +254 20 8070408/9

Tel: +254 20 3537842
Fax: +254 20 8561077
Mobile: +254 734 888022, 710 888022
Email: kca@kca.ac.ke
Website: www.kca.ac.ke

BOARD OF POSTGRADUATE STUDIES

KCAU/BPS/2025 *Date: Monday, May 12, 2025*

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

Dear Sir/Madam,

RE: HASSAN FADHIL ABUBAKAR- REG NO. 23/07307

It is my distinct pleasure to introduce Hassan Fadhil Abubakar, a student at our institution pursuing a Master of Science in Development Finance degree within the School of Business.

Hassan is conducting research on the topic ***"Effect of Social Enterprise Business Development Services' Programs on Business Sustainability in Isiolo County, Kenya"*** His study has been reviewed and approved by the University's Ethics Review Committee, Certificate No. KCAUSERC SOB81, 20th March 2025 – 20th March, 2026 and he is now set to proceed with data collection from January 2025 to April 2025.

Any assistance accorded to him is highly appreciated.

Yours faithfully,

DR. JACKSON NDOLO
DIRECTOR, BOARD OF POST GRADUATE STUDIES

APPENDIX VI: NACOSTIC LICENSE

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Ref No: **835255**

Date of Issue: **30/May/2025**

RESEARCH LICENSE

This is to Certify that Mr.. HASSAN FADHIL ABUBAKAR of KCA University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Isiolo on the topic: Effect of Social Enterprise Business Development Services' Programs on Business Sustainability in Isiolo County, Kenya for the period ending : 30/May/2026.

License No: **NACOSTI/P/25/4174061**

835255

Applicant Identification Number

Deputy Director
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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

See overleaf for conditions

APPENDIX VII- RESEARCH BUDGET

Item	**Cost**
Research and Study Materials	5,000
Books and Journals	2,000
Software and Tools	10,000
Data Collection and Analysis	5,000
Travel Expenses	4,000
Other Costs	3,000
TOTAL	29,000