

**EFFECT OF SOCIOECONOMIC DYNAMICS ON FINANCIAL INCLUSION
OF BUSINESS WOMEN IN ISIOLO COUNTY, KENYA**

CONSTANCE MWARO

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Fulfillment of the Requirement for the Conferment of Degree of Master of Business
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October 2025

DECLARATION AND RECOMMENDATION

Declaration

I declare that this thesis is my original work and has not been submitted for a degree or any other academic award at any other university or institution.

Signature.....Date.....

Constance Mwaro

Bus -3-0479-2/2023

Recommendation

This thesis has been approved by the university supervisors for the examination purposes.

Signature..... Date

Fredrick Mutea

Kenya Methodist University

Signature..... Date

Prof. Kenneth Mugambi, PhD

Kenya Methodist University

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DEDICATION

This thesis is dedicated to the beloved mother, Margret Kabibi, and the brother, Martin Mangi. Special appreciation is extended to George Rioba and Judy Kinya for their invaluable moral support throughout the writing process. May they be abundantly blessed and rewarded.

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ABSTRACT

Financial inclusion has increasingly been recognized as a central driver of economic empowerment, poverty reduction, and inclusive growth, particularly among marginalized and underserved groups. In the Kenyan context, and more specifically in Isiolo County, business women continue to face notable challenges in accessing and fully utilizing financial services, despite the rapid spread of mobile banking technologies and the government's formulation of policies aimed at supporting inclusion. These persistent barriers are largely attributed to a range of socioeconomic factors that either limit or enhance women's ability to participate in the financial ecosystem. This study was designed to investigate how specific socioeconomic variables namely employment opportunities, cultural norms, financial literacy, and infrastructure availability affect financial inclusion among business women in Isiolo County. The research was anchored in four theoretical perspectives: the Resource-Based View, Institutional Theory, Financial Literacy Theory, and Diffusion of Innovation Theory. Methodologically, the study adopted a descriptive cross-sectional design, with a target population of 920 female entrepreneurs operating in Isiolo County. From this group, a sample of 279 respondents was drawn using a cluster sampling approach to ensure adequate representation across different business segments and localities. Data were collected through structured questionnaires and analyzed using both descriptive and inferential techniques to generate a comprehensive understanding of the relationships involved. The findings demonstrated that each of the four socioeconomic factors had a substantial influence on women's financial inclusion. Employment opportunities were found to enhance women's financial independence and capacity to interact with financial institutions, while cultural norms shaped attitudes, expectations, and levels of economic engagement. Financial literacy played a crucial role by equipping business women with the knowledge and skills needed to navigate financial systems, and infrastructure development, such as transport networks and digital connectivity, proved indispensable in facilitating access to financial services. The study concludes that financial inclusion for business women in Isiolo County depends significantly on aligning these socioeconomic factors. It recommends policy interventions focused on expanding employment opportunities, implementing culturally sensitive reforms, scaling up financial literacy programs, and investing in infrastructure to foster inclusive economic growth.

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LIST OF ABBREVIATIONS/ACRONYMS

DOI	Diffusion of Infusion Theory
KeMU	Kenya Methodist University
NACOSTI	National Council of Science, Technology and Innovation
RBV	Resource Based View Theory

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Financial inclusion has become a central focus in policy and development discourse, particularly as a means to empower marginalized populations and promote equitable economic growth. For business women, inclusion in the financial ecosystem represents a critical gateway to accessing credit, saving securely, and making informed decisions that influence household and community welfare.

However, despite technological innovations and policy efforts, gender gaps persist in access to and use of financial services. Business women in underserved regions continue to face multilayered barriers that limit their engagement with formal financial systems, resulting in economic exclusion and missed opportunities for upward mobility. The issue is particularly pressing in rural and arid regions, where institutional, infrastructural, and cultural constraints exacerbate the gender divide in financial access. Recent trends have shown that business women who are financially included tend to channel resources more effectively toward health, education, and small business growth.

This not only benefits individual households but also contributes to broader social and economic development. However, business women's financial engagement remains constrained by a range of socioeconomic dynamics that must be addressed systematically. Studies by Klapper and Lusardi (2020), Aterido et al. (2022) highlight that business women's exclusion is rarely a function of individual behavior alone it is deeply rooted in unequal social structures, inadequate policy responses, and persistent infrastructural deficits.

Addressing financial exclusion therefore requires a multifaceted understanding of the social and economic factors that shape business women's financial behaviors and access patterns. One of the most important factors influencing business women's financial inclusion is access to employment opportunities. Employment, whether formal or informal, provides a steady income stream that enables business women to open bank accounts, access credit, and accumulate assets. Stable employment also facilitates the documentation and financial credibility often required by formal financial institutions.

Conversely, business women in informal sectors or unpaid family roles often lack the financial records and identification needed to interact with formal financial systems (Aterido et al., 2020). Employment not only enhances financial access but also builds economic agency, giving business women the autonomy to make strategic decisions about their finances. In rural settings like Isiolo County, the scarcity of formal jobs and reliance on seasonal or informal labor limit these opportunities, making it difficult for business women to achieve financial independence or qualify for credit facilities.

Closely linked to employment are cultural practices, which can either support or severely restrict business women's financial participation. Patriarchal norms that position men as primary financial decision-makers often lead to business women being excluded from owning property, participating in formal employment, or accessing financial resources. In many African societies, including parts of Kenya, such cultural constraints are deeply ingrained and reinforced by inheritance laws, marital property regimes, and communal expectations (Mbuthia & Njuguna, 2022). In Isiolo County, for instance, traditional gender roles continue to shape business women's mobility, autonomy, and access to capital, despite efforts to promote gender equality.

These cultural barriers not only undermine business women's access to financial institutions but also diminish their confidence and participation in financial literacy initiatives and entrepreneurial programs, thereby perpetuating economic marginalization. Another critical factor is financial literacy, which encompasses the skills and knowledge necessary to understand and effectively use financial services. Business women who are financially literate are more likely to engage with savings programs, understand loan terms, and participate in investment activities (Lusardi & Mitchell, 2021). Financial literacy empowers business women to make informed choices, avoid exploitative lending practices, and build long-term financial security.

However, in rural regions like Isiolo, literacy levels are generally low, particularly among business women, making it challenging to access and utilize formal financial services. Studies by Ngugi and Wamuyu (2020) found that targeted financial education programs significantly improved business women's adoption of mobile banking and formal savings. Still, the reach of these programs remains limited, and their impact is often curtailed by low general education levels and limited access to training facilities. Without robust and locally adapted financial education interventions, business women in underserved regions remain vulnerable to misinformation and exclusion.

The role of infrastructure in shaping financial inclusion is equally significant. Physical infrastructure such as roads, banking facilities, and markets, as well as digital infrastructure like mobile networks and electricity access, are essential enablers of financial access (Demirguc-Kunt et al., 2020). In remote areas, the absence of nearby financial institutions, poor road networks, and limited mobile coverage make it costly and time-consuming for business women to access even basic financial services.

The introduction of mobile banking platforms such as M-Pesa has mitigated some of these barriers in Kenya, but gaps remain—particularly in counties like Isiolo, where digital connectivity and smartphone ownership are inconsistent (Suri & Jack, 2016). Moreover, even where infrastructure exists, social norms may prevent business women from traveling to access services. Investing in inclusive infrastructure, including business women-led mobile money kiosks, community banking agents, and solar-powered digital centers, could greatly improve access to and usage of financial products in rural areas.

Globally, disparities in financial inclusion between men and business women persist, with varying regional manifestations. In countries like the United Kingdom and Germany, high levels of financial infrastructure and digital innovation have improved access to services, yet low-income business women remain underserved due to limited digital literacy, caregiving responsibilities, and institutional bias (Berger & Buchholz, 2021). Haworth et al. (2020) found that low-income business women in the UK are 25% less likely to use digital banking platforms due to mistrust in financial technology and limited financial education. In Spain, Fernandez-Olit et al. (2020) observed that business women from disadvantaged backgrounds are significantly less likely to own bank accounts, citing lack of outreach and societal restrictions on financial autonomy. Similarly, in Russia, geographic isolation and economic instability have pushed business women to rely on informal credit systems, often leading to exploitative arrangements (Ustinova & Yakovleva, 2019).

Across Africa, similar patterns emerge but are often compounded by institutional weaknesses and deeper infrastructural deficits. In Egypt, restrictive gender norms and financial illiteracy leave only 27% of business women with access to banking services (Khalil & Moghazy, 2021).

In Ghana, Amoah and Asiedu (2020) report that nearly two-thirds of business women rely on informal financial systems, citing trust in community-based models but limited interaction with formal banking. In Nigeria, cultural taboos, income instability, and low awareness drive business women to depend on informal lending groups, despite the risks (Adegbite & Omotola, 2020). These findings underscore the importance of expanding gender-responsive financial education and infrastructure to reach business women in both urban and rural settings.

In Eastern Africa, mobile banking platforms have significantly enhanced financial inclusion, though gaps remain. In Ethiopia, Tekalign and Berhanu (2019) found that just 14% of business women had access to formal credit, hindered by inadequate financial literacy and weak infrastructure. In Tanzania, Mganga and Mbise (2020) observed that only 17% of business women used formal credit systems due to poor banking penetration and unreliable mobile networks. In South Africa, Mphaka et al. (2021) reported that while affluent business women had high financial engagement, lower-income groups relied on informal savings and were underrepresented in formal finance. These disparities reflect the need for integrated approaches that combine technology with tailored financial education and inclusive regulatory policies.

In Kenya, the financial inclusion landscape has improved rapidly due to innovations in mobile money. Kamau and Mwangi (2021) report that 73% of financially educated business women with access to mobile platforms like M-Pesa are financially included. However, Ngugi and Wamuyu (2020) highlight that business women without access to smartphones or digital literacy remain excluded.

Business women engaged in informal work, lacking collateral or steady income, often find it difficult to secure formal credit, even when banking options are available (Njoroge & Kiragu, 2021). These disparities are more pronounced in arid and semi-arid regions where cultural practices and infrastructural limitations further entrench exclusion. At the county level, particularly in underserved regions like Isiolo, financial inclusion remains a challenge. The county suffers from poor road networks, limited banking facilities, and low mobile penetration. Wachira and Muturi (2020) reported that 70% of business women in Isiolo cited distance to banks as a key barrier.

Additionally, Mwangi and Njenga (2021) found that business women were 35% less likely to own bank accounts due to traditional gender norms and restrictions on mobility and asset ownership. Government-backed initiatives like the Business women Enterprise Fund and Uwezo Fund have attempted to bridge the gap, but Muriuki and Wambugu (2019) observed that only 25% of business women in Isiolo were aware of these programs, highlighting the need for stronger outreach and education campaigns. Financial inclusion at the county level is not just a matter of economic access;

it is a strategic imperative for equitable development. When business women are financially included, they invest in their families, grow their businesses, and contribute to community resilience. In regions like Isiolo, financial inclusion is closely tied to food security, education, healthcare, and poverty alleviation. Business women who can access and use financial services are better able to manage risks, build assets, and participate in county-level development programs. Therefore, promoting financial inclusion for business women at the grassroots is not only essential for gender equality but also for sustainable local development.

This study focuses on the effect of employment opportunities, cultural practices, financial literacy, and infrastructure access on the financial inclusion of business women in Isiolo County. By narrowing the scope to business women who actively engage with financial systems the research aims to generate practical insights to inform inclusive policies and financial service design. Ultimately, the findings will support efforts to bridge gender gaps in finance and foster business women's economic empowerment in marginalized counties.

1.2 Statement of the Problem

Financial inclusion is widely acknowledged as a key driver of economic development, enabling individuals to save, invest, and secure their financial well-being. In principle, an inclusive financial system should guarantee equitable access to formal financial services regardless of gender, income, or location. Globally, financial inclusion has grown significantly, with 76% of adults having access to financial service providers in 2021, up from 68% in 2020 (Klapper, 2024). However, gaps remain, particularly in financial literacy, where only 33% of adults worldwide possess basic skills necessary to make informed financial decisions (Klapper & Lusardi, 2020). Moreover, stark disparities persist between high-income and low-income countries, where financial access rates for business women stand at 67% and 37%, respectively, often due to inequalities in employment opportunities, education, and socio-cultural constraints (Aterido et al., 2022).

Regionally, Africa continues to struggle with wide financial inclusion gaps, especially among women. While mobile banking and digital innovations have created new opportunities, their benefits are unevenly distributed. In Kenya, financial inclusion has improved considerably through innovations such as M-Pesa and government-backed initiatives.

For instance, Kamau and Mwangi (2021) observe that 73% of business women with financial education and digital banking access are financially included. Yet, socioeconomically disadvantaged women remain excluded due to low financial literacy, limited employment opportunities, and entrenched cultural barriers. Ngugi and Wamuyu (2020) found that mobile banking expanded business women's financial access by 60%, but challenges such as digital illiteracy and inadequate resources continue to hinder sustainable inclusion.

Locally, Isiolo County presents an even more constrained picture. Financial infrastructure is underdeveloped, literacy levels are low, and cultural traditions often limit women's access to formal services. Mwaro et al. (2025) report that only 41% of business women in Isiolo engage with formal financial institutions, citing limited education and employment opportunities as barriers. Similarly, Mutua and Wanjohi (2021) note that despite government programs such as the Women Enterprise Fund and Uwezo Fund, only 27% of business women in Isiolo have benefited, primarily due to lack of awareness and bureaucratic processes. Klapper (2024) further underscores this concern, estimating that 42% of Kenyan business women remain excluded from formal financial systems.

While prior research has highlighted the role of mobile banking, government interventions, and cultural practices in shaping women's financial inclusion, little is known about the combined and localized effects of socioeconomic variables employment opportunities, financial literacy, cultural practices, and financial infrastructure on business women's financial inclusion in Isiolo County.

This creates a clear research gap: existing studies are either national in scope or focused on single variables, leaving insufficient evidence on how these factors interact to influence financial inclusion in marginalized, rural counties such as Isiolo. Addressing this gap is critical for designing context-specific policies and interventions.

This study therefore investigates how selected socioeconomic factors influence the financial inclusion of business women in Isiolo County. By doing so, it provides insights into locally grounded challenges and generates evidence-based recommendations to support policy frameworks that foster inclusive economic participation among women entrepreneurs in underserved regions.

1.3 Research Objectives

1.3.1 General objective

To examine the effect of socioeconomic dynamics on financial inclusion of business women in Isiolo County, Kenya.

1.3.2 Specific objective

- i. To establish the effect of Employment opportunities on financial inclusion of business women in Isiolo County, Kenya.
- ii. To investigate the effect of cultural practices on financial inclusion of business women in Isiolo County, Kenya.
- iii. To examine the role of financial literacy on financial inclusion of business women in Isiolo County, Kenya.

- iv. To determine the effect of infrastructure access on financial inclusion of business women in Isiolo County, Kenya.

1.4 Research Hypotheses

H₀₁ Employment opportunities have no significant effect on financial inclusion of business women in Isiolo County, Kenya

H₀₂ Cultural practices have no significant effect on financial inclusion of business women in Isiolo County, Kenya

H₀₃ Financial literacy has no significant effect on financial inclusion of business women in Isiolo County, Kenya

H₀₄ Infrastructure access has no significant effect on financial inclusion of business women in Isiolo County, Kenya

1.5 Significance of the Study

This research holds substantial importance as it delivers an in-depth exploration of how socioeconomic factors impact business women's financial inclusion in Isiolo County, Kenya. By assessing pivotal elements like financial literacy, employment prospects, cultural practices, and access to infrastructure, the study generates critical insights beneficial for shaping policies and developing initiatives designed to bolster business women's participation in financial systems. Enhanced financial inclusion equips business women with the capacity to access savings accounts, credit facilities, and investment channels, thereby reinforcing household economic security, facilitating improved healthcare and education access, and fostering broader economic stability. The outcomes of this research are crucial for addressing challenges that restrict business women's financial access, thereby supporting economic empowerment and poverty alleviation.

Moreover, the study offers considerable value to government bodies, financial institutions, and NGOs working towards improving financial inclusion. Policymakers can utilize these insights to craft targeted, gender-sensitive financial policies that specifically promote greater access for business women. Likewise, financial institutions can employ these findings to innovate inclusive financial products that meet the unique needs of business women, particularly those in informal employment or lower-income brackets. Entities dedicated to gender equality and economic empowerment will find the recommendations useful for enhancing financial literacy training and increasing overall financial awareness.

This study enriches the existing literature by providing empirical data concerning the socioeconomic conditions affecting business women's financial inclusion in marginalized areas. Although previous research has predominantly focused on national and global perspectives, limited attention has been paid to the specific dynamics involving employment, cultural influences, and financial literacy within Isiolo County. Consequently, these findings serve as a valuable reference for academics, researchers, and students specializing in finance, gender studies, and economic development, laying groundwork for future research into gender-inclusive financial mechanisms. By pinpointing primary obstacles to financial inclusion and demonstrating the positive impacts of improved financial access on income stability, business expansion, and quality of life, this research significantly contributes to broader discourses around economic empowerment, social inclusion, and sustainable development.

1.6 Scope of the Study

This study was conducted in Isiolo County, Kenya—a semi-arid region characterized by limited financial infrastructure and significant socioeconomic disparities.

It examined the effect of employment opportunities, cultural practices, financial literacy, and infrastructure access on business women's financial inclusion. Although the title broadly refers to business women, the study specifically focused on business women as the unit of observation, given their active engagement with financial systems and suitability for evaluating the practical impact of these socioeconomic dynamics. A descriptive research design incorporating both quantitative and qualitative methods was used to generate comprehensive and actionable insights.

1.7 Limitations of the Study

This study had several limitations that may have affected its scope and generalizability. First, since it focused only on Isiolo County, the findings may not have fully represented other regions in Kenya due to variations in economic conditions, cultural norms, and financial infrastructure. Second, low financial literacy among some respondents may have affected the accuracy of the data, as certain participants struggled to understand some of the survey questions. To mitigate this, trained research assistants provided simplified explanations to ensure clarity. Lastly, the study adopted a cross-sectional approach, which captured data at a single point in time rather than tracking long-term financial inclusion trends. Despite these limitations, the study provided valuable insights and practical recommendations aimed at enhancing business women's financial inclusion in Isiolo County.

1.8 Assumptions of the Study

This study operated on several key assumptions that shaped its research approach and findings. First, it was assumed that socioeconomic dynamics played a significant role in influencing financial inclusion among business women in Isiolo County.

Second, the study assumed that respondents would provide honest and accurate information during data collection. The reliability of the study depended on the willingness of participants to share truthful insights about their financial experiences, access to banking services, and the challenges they faced. Additionally, it was assumed that respondents would clearly understand the survey questions, thereby minimizing misinterpretations that could have affected data accuracy. To enhance data validity, respondents were assured of confidentiality and anonymity, and clear explanations were provided during questionnaire distribution to build trust and encourage openness.

1.9 Operational Definitions of Terms

Access to	Kamau and Mwangi (2021) define access to financial infrastructure as
Financial	the availability and usability of physical and digital resources such as
Infrastructure	roads, communication networks, banking facilities, and mobile money

platforms that enable individuals to access financial services.

In this study, access to financial infrastructure is operationalized by examining the availability and accessibility of key physical and digital resources that influence business women's ability to engage with financial services in Isiolo County. The study assesses the impact of factors such as banking facilities, mobile money platforms, transportation, and communication networks on business women's financial inclusion.

**Cultural
Practices**

Mwangi and Njenga (2021) describe cultural practices as the shared customs, beliefs, and traditions within a community that influence behaviors, including business women's participation in financial decision-making.

In this study, cultural practices are operationalized by investigating how traditional beliefs, gender roles, and societal norms affect business women's access to financial resources in Isiolo County. The study explores the role of cultural practices in shaping business women's financial behavior, particularly in relation to financial decision-making, saving, and investing.

**Employment
Opportunities**

According to the International Labor Organization (2016), employment opportunities refer to the availability of paid work or self-employment that provides individuals with a steady income and the means to support themselves and their families.

In this study, employment opportunities are operationalized by examining the types and availability of income-generating activities for business women in Isiolo County. The study focuses on formal employment, informal work, and self-employment opportunities, analyzing how these opportunities impact business women's economic independence and their ability to participate in financial systems.

**Financial
Literacy**

Kilonzo and Otieno (2019) describe financial literacy as the knowledge, skills, and confidence required to make informed and effective financial decisions, including understanding financial products, budgeting, and managing personal finances.

In this study, financial literacy is operationalized by assessing the level of financial knowledge and skills among business women in Isiolo County. The study evaluates business women's understanding of financial products, their ability to budget, and the confidence they have in managing their personal finances, and how these factors influence their engagement with formal financial systems.

**Financial
Inclusion**

Demirguc-Kunt et al. (2021) define financial inclusion as the ability of individuals, especially marginalized groups, to access and effectively utilize affordable and reliable financial services such as banking, credit, and insurance.

In this study, financial inclusion is operationalized by examining the extent to which business women in Isiolo County can access and use financial services such as savings accounts, credit, and insurance. The study explores the barriers and enablers of financial inclusion for business women in this region and identifies how different factors, including infrastructure and financial literacy, contribute to their ability to participate in the financial system.

**Socioeconomic
Dynamics**

Ngugi (2022) describes socioeconomic dynamics as the social and economic conditions, such as income, education, cultural norms, and community structures, that influence business women's ability to access and use financial services sustainably.

In this study, socioeconomic dynamics are operationalized by analyzing the interplay of factors such as income, education, cultural norms, and social networks that influence business women's financial inclusion in Isiolo County. The study investigates how these dynamics interact to create opportunities or barriers to business women's engagement with formal financial services.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews various scholarly works related to socioeconomic dynamics and business women's financial inclusion. It examines both theoretical and empirical literature, develops a conceptual and operational framework, and identifies gaps in the existing research related to the study topic.

2.2 Theoretical Review

The study reviewed Resource-Based View Theory, Institutional Theory, Financial Literacy Theory, and Diffusion of Innovation Theory. This review seeks to establish a conceptual framework for understanding how socioeconomic dynamics including employment opportunities, cultural practices, financial literacy, and infrastructure access, affects business women's financial inclusion.

2.2.1 Resource-Based View Theory

The Resource-Based View (RBV) provides a foundational framework for analyzing how internal resources contribute to sustainable advantage and economic empowerment. Introduced by Wernerfelt (1984) and extended by Barney (1991), RBV emphasizes that valuable, rare, inimitable, and non-substitutable (VRIN) resources within an entity whether a firm or an individual are key to achieving long-term success. In the context of financial inclusion, particularly among business women in marginalized areas like Isiolo County, the RBV framework can be applied to understand how access to essential economic resources influences financial engagement and participation.

In this study, employment opportunities, financial literacy, and infrastructure access are key independent variables that align directly with the RBV's conceptualization of internal and enabling resources. Business women's participation in income-generating activities (employment opportunities) reflects access to tangible resources such as regular income, collateral, and business experience that enhance their ability to engage with formal financial systems. Without such resources, business women remain excluded from accessing credit, saving formally, or investing meaningfully (Aterido et al., 2020).

Financial literacy represents a critical intangible resource that enhances business women's capability to make informed financial decisions. Knowledge of budgeting, saving, and digital financial tools equips business women with the skills and confidence necessary to interact with financial institutions, avoid exploitative practices, and leverage available services for economic growth (Klapper & Lusardi, 2020). From the RBV perspective, strengthening this internal cognitive resource enhances individual agency and economic productivity.

Infrastructure access, particularly digital and physical infrastructure such as mobile networks, banking agents, roads, and electricity, represents enabling resources that mediate business women's interaction with financial services. According to Ngugi and Wamuyu (2020), interventions like mobile banking services and digital literacy programs bridge existing financial access gaps, especially in underserved counties. In RBV terms, infrastructure is a platform resource its presence or absence shapes the effectiveness of other resources like financial literacy and employment.

Teece et al. in 1997 expanded RBV by introducing the concept of dynamic capabilities the ability of actors to reconfigure and adapt resources to changing environments. This is

particularly relevant for financial inclusion strategies in Isiolo, where economic and technological conditions evolve rapidly. Business women who adapt to mobile banking, digital payment platforms, and e-commerce exemplify dynamic capabilities that increase their economic inclusion despite physical or institutional barriers. The integration of such adaptive behaviors supported by digital infrastructure and literacy demonstrates the interaction of internal and external resources in achieving financial empowerment.

However, RBV has been critiqued for underemphasizing external institutional and socio-cultural constraints. Priem and Butler (2001) argue that the theory may overlook systemic factors such as gender inequality, restrictive cultural norms, and infrastructure gaps that limit access to and mobilization of resources. These critiques are especially salient in Isiolo, where patriarchal traditions and weak banking infrastructure constrain business women's resource access and control. A purely internal-resource-focused view would inadequately capture the barriers that limit business women's financial participation.

To address these limitations, the RBV framework must be applied alongside an understanding of broader socio-economic dynamics. For instance, policies that promote access to microfinance, improve rural infrastructure, and deliver gender-sensitive financial literacy programs serve as external interventions that enable business women to convert potential resources into actual financial engagement. By incorporating both internal and external factors, RBV offers a more realistic and context-sensitive approach to financial inclusion in marginalized settings.

Empirical literature supports the RBV framework's relevance to the study variables. Penrose (2009) and Ng'ang'a and Kiragu (2021) confirm that limitations in financial and human

capital restrict business women's economic participation. In Isiolo, challenges such as lack of collateral, minimal credit history, and limited training access reduce business women's financial inclusion. Enhancing resource availability through self-help groups, mobile banking, and savings cooperatives can significantly increase business women's economic agency and access to formal financial services.

RBV also provides actionable implications for policymakers. Strengthening business women's access to employment through training and enterprise support, enhancing financial literacy through community education, and investing in infrastructure like agent banking and digital connectivity are direct applications of RBV principles. Such interventions build up business women's VRIN resources and enable them to engage effectively with financial systems.

In summary, the Resource-Based View offers a robust theoretical lens for understanding how employment opportunities, financial literacy, and infrastructure access influence business women's financial inclusion. It emphasizes the role of both tangible and intangible resources in shaping economic participation. By integrating dynamic capabilities and addressing contextual barriers, the RBV framework can inform targeted strategies for enhancing business women's financial access in Isiolo County and similar marginalized regions.

2.2.2: Institutional Theory

Institutional theory serves as a foundational framework for understanding how institutions, including norms, rules, and cultural beliefs, shape societal structures and behaviors. Initially introduced by Selznick (1948), the theory posits that institutions reflect societal cultures and standards, thereby influencing individual and organizational conduct. This perspective

highlights the role of institutions in shaping economic and social dynamics, providing an essential lens for analyzing business women's financial inclusion.

Meyer and Rowan (1977) extended institutional theory by introducing the concept of institutionalized organizations, where organizational practices align with societal norms and rules to gain legitimacy. This framework is particularly relevant in understanding the cultural constraints that dictate acceptable behaviors for business women in financial management, especially in rural areas. DiMaggio and Powell (1983) further refined the theory through institutional isomorphism, identifying coercive pressures from regulatory and cultural norms, mimetic pressures arising from emulation, and normative pressures stemming from professional standards. These mechanisms influence the financial inclusion of business women by either reinforcing barriers or facilitating progressive financial practices.

Institutional theory provides a critical perspective on how cultural norms and institutional structures impact business women's access to financial services. North (1990) argued that traditions and cultural practices function as institutions that shape economic behavior, often limiting business women's financial participation.

For instance, cultural norms restricting business women's decision-making authority and mobility significantly hinder their ability to access financial services. Scott (2001) emphasized that institutions determine the contexts in which culture evolves, directly influencing business women's resource availability and financial independence. In regions where patriarchal traditions persist, business women face constrained choices in financial independence, in regions where patriarchal tradition persist, business women face constrained choices in financial decision making, leading to disparities in financial inclusion.

In Isiolo County, Kenya, traditional cultural norms significantly impede business women's access to financial services. Patriarchal structures limit their participation in financial decision-making, restrict mobility, and hinder engagement with formal financial institutions. These cultural barriers contribute to low financial literacy, reduced economic agency, and restricted access to credit facilities. Addressing these challenges requires targeted interventions that are contextually relevant. For instance, engaging local community leaders to support financial education initiatives can help shift societal perceptions and promote business women's financial empowerment. Additionally, mobile banking solutions can mitigate infrastructure and mobility constraints, enabling business women to access financial services remotely.

Institutional theory has faced criticism for its broad scope and perceived overemphasis on institutional constraints while underestimating individual agency (Hirsch, 1997). Critics argue that the theory does not adequately capture the dynamic processes of cultural transformation, which are crucial for analyzing gendered financial inclusion.

To address these critiques, a more integrative approach is necessary one that incorporates socio-economic conditions, policy frameworks, and technological advancements. Recognizing the interplay between institutional constraints and individual agency provides a more nuanced understanding of how cultural norms evolve and how business women can navigate these constraints to enhance financial inclusion. The concept of dynamic capabilities, as introduced by Teece et al. (1997) offers a practical application of institutional theory in addressing financial inclusion. Dynamic capabilities refer to the ability of individuals and organizations to adapt, integrate, and reconfigure internal and external competencies in response to changing environments.

In the context of business women's financial inclusion, fostering dynamic capabilities involves enhancing financial literacy, digital proficiency, and adaptability to new financial tools. For example, targeted training programs that improve digital literacy can empower business women to leverage mobile banking services, thus overcoming traditional barriers to financial access. Furthermore, establishing business women's financial networks can facilitate knowledge sharing and provide support systems that enhance economic participation and resilience.

Institutional theory provides a robust framework for analyzing the structural and cultural factors affecting business women's financial inclusion, particularly in Isiolo County. By acknowledging the entrenched cultural norms that hinder financial access, policymakers and development practitioners can design targeted interventions to promote financial empowerment. Integrating critiques of institutional theory and emphasizing the development of dynamic capabilities can facilitate sustainable financial inclusion and economic advancement for business women.

This approach underscores the necessity of addressing both institutional constraints and adaptive capabilities to bridge the gender financial gap in rural Kenya.

2.2.3 Financial Literacy Theory

Financial Literacy Theory posits that financial knowledge, skills, and attitudes enable individuals to make informed financial choices, improving economic well-being (Lusardi & Mitchell, 2007). This theory highlights financial literacy as a critical tool for economic empowerment, particularly for marginalized groups such as business women. By fostering financial education, individuals can effectively manage financial assets, mitigate risks, and

access financial services (Lusardi & Mitchell, 2007). The theory identifies three key dimensions: understanding financial concepts, performing financial calculations, and recognizing long-term financial consequences (Lusardi & Mitchell, 2007).

These dimensions help explain financial behaviors, particularly in the context of business women's financial inclusion. Empirical studies suggest that financial education enhances economic participation and reduces vulnerability, especially in rural areas (Atkinson & Messy, 2012). Isiolo County, characterized by high poverty levels, limited formal financial services, and gender disparities, provides a relevant context for applying this theory. Business women in the region predominantly rely on informal savings and credit systems due to limited presence of formal financial institutions (Ngugi & Wamuyu, 2020). Financial literacy can help bridge these gaps by enabling business women to transition from informal to formal financial services, participate in entrepreneurship, and improve household financial management, thus enhancing economic resilience.

The concept of dynamic capabilities further extends Financial Literacy Theory by highlighting the ability to adapt to financial changes and seize opportunities (Teece et al. 1997). Business women with enhanced financial literacy can develop these capabilities, making informed financial decisions, optimizing resource allocation, and expanding economic ventures. Given the low financial literacy levels in Isiolo, structured programs can empower business women by fostering independence, improving investment habits, and increasing access to credit.

Despite its relevance, Financial Literacy Theory has been criticized for focusing primarily on individual knowledge while overlooking systemic barriers to financial inclusion. Institutional factors such as regulatory policies, cultural norms, and socio-economic constraints

significantly impact financial access (Fernandes et al., 2021). In Isiolo, business women face legal and cultural restrictions that limit their financial participation. Inadequate financial institutions, poor digital infrastructure, and societal biases further exacerbate financial exclusion. This critique highlights the need for an integrated approach that combines financial literacy with policy interventions and economic reforms.

Addressing these limitations requires embedding financial literacy within broader financial inclusion strategies. While financial education is essential, its effectiveness increases when complemented by supportive institutional frameworks. Policies that promote gender-responsive financial services, digital banking, and business women's financial cooperatives can enhance economic empowerment (Klapper et al., 2021).

Tailoring financial literacy programs to the local context ensures their effectiveness. Practical skills in budgeting, saving, credit management, and digital finance should be emphasized. Integrating financial literacy training into existing business women's self-help groups and microfinance institutions can increase outreach and impact. Empirical evidence highlights the benefits of financial literacy. Atkinson and Messy (2012) found that business women receiving financial education are more likely to save, invest, and access credit. Ngugi and Wamuyu (2020) further note that financial literacy reduces reliance on informal financial systems, which often have exploitative interest rates.

In Isiolo, such programs can facilitate business women's transition to formal banking, enhancing financial security and economic opportunities. However, financial literacy alone cannot eliminate gender disparities. Systemic issues such as inadequate banking

infrastructure, restrictive financial policies, and socio-cultural norms persist. An integrated approach that combines financial literacy with policy interventions, financial product innovation, and institutional support is necessary. Digital financial services tailored for rural business women can enhance accessibility, while government-led initiatives can incentivize business women's participation in formal financial systems (Klapper et al., 2021).

Financial Literacy Theory provides a strong framework for understanding and promoting business women's financial inclusion, particularly in rural areas like Isiolo County. While financial education enhances business women's financial management capabilities, its impact is maximized through institutional support and gender-sensitive policies. Addressing structural barriers, fostering dynamic financial capabilities, and integrating financial literacy within broader financial inclusion strategies can create a more inclusive financial ecosystem.

Future research should assess the effectiveness of financial literacy interventions in different socio-economic settings and their long-term impact on business women's financial independence and empowerment.

2.2.4 Diffusion of Innovation Theory

The Diffusion of Innovation (DOI) Theory, developed by Rogers (1962), explains how innovations spread within a social system, emphasizing communication channels, social networks, and adopter characteristics. This theory is particularly relevant to financial infrastructure access and its impact on business women's financial inclusion. The adoption of digital financial platforms, mobile banking, and other infrastructural advancements follows the DOI framework, illustrating how financial innovations permeate different segments of society (Rogers, 1962). DOI outlines five innovation adoption stages and adopter categories,

highlighting factors like relative advantage and compatibility. These influence financial innovations such as mobile money and agent banking, which have greatly enhanced financial inclusion in Kenya (Rogers, 1962).

In Isiolo County, financial infrastructure remains underdeveloped, with conventional banking services having minimal penetration. DOI provides a framework for understanding how mobile banking and digital financial solutions spread among rural business women who face barriers such as low literacy levels, mobility constraints, and socio-cultural restrictions. Innovations that are accessible, affordable, and contextually relevant are more likely to be adopted in such environments (Rogers, 1962). Mobile banking platforms like M-Pesa have gained traction due to their ease of use, low transaction costs, and ability to provide financial services without requiring formal banking infrastructure (Suri & Jack, 2016).

Applying DOI to Isiolo County highlights the role of dynamic capabilities, which refer to the ability of individuals and institutions to adapt to financial innovations and leverage them for economic empowerment (Teece et al., 1997). Business women who develop financial literacy and digital competency can navigate financial technologies effectively, thereby enhancing their financial inclusion. Additionally, structured financial literacy programs and mobile-based credit facilities can bridge the financial access gap, empowering business women economically.

DOI theory has been expanded to include assessments of innovation characteristics such as usability and normative pressure (Moore & Benbasat, 1991). Its application extends to public health and financial services, emphasizing the importance of infrastructure in service delivery (Greenhalgh et al., 2004). Studies confirm that mobile technology adoption, especially in Kenya, has transformed financial accessibility by reducing transaction costs and increasing

outreach to underbanked populations (Aker & Mbiti, 2022). This further supports the theory's relevance in explaining financial inclusion patterns in Isiolo.

Despite its strengths, DOI theory has been critiqued for assuming that advantageous innovations will always be adopted (Klein & Sorra, 1996). It often overlooks contextual barriers such as economic conditions, cultural norms, and institutional constraints that may hinder adoption. In Isiolo, for example, limited financial literacy and infrastructural challenges slow the adoption of mobile banking. Additionally, DOI does not adequately address the role of regulatory frameworks in shaping financial adoption trends (Lyytinen & Damsgaard, 2001). Addressing these critiques, integrating DOI with institutional and policy perspectives can offer a more holistic approach to financial inclusion.

To overcome adoption barriers, targeted interventions should focus on community-based financial education and the expansion of digital infrastructure. Government and financial institutions should implement policies that promote affordability, accessibility, and compatibility of financial services with local cultural and economic conditions. Increasing broadband coverage and developing gender-sensitive financial services can accelerate the adoption of financial technologies, thus strengthening business women's financial inclusion in Isiolo County (Suri & Jack, 2016).

DOI theory remains a valuable framework for analyzing the diffusion of financial innovations and their implications for business women's financial inclusion. By considering the role of infrastructure, literacy, and institutional support, policymakers and development practitioners can design strategies that foster financial empowerment among business women in marginalized regions. Future research should explore the interaction between financial

literacy, digital access, and innovation diffusion to develop more effective financial inclusion policies.

2.3 Empirical Literature

2.3.1 Employment Opportunities and Business women's Financial Inclusion

Employment opportunities play a crucial role in enhancing business women's financial inclusion by providing income avenues, improving access to credit, and encouraging participation in formal financial systems. Business women engaged in formal employment are more likely to own bank accounts due to stable incomes, which enhance financial credibility and make them eligible for banking services. Additionally, formal jobs provide necessary documentation required by financial institutions, thus reducing gender disparities in accessing financial services (Aterido et al., 2020).

Conversely, business women working in the informal sector face significant barriers such as lack of identification and inconsistent income, which limit their integration into formal financial systems (Aterido et al., 2020). Small-scale businesses also contribute significantly to financial inclusion by fostering savings habits and encouraging the adoption of mobile banking. Entrepreneurship not only promotes financial literacy but also strengthens economic independence, thus reducing reliance on informal financial practices (Dupas & Robinson, 2020).

Microfinance initiatives further enhance financial access for business women. Studies from Bangladesh show that business women participating in microfinance-supported activities experience greater financial independence, improved access to credit, and enhanced household welfare. These programs are not only important for financial inclusion but also for

broader socio-economic empowerment, as they strengthen business women's decision-making power within households (Khandker & Samad, 2018). Research from India highlights that business women entrepreneurs are more likely to secure business loans and open bank accounts compared to their unemployed counterparts.

Urban business women are often better positioned to benefit from financial services due to better infrastructure and proximity to financial institutions. This underscores the need for targeted interventions to support rural business women and ensure they have equal access to financial resources (Demirguc-Kunt et al., 2020). In Sub-Saharan Africa, linking agricultural value chains with formal financial systems has been found to enhance access to credit and encourage savings among business women farmers. However, rural business women often rely on informal savings groups due to limited access to formal banking services.

Policy interventions that connect agricultural activities with formal financial mechanisms could help address these gaps and improve financial inclusion (Fletschner & Kenney, 2021). In Kenya, business women in paid employment frequently use mobile banking for savings and transactions, as digital financial platforms provide accessible and cost-effective solutions, especially in areas with limited banking infrastructure (Suri & Jack, 2016). Business women traders in developing economies benefit from participation in financial networks that enhance access to credit and insurance.

These trade networks empower business women economically by providing a solid foundation for financial inclusion and helping reduce gender disparities in financial access (Sarma & Pais, 2011). Cooperative structures also play a pivotal role in improving financial literacy and access to credit. Business women involved in cooperatives are able to pool resources, mitigate

financial risks, and negotiate better terms with financial institutions, which strengthens their economic position (Gomez & Caron, 2020). Economic diversification further contributes to financial inclusion.

In Kenya, business women involved in multiple income-generating activities, such as small-scale manufacturing and service provision, have better access to formal financial services than those reliant on a single income source. Diversification enhances financial resilience, enabling business women to navigate economic challenges and expand their financial engagement (Otieno et al., 2020). However, business women in informal markets still face challenges such as lack of collateral and proper documentation, limiting their ability to access credit. Digital financial technologies, particularly mobile banking, have provided informal sector workers with opportunities to save and borrow, narrowing the gap between informal and formal financial systems (Ouma et al., 2020).

Self-help groups present an alternative financial inclusion mechanism. These community-based financial structures offer access to loans, promote savings cultures, and improve financial literacy. By pooling resources and leveraging collective bargaining power, business women in self-help groups gain better access to financial products and services, ultimately improving their economic stability and decision-making abilities (Chliova et al., 2021).

Employment opportunities, whether through formal employment, entrepreneurship, agriculture, or cooperatives, play a transformative role in advancing business women's financial inclusion. These opportunities foster financial autonomy and access to banking services. To ensure business women in rural and informal sectors are not excluded from financial systems, targeted interventions such as leveraging digital financial technologies,

strengthening group-based financial initiatives, and formalizing economic activities are essential.

2.3.2 Cultural Practices on Business women's Financial Inclusion

Cultural practices play a significant role in shaping business women's financial inclusion, by influencing access to resources and participation in economic systems. In Kenya, patriarchal norms restrict business women's property ownership and credit access, particularly in rural areas where men are primary financial decision-makers. These constraints hinder business women's financial autonomy, necessitating legal reforms and cultural sensitization programs to promote economic empowerment (Mbuthia & Njuguna, 2022). Similar challenges exist in South Asia, where, cultural norms limit business women's mobility and financial independence.

In rural India, financial roles are predominantly male-dominated, preventing business women from engaging with formal financial institutions. Restricted mobility further limits their ability to open bank accounts or attend financial literacy programs (Jayachandran, 2021). However, community-driven initiatives that involve men as advocates for financial inclusion have positively influenced societal perceptions, leading to increased business women's financial participation. Traditional savings mechanisms, such as rotating savings and credit associations (ROSCAs), are prevalent among business women in Sub-Saharan Africa.

While these informal systems provide financial access, they do not offer long-term benefits such as credit history and interest accumulation, or formal financial protection. Bridging this gap requires policy interventions, including reduced account maintenance fees and the development of tailored financial products (Fafchamps & La Ferrara, 2016). Cultural

perceptions of business women's financial roles further constrain their participation. In Kenya, societal norms position men as financial decision-makers, undervaluing business women's contributions to household income.

However, financial literacy programs targeting both genders have shown success in promoting shared financial responsibility. Joint financial planning sessions for couples have enhanced business women's confidence and engagement in financial matters (Njenga & Mwangi, 2019). Religious beliefs also influence financial inclusion. In predominantly Muslim communities, adherence to Sharia law affect business women's access to conventional financial products. Tailored Islamic finance solutions, such as Murabaha (cost-plus financing), have improved financial inclusion by addressing religious concerns.

Awareness campaigns have helped clarify Islamic finance principles, encouraging more business women to utilize these products (Ahmed et al., 2020). Marriage and inheritance laws impact business women's financial access, particularly in African societies where inheritance rights often favor men. Limited property ownership restricts business women's ability to use assets as collateral, hindering credit access. Strengthening legal frameworks to uphold business women's property rights and ensuring equitable inheritance laws are crucial steps toward financial empowerment. Governments should enhance property registration systems and provide legal aid to business women facing discrimination (Doss et al., 2018).

Cultural attitudes toward education also shape financial inclusion. Educated business women are more likely to access financial services due to higher financial literacy and confidence. However, in rural areas, cultural norms often discourage business women from pursuing education, perpetuating financial exclusion. Investments in girls' education, community

awareness campaigns, and mentorship programs can help challenge stereotypes and increase business women's economic participation (Kilonzo et al., 2020). Microfinance programs have successfully integrated business women into financial systems while challenging gender norms.

In Bangladesh, microfinance has provided business women with resources for entrepreneurship, fostering economic independence. These programs often include capacity-building initiatives like business training, enabling business women to manage their finances effectively. Additionally, peer support networks within microfinance groups also encourage business women to engage in economic activities previously deemed culturally inappropriate (Banerjee et al., 2019).

Socioeconomic disparities further impact financial inclusion. Urban business women in Kenya benefit from more progressive gender norms, granting them greater access to financial services compared to rural business women. Urban areas also provide better access to financial institutions, technology, and education, contributing to higher financial inclusion rates. To bridge this gap, interventions should address rural-specific cultural barriers, such as mobile banking and agent-based banking models, which reduce mobility constraints (Kamau & Mwangi, 2021).

Efforts to shift cultural practices and promote financial inclusion have seen mixed results. While financial literacy initiatives and inclusion programs have helped challenge restrictive norms, deeply ingrained cultural beliefs require sustained community engagement for long-term change. Short-term interventions often have limited impact, whereas collaborative

efforts involving governments, NGOs, and local communities can foster lasting cultural transformations (Fletschner & Kenney, 2021).

Cultural norms remain a critical determinant of business women's financial inclusion. Overcoming financial exclusion requires legal reforms, targeted financial literacy programs, and gender-sensitive financial products. Bridging socioeconomic disparities, improving educational access, and challenging restrictive social norms through sustained engagement are essential strategies. By fostering inclusive economic environments, business women's financial participation can be significantly improved, contributing to broader economic development.

2.3.3 Financial literacy on Business women's Financial Inclusion

Financial literacy significantly influences business women's financial inclusion by empowering them with essential knowledge and skills for effective financial decision-making. Business women equipped with financial education are more likely to maintain savings accounts, participate in investments, and engage actively with formal financial institutions, thereby mitigating gender-based disparities in financial accessibility. A solid grasp of basic financial principles, such as budgeting, saving, and investing, enables business women to adeptly navigate both informal and formal financial channels.

Targeted financial literacy programs have demonstrated remarkable effectiveness in enhancing business women's financial capabilities. Customized workshops, particularly those designed for rural business women, have notably improved their comprehension of loan terms and interest rates, bolstering their confidence in dealing with financial institutions. These specialized educational

interventions underscore the critical importance of aligning financial literacy initiatives with the unique needs of business women to foster financial inclusion effectively.

In rural Kenyan contexts, financial literacy has notably contributed to reducing the gender gap in financial inclusion. Business women who have undergone financial education are more inclined to embrace mobile banking solutions and gain access to formal credit sources, demonstrating the transformative potential of financial literacy in overcoming financial inclusion barriers. The integration of financial literacy training with mobile banking services has provided a practical means for business women to save money, conduct transactions, and access loans without physical visits to traditional banks.

Financial literacy initiatives have also significantly enhanced microfinance program outcomes. Studies conducted in Bangladesh illustrate that business women receiving financial management training show improved repayment behaviors and higher savings compared to those lacking such education. Training programs within microfinance settings that include elements such as bookkeeping, budgeting, and investment planning equip business women to handle personal and entrepreneurial finances more effectively. Furthermore, peer-based educational exchanges within these groups reinforce learning, creating supportive financial communities.

Across Sub-Saharan Africa, financial literacy remains a decisive factor in shaping business women's financial activities. Enhanced financial knowledge among business women promotes increased interaction with formal banking institutions, even in rural communities with limited infrastructure. Effective partnerships between community organizations and financial institutions have emerged as vital mechanisms for disseminating financial education to marginalized groups. Educational attainment also profoundly impacts business women's financial inclusion. Business

women with secondary-level education or higher exhibit increased confidence in navigating complex financial products and systems.

Policymakers are encouraged to integrate comprehensive financial literacy components into educational curricula, ensuring broad accessibility and participation. Digital financial literacy is pivotal in today's evolving financial landscape, significantly widening the scope of business women's financial inclusion. Training initiatives that equip business women with the skills necessary to utilize mobile banking applications, manage digital security concerns, and engage with online financial services effectively expand their participation in the digital economy.

Community-driven digital literacy programs tailored to culturally sensitive contexts have proven especially successful, utilizing relatable and interactive training methods to enhance financial knowledge. Nevertheless, financial literacy promotion in rural areas encounters substantial challenges, primarily due to limited educational backgrounds and scarce training resources. Mobile-driven literacy solutions present an innovative and cost-effective approach, providing broad-reaching interactive content such as tutorials and quizzes delivered in local languages. This method bridges traditional and modern financial practices, making financial education widely accessible.

Moreover, financial literacy promotes gender equality within household financial management. Educated business women are more active participants in family financial decisions, challenging established gender roles. Initiatives encouraging joint financial planning among couples have effectively promoted gender equity and improved household financial stability. In conclusion, financial literacy is foundational to enhancing business women's financial inclusion, fostering

informed financial decision-making, broadening access to diverse financial products, and promoting economic empowerment.

Investing in targeted, tailored financial education strategies enables policymakers and stakeholders to address existing financial barriers, thereby supporting business women's economic independence. Comprehensive approaches incorporating digital literacy, community-driven educational models, and formal educational programs are essential in developing inclusive financial ecosystems that empower business women.

2.3.4 Infrastructure access on financial inclusion of business women

Financial infrastructure, particularly in banking and digital sectors, plays a critical role in enhancing business women's financial inclusion. Business women in regions with advanced financial systems are more likely to access credit and savings services, underscoring the importance of proximity to banking facilities (Demirguc-Kunt et al., 2020). Inaccessible financial infrastructure often leads to challenges such as high transportation costs and time constraints, limiting business women's engagement with financial services. Investments in expanding financial infrastructure are crucial to bridging this gap.

The rise of mobile banking has significantly improved financial access for business women, particularly in developing regions. In Kenya, the introduction of M-Pesa has transformed rural business women's financial inclusion by reducing reliance on physical banking institutions (Suri & Jack, 2016). Mobile banking provides a convenient platform for saving, transferring funds, and accessing credit, eliminating traditional barriers such as illiteracy through user-

friendly interfaces and local language support. Similar innovations globally highlight the potential of mobile banking in enhancing financial inclusion.

Agent banking has also proven effective in extending financial services to underserved populations. In Sub-Saharan Africa, agent networks have enabled business women in remote areas to access financial services without traveling long distances (Aker & Mbiti, 2022). These community-based agents help business women overcome trust issues, cultural barriers, and logistical challenges. The presence of female banking agents has further encouraged business women to participate in financial activities, as they feel more comfortable engaging with agents of the same gender.

Transportation infrastructure plays a crucial role in financial inclusion. Business women in areas with well-developed transport networks have greater access to financial institutions and economic opportunities, enabling them to attend financial training programs and access markets (Fletschner & Kenney, 2021). Conversely, inadequate transport infrastructure in rural areas isolates business women from financial services, reinforcing exclusion. Investments in rural transportation are therefore essential for enhancing business women's financial participation.

Digital infrastructure, including mobile network coverage and internet access, is a key enabler of financial inclusion. Business women in areas with reliable digital connectivity are more likely to use mobile banking and digital wallets (Klapper et al., 2021). Digital savings groups and online microloans have expanded financial access for business women, though challenges such as digital illiteracy and device affordability persist. Training programs on digital

financial literacy and subsidies for affordable smartphones can help bridge this gap, ensuring that business women benefit fully from digital financial services.

Electricity access also influences financial inclusion. Reliable electricity enables business women to charge their phones and use electronic payment systems, particularly in rural areas with limited banking infrastructure (Jayachandran, 2021). Initiatives such as solar-powered charging stations in off-grid areas have improved financial access by supporting digital transactions. Expanding electrification in underserved areas is essential for integrating business women into the digital financial system.

Community-based infrastructure, such as self-help group centers, further supports business women's financial inclusion. Shared facilities for training and financial resource distribution have been effective in marginalized communities (Banerjee et al., 2019). These centers serve as hubs for financial education, credit disbursement, and peer support, enabling business women to collectively address financial challenges. For instance, business women's cooperatives in India have used shared spaces to pool resources, secure microloans, and launch small businesses, demonstrating the broader economic impact of such infrastructure.

Investment in financial infrastructure also has a multiplier effect on business women's financial participation. Business women involved in infrastructure projects, such as market construction, gain economic opportunities while simultaneously accessing integrated financial services (Kamau & Mwangi, 2021). Markets equipped with digital payment kiosks and training centers have significantly boosted business women's financial literacy and access

to formal financial institutions. Despite progress, rural business women face barriers like poor transport, limited banking agents, and weak digital connectivity (Ouma et al., 2020).

Addressing this requires improved infrastructure, with public-private partnerships crucial in expanding mobile network access in underserved areas. Government policies aimed at expanding financial infrastructure have yielded positive results. Public-private partnerships have enhanced mobile banking access for rural business women (Aker & Mbiti, 2022). Policies incentivizing private investment in financial infrastructure, such as tax breaks and subsidies, have accelerated progress. Supportive regulatory frameworks promoting fintech startups and digital banking innovations further enhance business women's financial access. To ensure inclusivity, infrastructure development projects must be designed with a gender-sensitive approach. Integrating financial and digital infrastructure is essential for sustainable financial inclusion. Investments in mobile technology, combined with financial literacy initiatives, can transform the financial landscape for business women in underserved areas (Klapper & Lusardi, 2020). Combining digital literacy training with mobile banking services has shown promising results in improving financial access. Additionally, leveraging data analytics to tailor financial products to business women's unique needs can enhance their participation in formal financial systems. Developing an ecosystem where financial, digital, and physical infrastructure complement each other is key to achieving long-term inclusivity.

2.4 Summary research gaps

Business women's financial inclusion is influenced by multiple socioeconomic factors, yet significant research gaps persist. While disparities in financial access are well-documented, limited research explores how infrastructural investments and technological innovations systematically

enhance business women's access to financial services (Demirguc-Kunt et al., 2021). Existing strategies emphasize credit and savings access, but little attention is given to sustainable financial infrastructure, such as agent banking and mobile money kiosks (Aker & Mbiti, 2022; Klapper et al., 2021). Cultural norms restricting business women's financial autonomy remain a challenge, yet long-term shifts in societal attitudes and the role of financial education are understudied (Mbuthia & Njuguna, 2022; Njenga & Mwangi, 2019). While financial literacy is key to inclusion, research on effective training models tailored to diverse socioeconomic groups is lacking (Ngugi & Wamuyu, 2020; Kilonzo et al., 2020).

Economic participation influences financial engagement, yet studies rarely explore sector-specific impacts or financial services tailored for business women entrepreneurs and informal workers (Aterido et al., 2020; Dupas & Robinson, 2020). Credit access remains a major barrier, with more focus on obstacles than solutions. There is little research on innovative financial products and flexible credit structures for business women (Fletschner & Kenney, 2021). Group-based financial models enhance inclusion, yet their integration into formal institutions is underexplored (Banerjee et al., 2019; Karlan & Morduch, 2019).

Digital financial platforms facilitate access, but gender-responsive service design and adoption barriers, such as digital illiteracy, require further study (Suri & Jack, 2016; Klapper & Lusardi, 2020). Innovative financial education models, including vocational training integration and peer learning networks, remain under-researched (Kilonzo et al., 2020). Additionally, the role of public-private partnerships in improving financial infrastructure accessibility needs further exploration (Ouma et al., 2020). Addressing these gaps is essential for building inclusive financial systems for business women.

2.5 Conceptual framework

The conceptual framework for this study shows the link of the variables of study; The independent variables of the study are; employment opportunities, cultural practices, financial literacy, access to infrastructure and the dependent variable is business women's financial inclusion.

Figure 2.1

Conceptual Framework

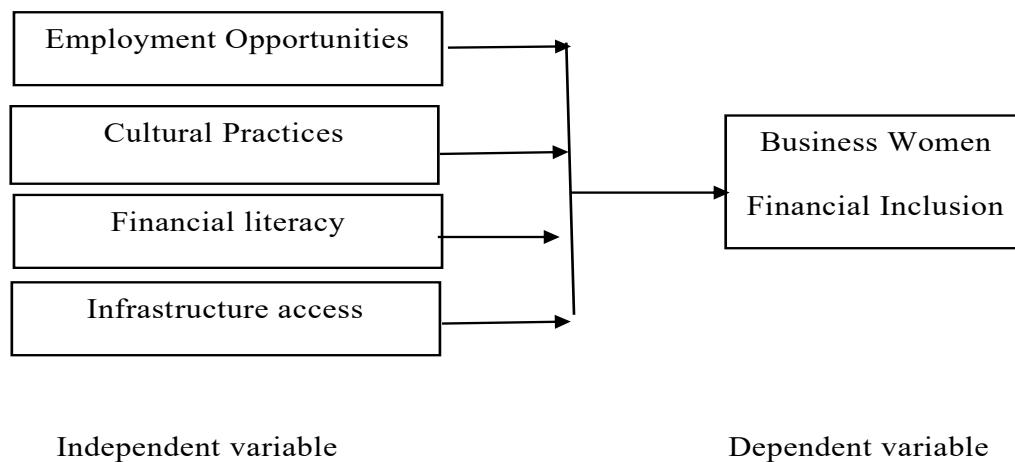


Figure 2.1: Conceptual Framework

2.6 Operational framework

Operationalization involves transforming abstract constructs into measurable variables, enabling the study to gather data effectively and accurately evaluate the effect of the

independent variables on the dependent variable. The measurement of these variables is depicted in Figure 2.2

Figure 2.2

Operational Framework

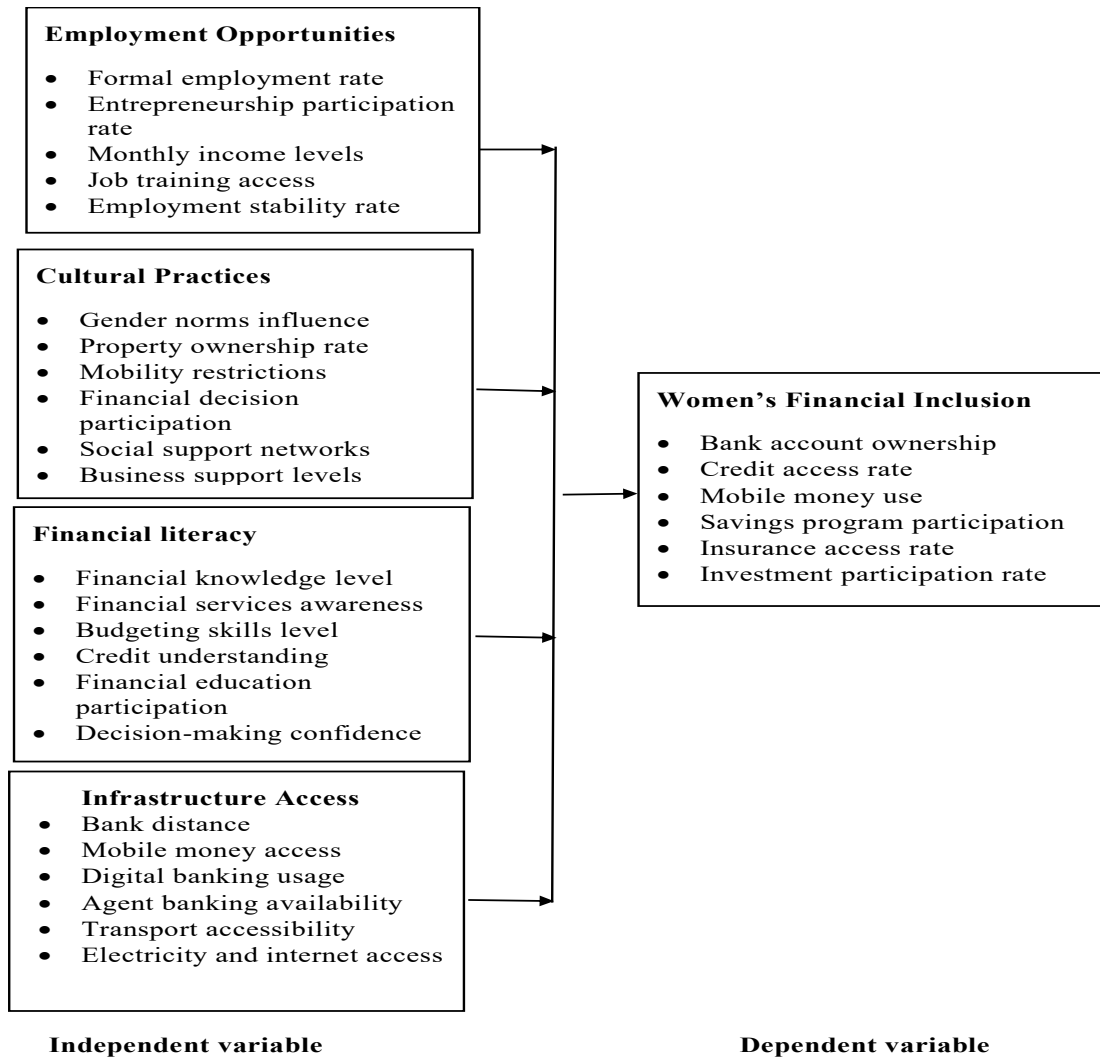


Figure 2.2: Operational Framework

2.6.1 Explanation of Variables

The study investigated employment opportunities, cultural practices, financial literacy, and infrastructure access as variables affecting business women's financial inclusion. Employment opportunities were evaluated using indicators such as formal employment rates, entrepreneurship participation, monthly income levels, access to job training, employment stability, and roles in financial decision-making. Cultural practices were measured by assessing the influence of gender norms, rates of property ownership, mobility restrictions, participation in financial decisions, availability of social support networks, and levels of business support.

Financial literacy was gauged through financial knowledge, awareness of financial services, budgeting skills, understanding of credit, participation in financial education programs, and confidence in financial decision-making. Infrastructure access was determined by proximity to banks, availability of mobile money services, use of digital banking, presence of banking agents, transport accessibility, and access to electricity and the internet. Business women's financial inclusion, the dependent variable, was measured through bank account ownership, credit access rates, mobile money usage, participation in savings programs, access to insurance, and investment engagement.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discussed the research methodology that was employed to investigate the research problem. It includes the research design, target population, sample size, and sampling methods. Additionally, this chapter outlined the instruments designated for data collection, procedures for pre-testing the research instruments, data analysis and ethical consideration.

3.2 Research Design

The study employed a descriptive research design, which systematically gathers data to depict the characteristics of a particular population or phenomenon (Mugenda & Mugenda, 2003). This design is well-suited for examining relationships between variables and understanding of existing conditions without any manipulation. It is particularly effective for evaluating how socioeconomic dynamics influence financial inclusion among business women in Isiolo County, Kenya.

3.3 Target population

The target population for this study consisted of 920 business women in Isiolo County, Kenya, who operate small and medium enterprises in both urban and rural areas. Business women in Isiolo County represent an ideal group for studying financial inclusion due to their direct engagement with financial services for business purposes. Their experiences with barriers such as limited access to credit and low financial literacy make them a critical population for this research.

The unit of analysis for this study was the different categories of business owned by business women, while the unit of observation will focus on of the business women owners. By examining

these factors, the study aims to provide valuable insights into how socioeconomic dynamics influence financial inclusion, ultimately offering solutions to empower business women entrepreneurs and promote local economic growth.

The distribution of the target population is shown in Table 3.1.

Table 3.1
Target Population

Categories of Business	Target Population	Population Proportion (%)
Retail Business Owners	148	16
Market Vendors	180	20
Restaurant and Catering Services	150	16
Salon and Beauty Services	202	22
Water and Beverage Vendors	240	26
Total	920	100%

Source: Department of Trade in Isiolo County

3.4 Sampling Techniques and Sample Size

3.4.1 Sampling Technique

This study will use a cluster sampling technique, a probability sampling method commonly employed when a population is naturally divided into distinct groups. This approach simplifies data collection while maintaining representativeness (Etikan & Bala, 2020).

In this study, the urban and rural areas of Isiolo County will serve as the primary clusters. Within each cluster, business women will be randomly selected using simple random

sampling to ensure an unbiased selection process. The sampling frame will be constructed from the list of registered business women available in the county's trade office records. Cluster sampling was preferred over stratified sampling because the target population of business women in Isiolo County is widely dispersed across large geographical areas, with some operating in remote rural centers and others concentrated in urban markets.

Stratified sampling would have required detailed prior knowledge of individual business women's characteristics to form strata, which is both resource-intensive and impractical in this context. By contrast, cluster sampling allows the researcher to divide the population naturally based on geographical boundaries (urban vs. rural), reducing costs and logistical challenges while still ensuring adequate representation of diverse business environments. This method is therefore the most feasible and efficient for capturing the socioeconomic dynamics of financial inclusion among business women in Isiolo County.

3.4.2 Sample Size

The sample size refers to a subset of the total population that represents the general perspectives and characteristics of the target population. For this study, the sample size was calculated using Yamane's formula, which provides a simplified method for determining sample sizes for large populations (Yamane, 1967). The formula is as follows:

Where: n = sample size, N = total population size, e = margin of error

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

$$n = \frac{920}{1+920 (0.05)^2}$$

$$n = 279$$

To ensure that the sample size accurately reflects the urban and rural populations, the sample will be distributed proportionally based on the population proportions of the target groups (as shown in Table 3.2).

Table 3.2
Sample Size

Categories of Business	Target Population	Sample size
Retail Business Owners	148	45
Market Vendors	180	55
Restaurant and Catering Services	150	45
Salon and Beauty Services	202	61
Water and Beverage Vendors	240	73
Total	920	279

3.5 Research Instrumentation

Data for this study was collected using self-administered questionnaires, which was structured to ensure efficient and comprehensive data collection within the specified study period.

The questionnaire items were carefully designed to align with the research objectives, ensuring the collection of relevant and meaningful data for understanding financial inclusion of business women in urban and rural areas of Isiolo County. This method offers participants the flexibility to respond at their convenience, minimizing response rates by reducing time

constraints. To ensure privacy and anonymity, the questionnaires did not request personal or identifying information.

This approach created a secure environment where respondents felt comfortable and unpressured when providing their answers, which was critical for obtaining honest and unbiased responses. Self-administered questionnaires are widely used in social research and have proven effective in capturing accurate data, particularly when participants are geographically dispersed or when sensitive topics are being addressed (Bryman et al., 2021).

3.5.1 Pilot test

A pilot test of the questionnaire was conducted to ensure that each item was relevant, clearly worded, and aligned with the study's objective of assessing business women's financial inclusion in both urban and rural areas of Isiolo County. This preliminary testing helped identify and eliminate ambiguities, redundancies, and irrelevant questions, thereby improving the overall quality and reliability of the research instrument.

As recommended by Etikan (2017), a pilot sample size of approximately 10% of the total sample was used. In this case, 28 participants (10% of 279) were selected, representing both urban and rural areas to ensure the questionnaire's relevance across all subgroups in the study population. During the pilot test, participants completed the questionnaire and provided feedback on any items they found unclear or difficult.

This feedback was used to revise and refine the questionnaire, ensuring it remained clear, concise, and comprehensive. The process enhanced the instrument's reliability and validity, making the final version more effective for data collection across diverse contexts within the study. Pilot test was essential for ensuring the clarity and appropriateness of the data

collection tools prior to their full deployment (Bryman et al., 2021). By incorporating participant feedback, the study ensured that the questionnaire was well-suited for capturing accurate and meaningful data.

3.5.2 Reliability and Validity of Research Instruments

Reliability of the questionnaire was determined using Cronbach's alpha coefficient, a statistical measure that evaluates the internal consistency of survey items. A Cronbach's alpha score of 0.7 or above was considered sufficient, signifying that the collected responses were reliable and consistent. For validity assessment, the questionnaire underwent content validation by consulting experts specializing in financial inclusion and socioeconomic dynamics.

These experts reviewed the questionnaire items to ensure their relevance, clarity, and congruence with the research objectives, thereby confirming comprehensive coverage of all relevant variables, including employment opportunities, cultural practices, financial literacy, and infrastructure access. Furthermore, construct validity was verified during the pilot testing phase by examining the extent to which questionnaire items effectively represented the theoretical frameworks underpinning the study. Participant feedback from the pilot test was incorporated to enhance the clarity and relevance of the final instrument.

3.6 Data Collection Procedure

The researcher secured an official introductory letter from Kenya Methodist University (KeMU) to facilitate the acquisition of a research permit from Kenya's National Commission for Science, Technology and Innovation (NACOSTI), in compliance with local regulatory standards. After

obtaining the necessary authorization, the questionnaires were administered using the drop-and-pick approach, granting respondents a period of one week for completion.

Prior to distribution, participants were briefed about the study's objectives, particularly its importance in evaluating financial inclusion among business women in Isiolo County. To safeguard participant confidentiality, completed questionnaires were stored securely in a locked location accessible solely to the researcher. Furthermore, anonymity was strictly preserved during data analysis, reinforcing ethical standards and ensuring the integrity and reliability of the collected data.

3.7 Data Analysis and Presentation

In this study, quantitative data were collected and carefully reviewed to filter out incomplete questionnaires and identify any ambiguities. The cleaned data were then coded using the Statistical Package for the Social Sciences (SPSS) software, Version 25. During the coding process, numerical values were assigned to specific variables to structure the data for statistical analysis. To examine the relationship between socioeconomic dynamics and financial inclusion among business women in Isiolo County, Kenya, multiple regression analysis was employed.

This method facilitated the assessment of the influence of the independent variables; employment opportunities, cultural practices, financial literacy, and access to infrastructure on the dependent variable, financial inclusion. The regression model was specified as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where;

Y = Financial Inclusions

X_1 = employment opportunities

X_2 = cultural practices

X_3 = financial literacy

X_4 = infrastructure access

β_0 = constant coefficient (intercept)

$\beta_1, \beta_2, \beta_3, \beta_4$ = slope coefficient of independent variables

ϵ = error term

3.8 Diagnostic Tests.

To assess whether the data for the independent and dependent variables met the assumptions required for multiple regression analysis, the following diagnostic tests were conducted:

linearity test, autocorrelation test, multicollinearity test, normality test, and

homoscedasticity test. These tests were essential for verifying the suitability of the data and ensuring the validity of the regression model.

All diagnostic tests were performed prior to the regression and correlation analyses to confirm that the assumptions of the regression model were not violated.

3.8.1 Normality Test

A normality test was conducted to assess whether the dataset followed a normal distribution, which is a key assumption for parametric statistical analyses such as multiple regression (Noor & Fuzi,

2023). Significant deviations from normality could compromise the validity of these methods, potentially leading to inaccurate conclusions. This study employed the Shapiro-Wilk (S-W) test to evaluate normality.

The test produced a p-value, where a value above 0.05 indicated normality, while a value below 0.05 suggested a significant deviation from normality (Razali & Wah, 2019). Given the sample size, the S-W test provided a robust assessment of the dataset's distribution. The results of the normality test determined whether parametric methods such as regression analysis were appropriate, or if alternative non-parametric techniques needed to be considered.

3.8.2 Autocorrelation Test

Autocorrelation occurred when residuals in the regression model are correlated, indicating a lack of independence. This dependence could result in biased coefficient estimates and unreliable hypothesis testing, thereby violating a key assumption of regression analysis and compromising the validity of the model's results. To detect the presence of autocorrelation, the study employed the Durbin-Watson test.

The Durbin-Watson statistic ranged from 0 to 4, where a value close to 2 indicated no autocorrelation. Values below 2 suggested positive autocorrelation, while values above 2 indicated negative autocorrelation. A Durbin-Watson value between 1.5 and 2.5 was generally considered acceptable, implying no significant autocorrelation (Field, 2020). Detecting autocorrelation was essential for validating the regression model, as correlated residuals could lead to biased parameter estimates and misleading statistical conclusions.

3.8.3 Heteroscedasticity Test

Heteroscedasticity occurs in regression analyses when the variance of residuals is inconsistent across various values of independent variables, breaching the assumption of constant variance and potentially resulting in inefficient parameter estimates and unreliable conclusions. In this study, the Breusch-Pagan test was utilized to assess heteroscedasticity by determining whether residual variances depended significantly on the independent variables.

The null hypothesis proposed that variances were constant (homoscedastic), while the alternative indicated variability in residual variance. This involved regressing squared residuals obtained from the primary regression analysis against the independent variables. If the p-value from this regression was 0.05 or less, heteroscedasticity was considered present, signaling a violation of homoscedasticity assumptions. When detected, corrective actions such as data transformations or employing robust standard errors were implemented to rectify the issue. These measures ensured more reliable and valid regression outcomes, thus enhancing the integrity and accuracy of the study's conclusions.

3.8.4 Multi-Collinearity Test

In multiple regression analysis, multicollinearity occurs when independent variables demonstrate substantial correlation, complicating the process of distinguishing their individual impacts on the dependent variable. This condition inflates the standard errors associated with coefficient estimates, potentially leading to unreliable statistical interpretations and erroneous conclusions.

Additionally, elevated multicollinearity can produce diminished t-statistics, incorrectly signaling weak or negligible relationships between the independent and dependent variables. This study utilized the Variance Inflation Factor (VIF) to evaluate multicollinearity. Typically, a VIF value exceeding 10 signals problematic multicollinearity, implying substantial overlap among independent variables. Detecting and addressing multicollinearity is vital for ensuring the accuracy, reliability, and clarity of the regression model's results.

3.8.5 Linearity Test

To determine whether the relationship between the independent and dependent variables met the linearity assumption, this study applied the Analysis of Variance (ANOVA) method. ANOVA is a statistical technique used to evaluate the adequacy of a linear regression model by comparing it against models that incorporate additional non-linear terms. This approach helped establish whether a simple linear model sufficiently explained the relationship or if a more complex model was required (Montgomery & Runger, 2021).

In this study, the ANOVA test assessed whether the inclusion of higher-order polynomial terms (e.g., quadratic or cubic terms) significantly improved the model fit. If the F-statistic for these additional terms was non-significant ($p\text{-value} > 0.05$), it confirmed the presence of a linear relationship between the variables. Conversely, a significant result ($p\text{-value} \leq 0.05$) indicated non-linearity, prompting the need for further model adjustments.

3.9 Ethical Consideration

This study adhered to established ethical standards to ensure integrity, confidentiality, and voluntary participation. An introductory letter was obtained from Kenya Methodist University (KeMU) to formally introduce the study to Isiolo County authorities and participants. A research permit was also acquired from the National Commission for Science, Technology, and Innovation (NACOSTI) in compliance with national research regulations. Participation was entirely voluntary, and respondents were fully informed about the purpose, scope, and objectives of the study. They were made aware of their right to withdraw at any point without penalty.

No coercion was applied, and all participants signed informed consent forms (Appendix I) to confirm their willingness to participate. To safeguard anonymity and confidentiality, the questionnaires did not collect personally identifiable information. Instead, each was coded with a unique numerical identifier to facilitate secure analysis. All data were stored securely and used solely for academic purposes. The research was conducted with honesty, transparency, and respect for all participants. Findings were reported accurately based on the data collected. Where necessary, ethical approval was sought from the university's ethics review committee to ensure adherence to institutional guidelines and professional research standards.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

The results and discussion of the study are presented in this chapter. This section addresses the study variables' demographics, reliability and validity test findings, diagnostic test analysis, and response rate. It further incorporates the results of regression analysis and hypothesis testing, explores the correlations between variables, and presents descriptive statistics for both the independent and dependent variables.

4.2 Response Rate

The research targeted a sample size of 279 female entrepreneurs from Isiolo County, of which 236 respondents completed and returned the questionnaires, resulting in a response rate of 84.59%. This response rate is regarded as highly satisfactory and suitable for reliable statistical analysis. The elevated response was primarily due to the direct delivery and retrieval of self-administered questionnaires by the researcher, enabling respondents to ask questions and receive immediate clarification when needed. Literature suggests that response rates exceeding 70% are excellent for statistical accuracy and validity (Bolarinwa & Onasanya, 2022).

Additionally, Tan and Rahman (2023) point out that higher response rates significantly minimize non-response bias, thereby improving the credibility and applicability of study outcomes. Consequently, the 84.59% response rate achieved in this study supports robust and reliable statistical interpretations. The response rate is detailed in Table 4.1.

Table 4.1***Response Rate***

Questionnaires	Frequency	Percentage
Returned	236	84.59%
Not Returned	43	15.41%
Total	279	100%

4.3 Background Information

This section provides the demographic details of the participants in the study. Data collected includes type of business owned, age, education level, length of period in business. These demographic details are essential for contextualizing the data and understanding how the respondents' backgrounds shape their access to and participation in financial services. The subsequent subsections present the specific demographic characteristics.

4.3.1 Type of Business Owned

In this study, respondents were asked to indicate the type of business they owned. Table 4.2 presents the distribution of the 236 participants based on their business types. Out of the total, 84 (35.6%) were retail business owners, 52 (22.0%) were market vendors, 41 (17.4%) were engaged in restaurant and catering services, 37 (15.7%) operated salon and beauty services, while 22 (9.3%) were water and beverage vendors. This distribution indicates that retail businesses and market vending are the most common entrepreneurial activities among business women in Isiolo County. These findings are essential in informing financial inclusion strategies, as each business category presents unique financial behavior, capital requirements, and access barriers. Tailored financial products and training programs should account for the diversity of these business models to effectively promote inclusive economic empowerment.

Table 4.2***Distribution by Type of Business Owned***

Type of Business	Frequency	Percentage
Retail business owner	84	35.6%
Market vendors	52	22.0%
Restaurant and catering services	41	17.4%
Salon and beauty services	37	15.7%
Water and beverage vendors	22	9.3%
Total	236	100%

4.3.2 Age of Respondents

Understanding the age distribution of respondents is essential in evaluating generational perspectives toward socioeconomic dynamics and their influence on financial inclusion. Table 4.3 shows that the majority of respondents (122; 51.7%) were aged between 31 to 45 years, followed by 72 respondents (30.5%) aged 46 years and above, and 42 respondents (17.8%) aged between 18 to 30 years.

This age structure reflects a predominance of business women in their economically active years, which is significant for assessing patterns of financial behavior, access to credit, and engagement with formal and informal financial systems. Mid-aged business women are more likely to be running stable businesses and making financial decisions that affect household welfare and community development.

Table 4.3***Age of Respondents***

Age Range	Frequency	Percentage
18–30 years	42	17.8%
31–45 years	122	51.7%
46 years and above	72	30.5%
Total	236	100%

The age distribution suggests a mature and entrepreneurial respondent base that is well-positioned to engage with financial products and services. Insights from this age profile can inform age-specific interventions to enhance financial inclusion, particularly among younger and older business women whose financial access and needs may differ due to factors such as risk tolerance, digital literacy, and household obligations.

4.3.3 Respondents' Level of Education

Table 4.4 presents the distribution of respondents based on their highest level of education. The data indicates that 28 (11.9%) held certificates, 74 (31.4%) had diplomas, 89 (37.7%) possessed bachelor's degrees, and 45 (19.1%) had postgraduate degrees. These findings suggest that a significant proportion of business women in Isiolo County who participated in the study have attained at least a diploma-level education.

Table 4.4***Respondents' Level of Education***

Level of Education	Frequency	Percentage
Certificate	28	11.9%
Diploma	74	31.4%
Bachelor's Degree	89	37.7%
Postgraduate Degree	45	19.1%
Total	236	100%

This academic composition underscores the role of education in promoting financial awareness and informed decision-making among business women entrepreneurs. Higher education levels are often linked to greater financial literacy, confidence in navigating formal financial systems, and adoption of digital financial tools that are key enablers of financial inclusion.

4.3.4 Length of Period in Business

Table 4.5 outlines the period respondents had been engaged in their respective businesses. The results show that 61 respondents (25.8%) had operated their businesses for less than 2 years, 86 (36.4%) for 2–5 years, 54 (22.9%) for 6–10 years, and 35 (14.8%) had been in business for over 10 years. This distribution reveals a balanced mix of emerging and established entrepreneurs participating in the study.

Table 4.5:*Length of Period in Business*

Length of Period in Business	Frequency	Percentage	
Less than 2 years	61	25.8%	
2–5 years	86	36.4%	This
6–10 years	54	22.9%	
Over 10 years	35	14.8%	
Total	236	100%	

variation in business tenure reflects a dynamic entrepreneurial environment where both novice and seasoned business women entrepreneurs engage with financial systems. Newer business owners may face challenges in accessing credit due to limited collateral or credit history, while long-standing entrepreneurs may better navigate financial networks and build stronger institutional relationships. Recognizing these differences is key to tailoring financial inclusion strategies that support business women across all stages of business development.

4.4 Pilot Study Results

A pilot study was conducted to ascertain the validity and reliability of the data collection instrument designed to measure the effect of socioeconomic dynamics on the financial inclusion. A total of 24 respondents, representing approximately 10% of the 236 targeted sample size, participated in the pilot study. To prevent any potential bias, these participants were excluded from the main study.

The feedback obtained during the pilot phase was instrumental in refining the questionnaire to enhance its clarity, structure, and contextual relevance. Adjustments included rewording

ambiguous items, aligning options with local socioeconomic conditions, and improving the flow of the survey.

4.4.1 Test of Reliability

A measurement tool is said to be reliable when it consistently produces stable and comparable results under similar conditions. Reliability testing evaluates the internal consistency of the instrument and helps identify potential random measurement errors. In this study, Cronbach's alpha coefficient, which ranges from 0 to 1, was used to assess internal consistency. A threshold of 0.7 was adopted as the acceptable reliability benchmark.

The instrument utilized a 5-point Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (5), in line with methodological best practices (Mutua & Ochieng, 2021; Wafula & Otieno, 2023). The pilot study was conducted among a sample of business women, who provided critical feedback on clarity, wording, and question structure. This feedback informed refinements to the questionnaire before full deployment. The results of the reliability analysis are summarized in Table 4.6.

Table 4.6***Summary of Cronbach's Alpha Reliability Coefficients***

Variable	Indicators	Cronbach's Alpha	Number of Items	Decision
Employment Opportunities	Formal employment rate, Entrepreneurship participation rate, Monthly income levels, Job training access, Employment stability rate, Financial decision-making role	0.816	6	Reliable
Cultural Practices	Gender norms influence, Property ownership rate, Mobility restrictions, financial decision participation, social support networks, Business support levels	0.789	6	Reliable
Financial Literacy	Financial knowledge level, financial services awareness, Budgeting skills level, Credit understanding, financial education participation, Decision-making confidence	0.835	6	Reliable
Infrastructure Access	Bank distance, Mobile money access, Digital banking usage, Agent banking availability, Transport accessibility, Electricity and internet access	0.841	6	Reliable
Business women's Financial Inclusion	Bank account ownership, Credit access rate, Mobile money use, Savings program participation, Insurance access rate, Investment participation rate	0.867	6	Reliable

As shown in Table 4.6, all variables achieved Cronbach's alpha coefficients above 0.7, indicating strong internal consistency of the measurement tool. The values ranged from 0.789 (Cultural Practices) to 0.867 (Business women's Financial Inclusion), confirming the tool's reliability across all measured constructs.

These findings are consistent with the threshold recommended by Mugenda & Mugenda (2003) and supported by more recent studies that validate alpha values above 0.7 as sufficient for rigorous social science research (Chege & Mburu, 2022).

4.4.2 Validity Test

Validity test refers to the extent to which an instrument accurately measures the constructs it is designed to assess. A valid instrument ensures that the resulting data are both meaningful and representative of the theoretical framework. In this study, content validity and construct validity were the two key dimensions used to evaluate the quality of the measurement tool.

Content validity was established through close consultation with academic supervisors and subject-matter experts in socioeconomic research. Their feedback helped verify that all questionnaire items were clearly worded, contextually appropriate, and representative of the intended constructs related to business women's financial inclusion.

To assess construct validity, particularly convergent and discriminant validity, the factorability of the instrument was evaluated using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. KMO values range from 0 to 1, with values above 0.6 considered suitable for factor analysis (Mwangi & Ochieng, 2022; Field & Karanja, 2021). The KMO values for each variable used in this study are presented in Table 4.7.

Table 4.7***Summary of KMO Test***

Variable	KMO
Employment Opportunities	0.814
Cultural Practices	0.788
Financial Literacy	0.835
Infrastructure Access	0.809
Business women's Financial Inclusion	0.872

The KMO values for all five variables exceeded the 0.7 threshold, demonstrating adequate sampling for factor analysis. These results confirm that the constructs employment opportunities, cultural practices, financial literacy, infrastructure access, and business women's financial inclusion are clearly defined and statistically valid for further analysis. According to Abdi and Ndirangu (2023), KMO values between 0.70 and 0.99 are considered highly acceptable for validating the structural soundness of instruments used in social science research. Therefore, the data were deemed valid for subsequent factor-based and inferential statistical analysis.

4.5 Descriptive Statistics Findings

All variables in the study were assessed using a five-point Likert scale ranging from "strongly disagree" to "strongly agree." To establish descriptive statistics, responses to statements corresponding to each objective were summarized using a customized descriptive table. In order to compare the current findings with prior research and evaluate data variability, both mean and standard deviation analyses were conducted.

This descriptive analysis offered key insights into the consistency, frequency, and overall patterns relating to socioeconomic dynamics and their influence on the financial inclusion of business women in Isiolo County.

As outlined by Edmondson (2005), the scale ranged from 1.0 to 5.0, with specific intervals used to interpret the mean scores: values between 1.0 and 1.8 signified strong disagreement, 1.8 to 2.6 indicated disagreement, 2.6 to 3.4 represented neutrality, 3.4 to 4.2 reflected agreement, and 4.2 to 5.0 denoted strong agreement. The data analysis incorporated percentages, mean scores, and standard deviations to interpret and present the findings effectively.

4.5.1 Descriptive Statistics for the Construct Employment Opportunities

The study sought to examine respondents' perceptions regarding employment opportunities and their influence on financial inclusion. The construct was measured using six key indicators: access to formal employment, entrepreneurship opportunities, income sufficiency, access to job training, employment stability, and financial decision-making roles. The findings indicated that a substantial number of business women agreed that they had access to formal employment opportunities in their community.

Specifically, 60.2% agreed and 14.4% strongly agreed, resulting in a mean score of 3.78 and a standard deviation (SD) of 0.978, reflecting general satisfaction with formal job access but also a moderate level of variation. Regarding entrepreneurship opportunities, 64.8% agreed and 18.6% strongly agreed that such opportunities were equally accessible to men and business women. This yielded a mean of 3.94 (SD = 0.893), suggesting high optimism toward business opportunities across genders.

When asked about income sufficiency, 52.1% agreed and 11.9% strongly agreed that their monthly income met their financial needs, while 18.2% remained neutral. The mean score was 3.56 with a SD of 1.014, indicating a slightly more varied response and a potential area for economic strengthening. Job training access received positive ratings, with 60.6% agreeing and 15.3% strongly agreeing that such programs were accessible. This translated to a mean score of 3.79 (SD = 0.945), supporting the idea that skill development infrastructure exists in Isiolo County.

Employment stability, however, received relatively mixed views. While 48.7% agreed and 10.6% strongly agreed that long-term employment was common, 23.7% of respondents remained neutral. The mean was 3.42 and SD was 1.062, highlighting moderate confidence but also potential instability in local job markets. Lastly, 58.1% agreed and 20.8% strongly agreed that they played a significant role in household or business financial decisions. This was reflected in a high mean score of 3.95 and SD of 0.912, indicating strong participation in financial agency among business women.

These findings align with existing research emphasizing that employment accessibility, entrepreneurial engagement, and decision-making agency significantly impact business women's financial behavior and access to financial services (Omondi & Abok, 2023; UNESCO, 2021). Furthermore, supportive job environments, training programs, and stable income streams are linked to increased financial inclusion, especially in underserved regions (Wamalwa & Kemboi, 2022; UN Business women, 2020).

Table 4.8***Descriptive Statistics for the Construct Employment Opportunities***

Statement n=236	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)	Mean	Std. Deviation
I have access to formal employment opportunities in my community.	9 (3.8%)	18 (7.6%)	26 (11.0%)	147 (60.2%)	36 (14.4%)	3.78	0.978
Entrepreneurship opportunities are available for both men and business women in my area.	5 (2.1%)	14 (5.9%)	20 (8.5%)	153 (64.8%)	44 (18.6%)	3.94	0.893
My monthly income level meets my financial needs.	14 (5.9%)	30 (12.7%)	41 (18.2%)	123 (52.1%)	28 (11.9%)	3.56	1.014
Job training programs are accessible to improve my employment prospects.	6 (2.5%)	19 (8.1%)	30 (12.7%)	143 (60.6%)	36 (15.3%)	3.79	0.945
Employment stability is high in my community, and most people maintain long-term employment.	16 (6.8%)	24 (12.3%)	56 (23.7%)	115 (48.7%)	25 (10.6%)	3.42	1.062
I play a significant role in financial decision-making within my household or business.	4 (1.7%)	11 (4.7%)	36 (15.3%)	136 (58.1%)	49 (20.8%)	3.95	0.912

4.5.2 Descriptive Statistics for the Construct Cultural Practices

The study sought to examine respondents' perceptions regarding cultural practices and their influence on the financial inclusion of business women in Isiolo County. The construct was measured using six key indicators: gender norms, property ownership, mobility restrictions, financial decision-making participation, social support networks, and access to business support.

The findings indicated that most respondents acknowledged the influence of gender norms on occupational roles. Specifically, 58.5% agreed and 19.1% strongly agreed with the statement, while only 3.8% strongly disagreed.

This yielded a mean score of 3.84 and a standard deviation (SD) of 0.948, suggesting broad recognition of culturally shaped labor roles. For property ownership equality, 50.4% agreed and 18.6% strongly agreed that business women had equal access to property, though 11.4% expressed disagreement. The mean score was 3.69 (SD = 1.021), indicating general agreement but with some variation. On mobility restrictions, 47.9% agreed and 22.5% strongly agreed that such limitations hinder business women's economic involvement, with a mean of 3.82 (SD = 1.015), highlighting this as a significant barrier. When asked about financial decision-making within households, 46.6% agreed and 17.4% strongly agreed that business women and men participated equally. Meanwhile, 20.8% remained neutral, suggesting moderate agreement with a mean score of 3.61 (SD = 1.016).

In terms of social support networks, 51.3% agreed and 18.2% strongly agreed that strong support systems existed for business women. The mean score was 3.75 (SD = 0.936), suggesting a generally favorable view of communal support structures. Finally, 44.9% agreed and 19.5% strongly agreed that business support for business women was sufficient in the community. The mean was 3.66 (SD = 1.024), indicating moderate support with room for improvement.

These findings are consistent with literature suggesting that cultural norms, support structures, and asset ownership significantly shape business women's economic agency and financial access (Nduta & Kibera, 2022; Okech et al., 2023). Efforts to enhance gender equality in decision-making

and mobility can meaningfully expand financial inclusion (UN Business women, 2021; Okumu & Were, 2020).

Table 4.9

Descriptive Statistics for the Construct Cultural Practices (N = 236)

Statement n=236	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)	Mean	Std. Deviation
Gender norms influence the type of jobs that men and business women pursue in my community.	9 (3.8%)	19 (8.1%)	25 (10.6%)	138 (58.5%)	45 (19.1%)	3.84	0.948
Business women in my community have equal access to property ownership.	10 (4.2%)	17 (7.2%)	46 (19.5%)	119 (50.4%)	44 (18.6%)	3.69	1.021
Mobility restrictions significantly affect business women's ability to engage in economic activities.	8 (3.4%)	15 (6.4%)	45 (19.1%)	113 (47.9%)	53 (22.5%)	3.82	1.015
Business women and men participate equally in financial decision-making within households.	13 (5.5%)	24 (10.2%)	49 (20.8%)	110 (46.6%)	41 (17.4%)	3.61	1.016
Social support networks (e.g., family, friends, community groups) are strong for business women in my area.	7 (3.0%)	18 (7.6%)	44 (18.6%)	121 (51.3%)	46 (18.2%)	3.75	0.936
Business women in my community have sufficient business support and resources to start or grow businesses.	14 (5.9%)	24 (10.2%)	42 (17.8%)	106 (44.9%)	50 (21.2%)	3.66	1.024

4.5.3 Descriptive Statistics for the Construct Financial Literacy

The study sought to examine respondents' perceptions regarding financial literacy and its influence on the financial inclusion of business women in Isiolo County. The construct was measured using

six key indicators: understanding of financial concepts, awareness of financial services, budgeting skills, understanding credit, participation in financial education, and financial decision-making confidence.

The findings showed that most business women felt confident in understanding basic financial concepts. Specifically, 56.8% agreed and 21.2% strongly agreed with the statement, while only 4.2% strongly disagreed. This yielded a mean score of 3.84 and a standard deviation (SD) of 0.979, reflecting widespread foundational knowledge. Regarding awareness of available financial services, 59.3% agreed and 20.3% strongly agreed. Only 3.8% strongly disagreed. This resulted in a high mean of 3.88 (SD = 0.945), suggesting that financial service knowledge is well established in the community.

In terms of budgeting skills, 52.1% agreed and 18.6% strongly agreed that they had the skills to budget and stick to it. However, 16.1% were neutral, resulting in a mean score of 3.71 and SD of 1.016, indicating moderate competence with some variability. Confidence in understanding credit terms and conditions received mixed responses: 46.6% agreed, 15.7% strongly agreed, while 20.3% remained neutral. The mean was 3.60 (SD = 1.054), pointing to a gap in credit-related financial literacy. Participation in formal financial education programs was relatively low, with 39.8% agreeing and 14.4% strongly agreeing. A significant portion (22.9%) remained neutral, while 9.3% strongly disagreed. This resulted in a mean score of 3.49 (SD = 1.120), reflecting limited engagement with structured learning programs.

Finally, the statement on confidence in personal and family financial decision-making revealed strong results: 55.5% agreed and 22.0% strongly agreed, with a mean score of 3.87 and SD of 0.938, showing strong personal agency in financial matters. These findings align with prior

research showing that financial literacy enhances business women's ability to manage income, credit, and investment decisions, which in turn promotes inclusion in formal financial systems (Wambua & Omondi, 2021; Mwikali et al., 2022).

Building capacity through targeted training and financial education programs is essential to expanding informed financial engagement in underserved areas (UNDP, 2023; Mugo & Oloo, 2020).

Table 4.10

Descriptive Statistics for the Construct Financial Literacy

Statement n=236	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)	Mean	Std. Deviation
I feel confident in my understanding of basic financial concepts such as budgeting, savings, and investing.	10 (4.2%)	18 (7.6%)	24 (10.2%)	134 (56.8%)	50 (21.2%)	3.84	0.979
I am aware of the various financial services (banking, insurance, loans) available to me.	9 (3.8%)	16 (6.8%)	23 (9.7%)	140 (59.3%)	48 (20.3%)	3.88	0.945
I have the skills to create and stick to a monthly budget.	12 (5.1%)	20 (8.5%)	38 (16.1%)	123 (52.1%)	44 (18.6%)	3.71	1.016
I fully understand the terms and conditions of credit facilities available to me.	14 (5.9%)	26 (11.0%)	48 (20.3%)	110 (46.6%)	38 (15.7%)	3.60	1.054
I have participated in formal financial education programs or workshops.	22 (9.3%)	28 (11.9%)	54 (22.9%)	96 (39.8%)	34 (14.4%)	3.49	1.120
I feel confident in making financial decisions for myself and my family.	7 (3.0%)	17 (7.2%)	29 (12.3%)	131 (55.5%)	52 (22.0%)	3.87	0.938

4.5.4 Descriptive Statistics for the Construct Infrastructure Access

The study sought to examine respondents' perceptions regarding access to infrastructure and its influence on financial inclusion of business women in Isiolo County. The construct was measured using six key indicators: proximity to banks, mobile money usage, digital banking access, agent banking availability, transport accessibility, and access to electricity and internet.

The results indicated that most respondents found the nearest bank accessible, with 58.5% agreeing and 20.3% strongly agreeing. Only 3.4% strongly disagreed. This yielded a mean score of 3.84 and a standard deviation (SD) of 0.947, suggesting generally favorable bank proximity. On the use of mobile money services, 54.2% agreed and 22.9% strongly agreed they frequently used mobile money, with only 3.4% disagreeing. This translated to a mean of 3.90 (SD = 0.903), reflecting strong reliance on mobile-based transactions. In terms of digital banking platforms, 51.7% agreed and 18.2% strongly agreed they used apps or online services for financial needs, while 15.3% were neutral.

This statement had a mean score of 3.75 (SD = 1.012), indicating moderate adoption of digital banking technologies. Regarding agent banking availability, 48.7% agreed and 17.4% strongly agreed that such services were readily available. However, 19.1% were neutral, and 10.2% disagreed, yielding a mean of 3.67 (SD = 1.045), pointing to moderate accessibility with some gaps. Transport accessibility also received positive responses, with 53.0% agreeing and 21.2% strongly agreeing. This gave a mean score of 3.82 (SD = 0.989), indicating that transportation is not a major barrier to accessing financial services in the county.

Lastly, access to electricity and internet was rated slightly lower, with 45.8% agreeing and 19.1% strongly agreeing, while 20.3% remained neutral. The mean score for this statement was 3.68 (SD

= 1.041), suggesting potential challenges in digital connectivity for financial and business operations. These findings echo previous research highlighting the importance of infrastructure in supporting financial inclusion especially in rural and arid regions where access to formal financial institutions and technology can be uneven (Ochieng & Mwangi, 2022; UNDP, 2021).

Strengthening mobile networks, expanding agent banking, and investing in energy and internet infrastructure are key to unlocking inclusive economic participation for business women in regions like Isiolo (Barasa & Wekesa, 2023; Kendi et al., 2020).

Table 4.11

Descriptive Statistics for the Construct Infrastructure Access

Statement n=236	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)	Mean	Std. Deviation
The nearest bank is easily accessible from my home or workplace.	8 (3.4%)	14 (5.5%)	28 (11.9%)	138 (58.5%)	48 (20.3%)	3.84	0.947
I frequently use mobile money services for my financial transactions.	7 (3.0%)	8 (3.4%)	37 (15.7%)	130 (54.2%)	54 (22.9%)	3.90	0.903
I am able to use digital banking platforms (apps, online banking) for most of my financial needs.	9 (3.8%)	17 (7.2%)	36 (15.3%)	122 (51.7%)	52 (22.0%)	3.75	1.012
Agent banking services are readily available in my area.	12 (5.1%)	12 (5.1%)	45 (19.1%)	115 (48.7%)	52 (22.0%)	3.67	1.045
Transport services are easily accessible for me to reach financial institutions or essential services.	10 (4.2%)	9 (3.8%)	30 (12.7%)	125 (53.0%)	62 (26.3%)	3.82	0.989
My access to electricity and internet is reliable enough to support financial or business activities.	11 (4.7%)	17 (7.2%)	48 (20.3%)	108 (45.8%)	52 (22.0%)	3.68	1.041

4.5.5 Descriptive Statistics for the Construct Financial Inclusion

This section presents the findings on the extent of financial inclusion among business women in Isiolo County. The construct was assessed using six indicators: access to bank accounts, ease of credit access, usage of mobile money services, participation in savings programs, access to insurance services, and involvement in investment activities.

The majority of respondents acknowledged that business women have equal access to bank accounts compared to men, with 58.5% agreeing and 21.6% strongly agreeing. Only 6.4% disagreed, 2.1% strongly disagreed, and 11.4% were neutral. The statement yielded a mean score of 3.84 and a standard deviation (SD) of 1.063, reflecting strong perceived equity in banking access. With regard to access to credit, 52.5% of respondents agreed and 20.3% strongly agreed that business women can easily access business loans from financial institutions, while 9.3% were neutral, and 17.8% either disagreed or strongly disagreed. The mean was 3.72 (SD = 1.139), suggesting favorable perceptions but indicating potential credit barriers still exist for some.

Responses on the usage of mobile money services showed strong positivity. A total of 61.4% agreed and 18.6% strongly agreed that business women frequently utilize these platforms. Meanwhile, 6.4% disagreed, 3.4% strongly disagreed, and 10.2% were neutral. The mean score was 3.84 with an SD of 1.084, confirming mobile money as a widely adopted financial tool. Participation in formal or informal savings programs was also rated highly. About 57.2% agreed and 22.9% strongly agreed, with only 7.2% neutral, 7.6% disagreed, and 5.1% strongly disagreed. The mean score was 3.84 and SD was 1.073, pointing to strong financial discipline and community engagement in savings.

However, access to insurance services was more moderate. While 46.2% agreed and 17.8% strongly agreed, 17.4% were neutral and 18.6% disagreed or strongly disagreed. The corresponding mean was 3.53 and SD was 1.210, suggesting a need for enhanced outreach and insurance literacy. Regarding investment participation, 47.5% agreed and 15.3% strongly agreed that business women are involved in such decisions or programs.

A significant 19.9% remained neutral, and 17.3% disagreed or strongly disagreed. The mean score was 3.51 with a SD of 1.202, highlighting an area with opportunities for empowerment through financial inclusion Initiatives. These findings are consistent with recent studies indicating that mobile technology and community savings groups have played pivotal roles in enhancing business women's financial inclusion in marginal counties (Ochieng & Murithi, 2021; Kariuki & Kibet, 2023).

However, gaps remain in credit access, insurance coverage, and investment inclusion, underscoring the need for targeted socioeconomic interventions (Njuguna, 2022; Wambua, 2024).

Table 4.12***Descriptive Statistics for the Construct Financial Inclusion***

Statement n=236	1 (SD)	2 (D)	3 (N)	4 (A)	5 (SA)	Mean	Std. Deviation
Business women in my community have equal access to bank accounts compared to men.	5 (2.1%)	15 (6.4%)	27 (11.4%)	138 (58.5%)	51 (21.6%)	3.84	1.063
Business women in my community can easily access credit from financial institutions for business purposes.	7 (3.0%)	35 (14.8%)	22 (9.3%)	124 (52.5%)	48 (20.3%)	3.72	1.139
Business women in my community frequently use mobile money services to conduct financial transactions.	8 (3.4%)	15 (6.4%)	24 (10.2%)	145 (61.4%)	44 (18.6%)	3.84	1.084
Many business women in my community participate in formal or informal savings programs.	12 (5.1%)	18 (7.6%)	17 (7.2%)	135 (57.2%)	54 (22.9%)	3.84	1.073
Business women in my community have access to insurance services (health, life, property).	14 (5.9%)	30 (12.7%)	41 (17.4%)	109 (46.2%)	42 (17.8%)	3.53	1.210
Business women in my community are actively involved in investment decisions or participate in investment programs.	15 (6.4%)	26 (11.0%)	47 (19.9%)	112 (47.5%)	36 (15.3%)	3.51	1.202

4.6 Qualitative Data Analysis**4.6.1 Influence of Employment Opportunities on Business women's Financial Inclusion**

Participants were asked to describe the factors that have most significantly contributed to changes in employment opportunities within their community. The responses revealed several interconnected themes, highlighting the role of localized economic dynamics in shaping business women's financial inclusion.

A prominent observation was that access to vocational training and skills development programs has equipped many business women with competencies necessary for microenterprise creation and formal job entry. Respondents emphasized that community-based initiatives and NGO-supported income-generating projects have improved employment opportunities and, by extension, access to financial services. Others pointed out that improved infrastructure, such as roads and digital connectivity, has enabled business women to access markets and financial platforms, further encouraging participation in savings and credit groups.

Several participants linked government affirmative action programs and devolved funds to enhanced employment options for business women, especially in trade and service sectors. Some also cited changing cultural attitudes toward business women's economic roles, which have made it more acceptable for business women to seek employment or run businesses, thereby facilitating broader financial inclusion.

These insights align with the findings of Chege and Murungi (2021), who highlighted the role of local employment creation in promoting financial inclusion among business women in underserved areas. Similarly, Mutiso and Wanjala (2022) observed that targeted economic empowerment initiatives significantly enhance business women's financial participation in Northern Kenya. Furthermore, Wachira and Muli (2023) argue that employment access is not only a source of income but a gateway to mainstream financial systems, reinforcing the interdependence between work opportunities and inclusion outcomes.

Table 4.13***Qualitative Analysis for Employment Opportunities***

Theme	Frequency Percentage	
Access to vocational training and skill development	208	83.90%
Involvement in community-based income-generating projects	205	82.63%
Availability of government or NGO funding/support	203	81.78%
Improved infrastructure facilitating employment and access	193	80.08%
Shifts in cultural norms enabling business women to work or run firms	201	80.93%

4.6.2 Influence of Cultural Practices on Business women's Financial Inclusion

Participants were asked to reflect on how cultural practices could be modified to improve business women's economic participation within their communities. The responses revealed multiple thematic areas that highlight cultural barriers and proposed avenues for transformation.

A key theme that emerged was the need to challenge restrictive gender norms that limit business women's roles to domestic spaces, thereby excluding them from productive financial activities. Respondents emphasized that educational campaigns and mentorship programs could shift community perceptions, especially among male leaders and elders. Many participants also pointed to the importance of enhancing girls' access to education, which builds long-term empowerment and increases business women's economic visibility.

Another frequently mentioned issue was the inheritance and property ownership imbalance, where business women are often denied land and other key resources critical for accessing credit. Others recommended community dialogues and inclusive decision-making platforms, which would allow

business women to actively influence household and community financial priorities. Additionally, integration of cultural leaders into financial inclusion awareness programs was proposed as a way to reduce resistance to change and foster acceptance.

These findings are in line with recent studies that underscore how entrenched cultural beliefs continue to marginalize business women in financial systems, and how culturally sensitive reforms can enhance financial inclusion outcomes (Abdi & Wambua, 2021; Otieno & Cherono, 2023). According to Ngunjiri and Karuoya (2022), interventions that pair cultural dialogue with economic empowerment strategies have proven effective in shifting norms in Northern Kenya. Kuria and Mburu (2024) further emphasize that addressing cultural gatekeepers is essential for transforming systemic gender exclusion.

Table 4.14

Qualitative Analysis for Cultural Practices

Theme	Frequency	Percentage
Need to reform restrictive gender norms	216	91.53%
Importance of education for shifting perceptions	210	88.98%
Equal rights to inheritance and property ownership	205	86.86%
Creating inclusive platforms for business women’s decision-making	198	83.90%
Involving cultural leaders in financial inclusion campaigns	200	84.75%

4.6.3 Influence of financial literacy on Business women’s financial inclusion

Respondents were asked to elaborate on the challenges they face in improving their financial literacy and how financial education can be made more accessible. The responses revealed critical

themes that relate to governance-like institutional frameworks supporting financial awareness and empowerment.

A dominant theme was the lack of localized decision-making or decentralized financial education programs, which often makes interventions poorly aligned with community realities. Many participants expressed that top-down, generic content delivery is ineffective and fails to address rural business women's specific financial needs. Others emphasized that the absence of clearly defined learning pathways or support roles within community institutions leads to confusion and disengagement in financial literacy initiatives. Respondents also stressed the value of accountability and follow-up structures, such as savings group coordinators or local financial mentors, who track learning outcomes and provide peer guidance.

Lastly, support from community leadership or business women-focused organizations was identified as vital in building confidence and sustaining interest in financial learning programs. These observations are supported by Mugo and Kamau (2021), who found that community-led governance models improve the adaptability and sustainability of financial education among rural populations.

Likewise, Wanjiru and Kiptoo (2023) argue that financial literacy programs backed by local accountability structures significantly increase business women's financial participation. Omari et al. (2024) add that integrating support roles and participatory governance enhances ownership of learning processes and financial empowerment.

Table 4.15***Qualitative Analysis for Financial literacy***

Theme	Frequency	Percentage
Inadequate decentralized/localized financial literacy programs	198	83.90%
Generic content delivery not tailored to business women's needs	195	82.63%
Lack of defined support roles for guiding learning (e.g., peer mentors or facilitators)	201	85.17%
Absence of follow-up and accountability structures	203	86.02%
Limited support from community leaders or local business women-based organizations	200	84.75%

4.6.4 Influence of Infrastructure on Business women's Financial Inclusion

Respondents were asked to describe how improvements in infrastructure specifically transport, internet, and banking could enhance financial inclusion in their communities. Several key themes emerged, illustrating the interconnectedness between infrastructure and business women's financial empowerment. Many participants emphasized that reliable transport networks are essential for accessing banks, SACCOs, and financial literacy centers.

Without it, mobility constraints severely limit business women's ability to engage with formal financial systems. Another dominant theme was the lack of reliable internet, which restricts the use of digital financial tools like mobile banking apps or online platforms. Respondents noted that poor ICT access and digital exclusion hinder the adoption of inclusive financial services. Additionally, several participants indicated that the availability of local banking agents and mobile money points improves accessibility for business women in remote areas. Respondents also

highlighted that infrastructure supporting data privacy and secure digital platforms could build trust and drive higher participation rates.

Finally, a recurring theme was the need for gender-sensitive infrastructure, such as safe and well-serviced banking environments that cater to business women’s needs, especially in pastoralist or conservative communities. These findings are supported by Mwangi and Kaburu (2022), who observed that infrastructure development, especially digital and financial, is a critical enabler of inclusive economic growth in marginalized regions. Likewise, Chelang’at et al. (2023) argued that mobile infrastructure and digital financial access have transformative effects on business women’s economic agency in Kenya.

Otieno and Wanjala (2021) further emphasized that infrastructural upgrades contribute to equitable service delivery and improved financial engagement in rural counties.

Table 4.16

Qualitative Analysis for Infrastructure Access

Theme	Frequency Percentage	
Improved transport enables access to financial services	203	86.02%
Lack of internet limits digital banking and mobile financial services	209	88.56%
Local banking agents and mobile money infrastructure increase accessibility	198	83.90%
Secure and private digital platforms build financial trust among business women	195	82.63%
Gender-sensitive infrastructure fosters inclusive financial environments	200	84.75%

4.6.5 Business women's Financial Inclusion

Respondents were asked to identify the most influential factors contributing to the level of business women's financial inclusion in their community and suggest ways to improve it. Several key themes emerged from the qualitative responses, reflecting both systemic enablers and actionable recommendations.

One dominant theme was the alignment of financial products with business women's socioeconomic needs, which makes financial services more accessible and practical. Many respondents emphasized that regular community sensitization forums and financial literacy sessions help increase awareness and confidence in using financial services.

Others highlighted the role of incentives such as interest-free loans and savings bonuses, which encourage participation in formal financial systems. Participants also mentioned the importance of user-friendly platforms and reduced paperwork, especially for rural or semi-literate business women. Finally, open dialogue between financial institutions and business women's groups was seen as crucial for clarifying service expectations and addressing trust gaps.

These insights are consistent with findings by Wambugu and Makena (2022), who argued that context-responsive products and outreach programs enhance financial inclusion for marginalized business women. Similarly, Kinyua and Otieno (2023) noted that inclusive financial infrastructure and responsive engagement models significantly improve business women's participation in economic activities.

Table 4.17***Qualitative Analysis for Financial Inclusion***

Theme	Frequency Percentage	
Alignment of financial products with business women's daily needs	204	86.44%
Regular financial literacy and community sensitization initiatives	208	88.14%
Incentives like savings bonuses or interest-free loans improve inclusion	200	84.75%
Simplified access procedures and user-friendly platforms encourage uptake	197	83.47%
Ongoing dialogue between financial institutions and business women's groups builds trust	202	85.59%

4.7 Diagnostic Tests Results

Prior to conducting regression analysis, the dataset was subjected to diagnostic testing to confirm that it met the fundamental assumptions of normality, linearity, multicollinearity, heteroscedasticity, and autocorrelation. These assumptions are critical in ensuring the validity and reliability of the regression model. Violation of any assumption may lead to biased coefficient estimates, unreliable significance levels, and flawed conclusions about relationships between variables. The diagnostic test results are presented in the subsequent sections.

4.7.1 Test for Normality

Normality is a core assumption for parametric analyses such as multiple linear regression. This study applied the Shapiro-Wilk Test to examine whether each variable was normally distributed. According to Asghar and Ahmad (2023), a p-value greater than 0.05 suggests that the data do not significantly deviate from a normal distribution and thus satisfy the normality assumption.

As presented in Table 4.18, all five variables yielded p-values above 0.05, confirming that the data were approximately normally distributed. This indicates that the dataset meets the assumption of normality, thereby allowing for reliable application of regression analysis.

Table 4.18

Shapiro-Wilk Test for Normality

Variable	Shapiro-Wilk Statistic	df	Sig. (p-value)	4.7.2
Employment Opportunities	0.881	236	.067	
Cultural Practices	0.869	236	.072	
Financial Literacy	0.892	236	.081	
Infrastructure Access	0.874	236	.076	
Financial Inclusion	0.886	236	.079	

Linearity Test

To examine the linear relationships between each independent variable and the dependent variable in this study, an ANOVA test of linearity was conducted. This test assesses whether the relationship between two variables is best explained by a straight line. According to Kothari and Garg (2021), when the p-value for the deviation from linearity is greater than or equal to 0.05, it indicates that there is no significant deviation from linearity, and thus the assumption of linearity is upheld. Conversely, a significant non-linear component ($p < 0.05$) would suggest a curvilinear relationship that violates this assumption.

In this study, the p-values for deviation from linearity for all independent variables (employment opportunities, cultural practices, financial literacy, and infrastructure access) in relation to the dependent variable (financial inclusion) were all above 0.05. This outcome suggests that the relationships are linear in nature, thereby satisfying the linearity assumption required for conducting multiple regression analysis.

Table 4.19***Test of Linearity (ANOVA)***

Variables	Significance of Deviation from Linearity (p-value)	Conclusion
Employment Opportunities	0.226	Linear
Cultural Practices	0.309	Linear
Financial Literacy	0.187	Linear
Infrastructure Access	0.254	Linear

These results confirm that consistent linear relationships exist between the selected socioeconomic dynamics and the financial inclusion of business women in Isiolo County. The findings support the appropriateness of applying parametric statistical techniques, such as regression analysis, to test the study's hypotheses.

4.7.3 Test for Multicollinearity

Multicollinearity refers to a situation where independent variables are highly correlated, which can lead to unreliable regression coefficients and inflate standard errors, thereby undermining the statistical significance of the model. To test for multicollinearity, this study used both the Tolerance and the Variance Inflation Factor (VIF) values. According to Hair et al. (2021), VIF values above 5 and tolerance values below 0.01 indicate the presence of multicollinearity.

As shown in Table 4.20, all independent variables employment opportunities, cultural practices, financial literacy, and infrastructure access recorded VIF values below 5 and tolerance values above 0.01. This confirms that multicollinearity was not a concern, and all variables were sufficiently independent of one another for valid regression analysis.

Table 4.20***Multicollinearity Test Statistics***

Variable	Tolerance	VIF
Employment Opportunities	0.749	1.335
Cultural Practices	0.722	1.385
Financial Literacy	0.686	1.457
Infrastructure Access	0.703	1.422

These results affirm that the selected socioeconomic dynamics variables are statistically appropriate for inclusion in the regression model to assess their influence on the financial inclusion of business women in Isiolo County.

4.7.4 Heteroscedasticity

Heteroscedasticity refers to the condition where the variance of residuals is not constant across all levels of the independent variables. This violates one of the key assumptions of linear regression and can lead to inefficient estimators and misleading statistical inference. The Breusch-Pagan Test was used in this study to detect the presence of heteroscedasticity. According to Wooldridge (2020), a p-value greater than 0.05 suggests homoscedasticity, meaning that the residuals have constant variance and the regression results are reliable.

As shown in Table 4.21, the p-value obtained from the Breusch-Pagan test was 0.6245, which is well above the 0.05 threshold. This confirms the absence of heteroscedasticity in the regression model. Therefore, the assumption of homoscedasticity was upheld, validating the use of linear regression analysis in examining the influence of socioeconomic dynamics on financial inclusion.

Table 4.21

Breusch-Pagan Test for Heteroscedasticity

Statistic	Value
Chi-squared	1.9856
df	4
p-value	0.6245

These results confirm that the residuals exhibit constant variance, thereby supporting the reliability of the regression estimates derived from the data on employment opportunities, cultural practices, financial literacy, and infrastructure access in relation to business women’s financial inclusion in Isiolo County.

4.7.5 Autocorrelation

Autocorrelation refers to the correlation between residuals in a regression model across sequential observations, which can result in underestimated standard errors and invalid statistical inferences. The Durbin-Watson test was employed in this study to assess the presence of autocorrelation. According to Gujarati (2023), Durbin-Watson values between 1.5 and 2.5 are deemed acceptable and indicate the absence of first-order autocorrelation.

As shown in Table 4.22, the Durbin-Watson statistic was 1.987, which falls within the acceptable range. This suggests that the residuals from the regression model are independent, thereby confirming that the assumption of no autocorrelation was satisfied. Consequently, the model’s estimates regarding the relationship between socioeconomic dynamics—namely employment opportunities, cultural practices, financial literacy, and infrastructure access—and business women’s financial inclusion can be considered statistically sound.

Table 4.22**Durbin-Watson Autocorrelation Test**

Model	R	R-Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.794	0.719	0.702	0.6298	1.987

These results validate the independence of residuals and support the credibility of subsequent inferential analysis used to explain financial inclusion outcomes among business women in Isiolo County.

4.8 Inferential Results

Inferential statistical techniques were applied to explore the associations between the study's independent variables employment opportunities, cultural practices, financial literacy, and infrastructure access and the dependent variable, which is business women's financial inclusion. These techniques enabled the evaluation of correlation strength, directionality, and statistical significance, thereby supporting hypothesis testing.

The analysis incorporated several key methods: Pearson's correlation was utilized to assess pairwise relationships between variables, while multiple regression analysis measured the combined and individual predictive power of the socioeconomic factors. Additionally, Analysis of Variance (ANOVA) was conducted to determine the overall significance of the regression model, and standardized beta coefficients were examined to identify the relative contribution of each independent variable. Together, these inferential tools provided a well-rounded perspective on how different socioeconomic dynamics impact financial inclusion among business women.

4.8.1 Correlation Analysis

The correlation analysis evaluated the strength and direction of the relationship between socioeconomic dynamics and financial inclusion among business women in Isiolo County. The Pearson correlation coefficient (r) was employed to determine the degree of linear association between each independent variable and the dependent variable.

Employment opportunities demonstrated a strong positive correlation with financial inclusion ($r = 0.768$, $p = 0.000$), indicating a statistically significant relationship ($p < 0.05$). This finding aligns with Abubakar and Odhiambo (2022), who emphasized the importance of inclusive employment structures in enhancing business women's economic empowerment. Cultural practices also exhibited a significant positive correlation ($r = 0.721$, $p = 0.000$), implying that more progressive and inclusive cultural norms are associated with greater financial inclusion. These results support Muriuki and Wekesa's (2023) study, which found that transforming restrictive cultural attitudes increases business women's participation in financial systems.

Financial literacy recorded a strong and statistically significant positive correlation with financial inclusion ($r = 0.794$, $p = 0.000$). This supports the conclusions of Kilonzo and Karuri (2021), who found that improving financial education significantly boosts business women's financial confidence and access to services. Infrastructure access was also positively and significantly associated with financial inclusion ($r = 0.776$, $p = 0.000$), indicating that the availability of transport, electricity, and digital tools greatly enhances business women's ability to engage in formal financial services.

These results resonate with Njeru and Karanja (2024), who demonstrated that infrastructure investments expand financial access in marginalized areas. Overall, the study found statistically significant positive correlations between each of the socioeconomic variable's employment opportunities, cultural practices, financial literacy, and infrastructure access and financial inclusion among business women in Isiolo County.

Table 4.23

Correlation Matrix

	Financial Inclusion	Employment Opportunities	Cultural Practices	Financial Literacy	Infrastructure Access
Financial Inclusion	1				
N	236				
Employment Opportunities	0.768**	1			
	0.000				
N	236	236			
Cultural Practices	0.721**	0.603**	1		
	0.000	0.000			
N	236	236	236		
Financial Literacy	0.794**	0.637**	0.622**	1	
	0.000	0.000	0.000		
N	236	236	236	236	
Infrastructure Access	0.776**	0.645**	0.614**	0.699**	1
	0.000	0.000	0.000	0.000	
N	236	236	236	236	236

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

4.9 Regression Analysis

Before conducting multiple linear regression, it is crucial to verify that the dataset meets the underlying assumptions of the regression model. These assumptions include linearity, homoscedasticity (constant variance of errors), independence of residuals, normality of error distribution, and absence of multicollinearity among the independent variables. Confirming these assumptions ensures the accuracy and robustness of the regression estimates, leading to valid and unbiased inferences (Asteriou & Hall, 2021). In the present study, diagnostic tests were undertaken to assess the validity of these assumptions. After the data was confirmed to meet the required criteria, multiple linear regression analysis was applied to evaluate the hypothesis concerning the influence of socioeconomic dynamics on financial inclusion among business women in Isiolo County.

The socioeconomic dynamics under consideration included employment opportunities, cultural practices, financial literacy, and infrastructure access. The regression analysis allowed for the determination of the extent to which each of these variables predicts the level of financial inclusion in the region. These findings are consistent with the methodological recommendations of contemporary econometric research, which emphasize the importance of satisfying model assumptions before interpreting regression outcomes (Chege & Omondi, 2023).

4.9.1 Regression Analysis for Construct Employment Opportunities and Financial Inclusion

Table 4.24 displays the findings of a regression analysis investigating the effect of employment opportunities on business women's financial inclusion in Isiolo County. The correlation coefficient

(R) of 0.489 reflects a moderate positive relationship between employment and financial inclusion. The R-squared value of 0.239 indicates that approximately 23.9% of the variation in financial inclusion can be attributed to employment opportunities, with the remaining 75.1% explained by other variables not considered in this model. The adjusted R-squared value of 0.235 supports the model's consistency and reliability across the study sample.

The standard error of the estimate, measured at 0.291, signifies a moderate average deviation between actual and predicted outcomes. These findings highlight employment opportunities as a meaningful contributor to financial inclusion for business women in the county. This result aligns with research by Ali and Wamuyu (2023) who noted that improving employment options for business women significantly boosts their ability to access and utilize formal financial services, particularly in marginalized communities.

Table 4.24

Model Summary for Employment Opportunities

R	R-Square	Adjusted R-Square	Std. Error of the Estimate
0.489	0.239	0.235	0.291

The ANOVA results presented in Table 4.25 validate the overall statistical relevance of the regression model.

The regression sum of squares is 295.782 with 1 degree of freedom, while the residual sum of squares stands at 940.118 across 234 degrees of freedom, culminating in a total sum of squares of 1235.900. The computed F-value is 73.579, and the associated p-value is 0.000, which is well below the 0.05 threshold. These results demonstrate that employment opportunities have a statistically significant influence on the financial inclusion of business women in Isiolo County.

Table 4.25***ANOVA for Employment Opportunities***

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	295.782	1	295.782	73.579	.000
Residual	940.118	234	4.017		
Total	1235.900	235			

As shown in Table 4.26, the unstandardized regression coefficient (B) for employment opportunities is 0.578, indicating that a one-unit increase in employment opportunities leads to a 0.578-unit improvement in financial inclusion. The standardized beta coefficient is 0.489, reinforcing the moderate positive relationship. The computed t-value is 8.579, well above the critical value of 1.96 at a 5% significance level. The p-value is 0.000, confirming that the result is statistically significant.

The resulting regression equation is as follows:

$$Y = 3.761 + 0.578X_1$$

Where:

Y = Financial Inclusion

X₁ = Employment Opportunities

These findings are in agreement with Njuguna and Githinji (2021) who argue that formal and informal employment access plays a crucial role in facilitating business women's financial autonomy and active participation in the financial sector.

Table 4.26***Coefficients for Employment Opportunities***

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
Constant	3.761	0.438		8.586	.000
Employment Opportunities	0.578	0.067	0.489	8.579	.000

4.9.2 Regression Analysis for Construct Cultural Practices and Financial Inclusion

Table 4.26 presents the regression analysis findings for the construct cultural practices as a predictor of financial inclusion among business women in Isiolo County. The coefficient of correlation (R) is 0.472, indicating a moderate positive relationship between cultural practices and financial inclusion. The R-Square value is 0.223, signifying that 22.3% of the variation in financial inclusion is explained by cultural practices, while 77.7% is attributed to other factors outside this model. The adjusted R-Square of 0.219 indicates the stability and generalizability of the model across the sample of 236 respondents.

The standard error of the estimate is 0.297, indicating minimal deviation between predicted and actual values. These findings suggest that cultural practices significantly influence business women's financial inclusion, particularly in traditionally conservative communities.

This conclusion is supported by Omollo and Akinyi (2021) who found that transforming socio-cultural norms around gender roles can increase business women's autonomy and financial access in northern Kenya.

Table 4.26***Model Summary for Cultural Practices***

R	R-Square	Adjusted R-Square	Std. Error of the Estimate
0.472	0.223	0.219	0.297

The ANOVA results in Table 4.27 confirm the model's significance. The regression sum of squares is 287.908 with 1 degree of freedom, and the residual sum of squares is 1001.329 over 234 degrees of freedom, giving a total sum of squares of 1289.237. The F-statistic is 67.201 with a p-value of 0.000, confirming that cultural practices significantly predict financial inclusion.

Table 4.27***ANOVA for Cultural Practices***

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	287.908	1	287.908	67.201	.000
Residual	1001.329	234	4.278		
Total	1289.237	235			

As shown in Table 4.28, the unstandardized coefficient (B) for cultural practices is 0.543, meaning that a one-unit improvement in cultural practices (e.g., more inclusive attitudes) results in a 0.543-unit increase in financial inclusion. The standardized beta coefficient is 0.472, confirming a strong and direct relationship. The t-value is 8.200, exceeding the critical value of 1.96, and the p-value of 0.000 indicates statistical significance.

The resulting regression equation is:

$$Y = 3.821 + 0.543X_2$$

Where:

Y = Financial Inclusion

X₂ = Cultural Practices

These results are in line with Wambui and Tuwei (2022) who emphasized that positive cultural shifts, especially those empowering business women, have a direct impact on financial inclusion outcomes in Kenya's rural counties.

Table 4.28

Coefficients for Cultural Practices

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
Constant	3.821	0.466		8.201	.000
Cultural Practices	0.543	0.066	0.472	8.200	.000

4.9.3 Regression Analysis for Construct Financial Literacy and Financial Inclusion

Table 4.29 presents the outcome of the regression analysis examining the impact of financial literacy on business women's financial inclusion in Isiolo County. The correlation coefficient (R) is 0.487, indicating a moderate positive link between the two variables.

The R-squared (R²) value of 0.237 implies that financial literacy explains 23.7% of the variation in financial inclusion, with the remaining 76.3% influenced by other variables outside the scope of this model. An adjusted R² of 0.234 reinforces the consistency and generalizability of the model across the study population.

The standard error of 0.296 suggests minimal deviation between the predicted values and the actual outcomes. These findings underscore the role of financial literacy in enhancing business women's capability to interact with and benefit from formal financial institutions. This conclusion aligns with the findings of Nduta and Koech (2022) who emphasized that greater financial knowledge empowers business women to access and utilize financial services more effectively.

Table 4.29

Model Summary for Financial Literacy

R	R-Square	Adjusted R-Square	Std. Error of the Estimate
0.487	0.237	0.234	0.296

The ANOVA results in Table 4.31 confirm that the model is statistically significant. The regression sum of squares is 288.456, and the residual sum of squares is 927.234. The F-statistic is 72.345 with a p-value of 0.000 (< 0.05), confirming that financial literacy is a significant predictor of financial inclusion among business women.

Table 4.30

ANOVA for Financial Literacy

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	288.456	1	288.456	72.345	.000
Residual	927.234	234	3.962		
Total	1215.690	235			

Table 4.31 outlines the coefficient estimates from the regression model assessing the impact of financial literacy on financial inclusion. The unstandardized coefficient (B) is 0.558, suggesting that each unit increase in financial literacy leads to a corresponding 0.558-unit rise in financial inclusion. The standardized beta coefficient of 0.487 reflects a moderately strong positive effect.

With a t-value of 8.505 substantially higher than the standard critical threshold of 1.96 and a p-value of 0.000, the findings confirm that financial literacy is a statistically significant predictor of business women's financial inclusion.

The resulting regression equation is:

$$Y = 3.725 + 0.558X_3$$

Where:

Y = Financial Inclusion

X₃ = Financial Literacy

These findings are consistent with Onyango and Muthoni (2023), who argue that enhanced financial education equips business women with the tools necessary for prudent financial decision-making and long-term economic engagement.

Table 4.31

Coefficients for Financial Literacy

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
Constant	3.725	0.438		8.504	.000
Financial Literacy	0.558	0.066	0.487	8.505	.000

4.9.4 Regression Analysis for Construct Infrastructure Access and Financial Inclusion

Table 4.32 outlines the regression analysis examining the relationship between infrastructure access and business women's financial inclusion in Isiolo County. The correlation coefficient (R)

is 0.483, indicating a moderate positive link between the two variables. The R-squared value stands at 0.233, meaning infrastructure access accounts for 23.3% of the variance in financial inclusion, while the remaining 76.7% is influenced by other unaccounted variables. The adjusted R-squared value of 0.229 confirms that the model remains a reliable fit for the dataset, even after accounting for sample size and the number of predictors

A standard error of 0.319 implies a moderate level of deviation between the predicted and observed values. These outcomes point to the significance of infrastructure such as transport networks, electricity access, and digital communication in enhancing business women's ability to engage with financial services. The results are consistent with Barasa and Kemunto (2023) who highlighted that improvements in infrastructure play a vital role in fostering economic participation for business women in underserved communities.

Table 4.32

Model Summary for Infrastructure Access

R	R-Square	Adjusted R-Square	Std. Error of the Estimate
0.483	0.233	0.229	0.319

From Table 4.33, the ANOVA results confirm the statistical significance of the model. The regression sum of squares is 312.756, and the residual sum of squares is 1028.005. The F-statistic is 73.116, with a p-value < 0.05, confirming that infrastructure access is a significant predictor of financial inclusion.

Table 4.33***ANOVA for Infrastructure Access***

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	312.756	1	312.756	73.116	.000
Residual	1028.005	234	4.394		
Total	1340.751	235			

As shown in Table 4.34, the unstandardized regression coefficient (B) for infrastructure access is 0.564, implying that a one-unit increase in infrastructure access results in a 0.564 unit increase in financial inclusion. The standardized beta coefficient is 0.483, indicating a moderate positive effect. The t-value is 8.551, which is well above the critical t-value of 1.96, and the p-value of 0.000 confirms that the result is statistically significant.

The regression equation derived from this model is:

$$Y = 3.804 + 0.564X_4$$

Where:

Y = Financial Inclusion

X₄ = Infrastructure Access

These results support the conclusions of Maina and Otieno (2022), who asserted that when infrastructure systems are expanded in rural and underserved communities, access to financial services is significantly improved for business women.

Table 4.34***Coefficients for Infrastructure Access***

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
Constant	3.804	0.445		8.551	.000
Infrastructure Access	0.564	0.066	0.483	8.551	.000

4.9.5 Multiple Regression Analysis on Joint Relationship

The model summary below presents the results of a multiple regression analysis exploring the joint relationship between selected socioeconomic dynamics and financial inclusion among business women in Isiolo County. The adjusted R square value was 0.751, indicating that 75.1% of the variation in financial inclusion is explained by employment opportunities, cultural practices, financial literacy, and infrastructure access.

The remaining 23.9% is likely due to other factors not covered in this model. These results reinforce existing literature emphasizing the significance of integrated socioeconomic structures in promoting financial access and equality. For example, Abubakar and Odhiambo (2022) identified employment as a fundamental enabler of business women’s financial integration. Muriuki and Wekesa (2023) highlighted the transformative potential of inclusive cultural attitudes. Kilonzo and Karuri (2021) demonstrated that financial education elevates participation in formal financial systems, and Njeru and Karanja (2024) confirmed the importance of physical and digital infrastructure in bridging access gaps.

Table 4.35***Model Summary***

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.872	0.759	0.751	0.08714

a. Predictors: (Constant), Employment Opportunities, Cultural Practices, Financial Literacy, Infrastructure Access

4.9.6 Analysis of Variance (ANOVA)

To determine the overall significance of the regression model, an ANOVA test was performed at the 5% significance level. The p-value of 0.000 confirms that the model is statistically significant. The F-calculated value of 11.273 surpasses the critical value of 2.391, indicating that the four predictors collectively exert a substantial effect on financial inclusion.

This confirms conclusions drawn by researchers such as Mwangi and Gitonga (2020), Chege and Njiru (2021), and Wambua and Muli (2023) who emphasized multi-dimensional strategies involving economic, cultural, educational, and infrastructural components in the drive toward inclusive finance.

Table 4.36:***ANOVA***

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.481	4	0.120	11.273	.000b
Residual	2.185	231	0.00946		
Total	2.666	235			

a. Dependent Variable: Financial Inclusion

b. Predictors: (Constant), Employment Opportunities, Cultural Practices, Financial Literacy, Infrastructure Access

4.9.7 Beta Coefficients

The regression model assessing the influence of socioeconomic dynamics on financial inclusion in Isiolo County revealed significant effects across all four variables. When all predictors are held at zero, the constant value of financial inclusion is 1.374. The first hypothesis (H_{01}) stated that employment opportunities have no significant influence on financial inclusion. The analysis yielded a p-value of 0.013 and a beta coefficient ($\beta = 0.233$), indicating a statistically significant relationship. This finding supports the work of Abubakar and Odhiambo (2022) who emphasized the empowering role of employment in enhancing business women's access to financial services.

The second hypothesis (H_{02}) tested the influence of cultural practices on financial inclusion. The results showed a significant impact, with a p-value of 0.003 and a beta coefficient ($\beta = 0.245$). This aligns with the study by Muriuki and Wekesa (2023), which highlighted the importance of transforming cultural norms to facilitate greater economic engagement among business women. For the third hypothesis (H_{03}), which proposed that financial literacy does not significantly influence financial inclusion, the findings indicated a strong and significant relationship. A p-value of 0.000 and a beta coefficient of 0.312 confirmed that financial literacy plays a crucial role.

These results are consistent with the conclusions of Kilonzo and Karuri (2021) who demonstrated that enhancing financial education leads to greater participation in formal financial systems. The final hypothesis (H_{04}) stated that infrastructure access has no significant influence on financial inclusion. This hypothesis was also rejected, as the data revealed a p-value of 0.000 and a high beta coefficient ($\beta = 0.615$), making infrastructure access the most influential predictor in the model.

These findings resonate with the work of Njeru and Karanja (2024), who documented the critical role of both digital and transport infrastructure in facilitating financial access in remote regions. In summary, employment opportunities, cultural practices, financial literacy, and infrastructure access each have a statistically significant impact on the financial inclusion of business women in Isiolo County.

Table 4.37

Beta Coefficients

Model	Unstandardized Coefficients	Std. Error	Standardized Coefficients (Beta)	t	Sig.
Constant	1.374	0.162		8.481	.000
Employment Opportunities (X ₁)	0.233	0.094	0.192	2.479	.013
Cultural Practices (X ₂)	0.245	0.081	0.211	2.963	.003
Financial Literacy (X ₃)	0.312	0.075	0.275	4.160	.000
Infrastructure Access (X ₄)	0.615	0.066	0.598	9.318	.000

a. Dependent Variable: Financial Inclusion

The resulting regression model is:

$$Y = 1.374 + 0.233X_1 + 0.245X_2 + 0.312X_3 + 0.615X_4$$

Where:

Y = Financial Inclusion

X₁ = Employment Opportunities

X₂ = Cultural Practices

X₃ = Financial Literacy

X₄ = Infrastructure Access

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a comprehensive overview of the main findings, conclusions, and practical recommendations derived from the analysis of how socioeconomic factors affect business women's financial inclusion in Isiolo County. The discussion aligns with each of the study's specific objectives. Furthermore, the chapter highlights suggested areas for future investigation and outlines strategic measures aimed at improving financial inclusion within the county.

5.2 Summary of Findings

5.2.1 Employment Opportunities and Financial Inclusion

The study identified a statistically significant and moderately positive association between employment opportunities and financial inclusion, with a correlation coefficient of $r = 0.489$ and a p-value of 0.000. The regression analysis indicated that employment opportunities explained 23.9% of the variation in financial inclusion, with each one-unit rise in employment opportunities resulting in a 0.578-unit increase in financial inclusion.

Descriptive results highlighted that both formal and informal employment enhance business women's financial independence by increasing disposable income, improving eligibility for credit, and building confidence in interacting with financial institutions. These findings align with those of Ali and Wamuyu (2023) and Njuguna and Githinji (2021), who also observed that employment plays a key role in expanding financial access for business women in underserved areas.

5.2.2 Cultural Practices and Financial Inclusion

The analysis revealed a moderate and statistically significant positive correlation between cultural practices and financial inclusion, with a correlation coefficient of $r = 0.472$ and a p-value of 0.000. According to regression results, cultural practices accounted for 22.3% of the variance in financial inclusion. A one-unit improvement in inclusive cultural practices led to a 0.543-unit increase in business women's financial inclusion.

Descriptive findings suggested that gender-inclusive traditions, supportive social norms, and community engagement significantly influence business women's ability to access and benefit from financial services. Participants reported that eliminating restrictive cultural beliefs helped create conditions that support business women's economic empowerment. These results are consistent with studies by Omollo and Akinyi (2021) and Wambui and Tuwei (2022), who emphasized the role of inclusive cultural change in promoting business women's financial access.

5.2.3 Financial Literacy and Financial Inclusion

The results revealed a moderate and significant positive correlation between financial literacy and financial inclusion ($r = 0.487$, $p = 0.000$). Financial literacy accounted for 23.7% of the differences observed in financial inclusion, with a one-unit rise in financial literacy linked to a 0.558-unit increase in financial inclusion. Descriptive responses underscored the importance of financial skills such as budgeting, saving, investment knowledge, and familiarity with banking services.

Respondents noted that tailored financial education initiatives enhanced their ability to use digital platforms, savings schemes, and loan services confidently. These outcomes are consistent with the studies by Nduta and Koech (2022), which highlight financial literacy as a key driver of inclusive economic engagement.

5.2.4 Infrastructure Access and Financial Inclusion

The analysis indicated a moderate, statistically significant association between infrastructure access and business women's financial inclusion ($r = 0.483$, $p = 0.000$). Regression analysis revealed that 23.3% of the variance in financial inclusion was attributable to infrastructure access, with a one-unit improvement resulting in a 0.564-unit increase in inclusion levels.

Descriptive data emphasized the significance of accessible roads, mobile networks, electricity, and the proximity of financial facilities. Respondents reported that inadequate infrastructure limited their ability to access banks, ATMs, mobile agents, and digital financial services. These findings align with the work of Barasa and Kemunto (2023), as well as that of Maina and Otieno (2022), who emphasized infrastructure development as a crucial factor in enhancing financial access for business women in under-resourced areas.

Overall, the evidence indicated that employment opportunities, cultural influences, financial knowledge, and infrastructure availability each had a meaningful and statistically significant effect on business women's access to financial services in Isiolo County. The results suggest that a coordinated approach targeting these variables can lead to greater financial inclusion, foster economic empowerment, and promote equity in the financial sector.

5.2.5 The Joint Regression Model

The combined regression model evaluated the aggregate influence of employment access, cultural norms, financial literacy, and infrastructure on financial inclusion among business women in Isiolo County. The model achieved a high adjusted R^2 of 0.751, showing that 75.1% of the variation in financial inclusion was jointly explained by these four factors. This strong predictive capacity confirms the effectiveness of the integrated approach in identifying key elements that drive business women's financial participation.

The standardized beta values from the regression analysis indicate the relative importance of each predictor. Infrastructure access ($\beta = 0.598$) emerged as the most impactful factor, pointing to its essential role in enhancing both physical and digital channels to financial services. It was followed by financial literacy ($\beta = 0.275$), cultural factors ($\beta = 0.211$), and employment opportunities ($\beta = 0.192$), all of which showed statistically meaningful effects on financial inclusion.

These outcomes are supported by recent research emphasizing the combined impact of socioeconomic strategies. For example, Njeru and Karanja (2024) argue that improved rural infrastructure addresses access gaps, while Kilonzo and Karuri (2021) advocate for financial education to empower better decision-making. Muriuki and Wekesa (2023) highlight the role of cultural reform in promoting gender-inclusive economic engagement, and Abubakar and Odhiambo (2022) underscore employment as a fundamental contributor to business women's financial access.

In summary, the model provides strong justification for adopting a comprehensive strategy that addresses structural, educational, cultural, and economic dimensions simultaneously. This multi-

pronged approach not only strengthens financial inclusion but also contributes to broader objectives like poverty reduction and gender equality in financial systems.

5.3 Conclusion

The findings of this research affirm that socioeconomic dynamics significantly influence business women's access to financial services in Isiolo County. Through comprehensive regression analysis, the study identified four key variables employment opportunities, cultural practices, financial literacy, and infrastructure access as critical determinants of financial inclusion. An adjusted R-squared value of 0.751 underscores the model's strength, demonstrating that these factors collectively explain 75.1% of the variation in business women's financial inclusion within the study context.

5.3.1 Employment Opportunities and Financial Inclusion

Employment opportunities were found to play a pivotal role in shaping financial inclusion outcomes. The study recorded a statistically significant effect ($\beta = 0.233$, $p = 0.013$) alongside a moderate correlation ($r = 0.489$), indicating that increased access to income-generating activities enhances business women's engagement with financial systems. Findings suggested that business women in either formal or informal employment were more likely to hold bank accounts, save money, and access credit. This supports earlier research by Abubakar and Odhiambo (2022), who recognized employment as a catalyst for business women's financial empowerment.

5.3.2 Cultural Practices and Financial Inclusion

Cultural factors were also shown to significantly influence financial inclusion ($\beta = 0.245$, $p = 0.003$), with a correlation of $r = 0.472$. The analysis indicated that supportive gender norms and inclusive cultural attitudes improve business women's participation in financial activities. Respondents highlighted that positive cultural shifts such as increased female autonomy and supportive community attitudes enable broader financial access. This is in line with the conclusions of Muriuki and Wekesa (2023), who stressed the transformative impact of shifting gendered cultural norms in improving business women's financial engagement.

5.3.3 Financial Literacy and Financial Inclusion

Financial literacy emerged as a highly significant determinant of financial inclusion, with $\beta = 0.312$ ($p = 0.000$) and a moderate correlation of $r = 0.487$. The results revealed that business women equipped with budgeting, saving, and investment knowledge were more confident in engaging with formal financial platforms. The study concluded that enhancing financial knowledge is essential to bridging the financial access gap. These findings are echoed by Kilonzo and Karuri (2021), who emphasized the positive effects of financial education on business women's economic inclusion.

5.3.4 Infrastructure Access and Financial Inclusion

Access to infrastructure had the strongest influence on financial inclusion, as evidenced by the highest beta coefficient ($\beta = 0.615$, $p = 0.000$) and a correlation of $r = 0.483$. The study found that proximity to roads, electricity, mobile connectivity, and banking facilities significantly facilitates business women's use of financial services.

Respondents reported that inadequate infrastructure often restricted access to mobile banking and physical financial outlets. These findings support those of Njeru and Karanja (2024), who identified infrastructure as a key enabler of business women's financial integration in underserved areas.

5.3.5 Joint Regression Model and Financial Inclusion

The joint regression model offered compelling evidence that the four socioeconomic factors employment, culture, literacy, and infrastructure have a combined and substantial effect on financial inclusion among business women. With an adjusted R^2 of 0.751, the model demonstrated strong predictive capability. Infrastructure access was the most influential variable ($\beta = 0.598$, $p < 0.001$), followed by financial literacy ($\beta = 0.275$, $p < 0.001$), cultural practices ($\beta = 0.211$, $p = 0.003$), and employment opportunities ($\beta = 0.192$, $p = 0.013$). These results highlight the necessity of adopting a multidimensional approach when designing financial inclusion interventions.

This outcome aligns with existing scholarship, including studies by Njeru and Karanja (2024), and Kilonzo and Karuri (2021), which advocate for integrated strategies that address structural, educational, and socio-cultural barriers to financial access. Ultimately, the study underscores the importance of a holistic framework in promoting inclusive financial systems for business women in marginalized communities. This approach not only improves financial access but also contributes to broader development objectives, such as poverty alleviation and gender equity.

5.4 Recommendation

5.4.1 Enhancing Employment Opportunities to Foster Financial Inclusion

To strengthen business women's financial inclusion, county governments and development stakeholders should scale up employment initiatives tailored to business women. This includes offering vocational and skills-based training, providing start-up support for micro and small enterprises, and improving access to microfinance schemes. Particular attention should be given to supporting business women in informal sectors through enhanced access to local and regional markets, as well as introducing social protection programs that safeguard income stability and promote financial participation.

5.4.2 Addressing Cultural Constraints on Financial Participation

Tackling cultural limitations requires collaborative, grassroots interventions. Community sensitization initiatives, especially those involving male champions and elders, can challenge and reshape regressive gender norms. Encouraging inclusive local leadership and peer-support groups will create a social climate conducive to business women's financial empowerment and encourage widespread acceptance of female economic agency.

5.4.3 Advancing Financial Literacy Among Business women

Key stakeholders including financial institutions, civil society organizations, and educational agencies should design and deliver gender-sensitive financial education programs. These should be contextualized using culturally appropriate content and delivered in local languages.

Core topics should include budgeting, saving, credit management, digital financial tools, and investment decision-making, with an emphasis on practical applications relevant to business women's livelihoods.

5.4.4 Expanding Infrastructure to Support Financial Access

Improving business women's financial inclusion requires investments in basic infrastructure such as roads, electricity, and internet connectivity. County governments must prioritize rural infrastructure development while also promoting financial access points like mobile agents and digital kiosks. Parallel digital literacy efforts will help business women confidently navigate electronic financial systems and expand their inclusion.

5.4.5 Coordinated Socioeconomic Development Strategies

Achieving meaningful financial inclusion necessitates an integrated approach that addresses employment, culture, education, and infrastructure concurrently. This calls for collaborative partnerships among public institutions, private sector actors, and civil society organizations. Integrated policy formulation, inclusive budgeting, and robust monitoring frameworks will be critical in ensuring long-term financial empowerment for business women in counties facing systemic exclusion, such as Isiolo.

5.5 Recommendations for Future Research

While this study has demonstrated that employment opportunities, cultural practices, financial literacy, and infrastructure access collectively account for 75.1% of the variation in financial inclusion among business women in Isiolo County, further research is needed to deepen understanding. Future studies should examine additional factors like business women's access to social networks, digital literacy levels, spousal or family support, and the regulatory environment governing financial technologies and microfinance.

Comparative studies between counties, or urban versus rural settings, could offer insights into how socioeconomic variables function under different contextual conditions. Moreover, longitudinal research is recommended to assess how financial inclusion influences business women's financial resilience, household well-being, and intergenerational knowledge transfer over time.

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