
EFFECTS OF DIGITAL LENDING PLATFORMS ON THE FINANCIAL WELL-BEING OF SMALL BUSINESS OWNERS ACROSS VARIOUS SECTORS IN KISUMU COUNTY, KENYA

Febian Oduor Onyiego^{1*}, Dr. Yasin Ghabon²

¹Department of Accounting and Finance, School of Business and Economics,
Maseno University, Kenya.

²Department of Economics, School of Business and Economics,
Maseno University, Kenya.

Article Received: 10 July 2026

Article Revised: 30 July 2026

Published on: 19 August 2026

***Corresponding Author: Febian Oduor Onyiego**

Department of Accounting and Finance, School of Business and Economics, Maseno
University, Kenya.

DOI: <https://doi-doi.org/101555/ijrpa.2629>

ABSTRACT

The rapid adoption of digital lending platforms in Kenya has revolutionised access to credit for micro, small, and medium enterprises (MSMEs), yet it has also raised significant concerns about predatory lending and over-indebtedness. This study aims to assess the effects of digital lending platforms on the financial well-being of small business owners across various sectors in Kisumu County, Kenya. Specifically, the research evaluates how digital credit accessibility affects operational cash flow, examines the impact of borrowing costs on net profit margins, and determines how debt utilisation and repayment behaviours influence financial leverage and over-indebtedness. The study is anchored on Financial Capability Theory, Pecking Order Theory, and Sustainable Livelihoods Framework. A descriptive survey research design will be employed, targeting MSME owners in major Kisumu hubs, such as Kibuye and Kondele markets. Data will be collected through structured questionnaires and analysed using descriptive and inferential statistics, including multiple linear regression. Preliminary review suggests that while ease of access can improve short-term liquidity, high interest rates and poor repayment behaviours, such as "loan stacking", may severely erode net profit margins and increase long-term financial vulnerability. The findings are expected to provide empirical evidence for policymakers at the Central Bank of Kenya to enhance consumer protection and for digital lenders to develop more sustainable, consumer-centric financial products.

CHAPTER ONE

1.1 Background of the study

1.1.1 Global and Regional Context of the Fintech Revolution

Over the last few decades, the financial sector has undergone a massive shift driven by the Financial Technology (Fintech) revolution. Online payment development, P2P lending, artificial intelligence, and blockchain are among the key trends emerging in the financial industry, transforming how financial services are delivered. Historically, traditional banking has often been characterized by extensive paperwork, strict collateral requirements, and a physical presence. These factors limited access to financial services for most individuals and businesses, especially small-scale operators. This has led to the rise of mobile-centric financial services, which are agile, simple, and fast—making access to financial services more decentralized, affordable, and highly inclusive. Access to short-term credit acts as a primary catalyst for macroeconomic growth by unlocking the productive capacity of Micro, Small, and Medium Enterprises (MSMEs), which, according to the World Trade Organization (WTO, 2016), account for over 90% of businesses globally and generate 60-70% of total employment.

In Sub-Saharan Africa, this revolution has massively changed the banking ecosystem. Emerging from basic Peer-to-Peer (P2P) remittance networks, the regional digital ecosystem has matured into a sophisticated infrastructure offering insurance, savings, and primarily, digital credit. According to the Global System for Mobile Communications Association (GSMA), Sub-Saharan Africa accounts for 52% of all registered mobile money accounts worldwide, representing approximately 1.2 billion out of 2.3 billion accounts globally. For most MSMEs in this region, access to financial services, which the rigorous processes of formal banks have historically deterred, has finally found a lifeline through digital lending platforms that use alternative credit scoring algorithms. These lending platforms provide immediate, unsecured short-term liquidity directly to mobile wallets, making credit acquisition easy, accessible, and seamless.

1.1.2 Local Context: The Kenyan Digital Space and Kisumu County

Kenya is the absolute epicenter of the global mobile money and fintech narrative. Safaricom's M-Pesa ecosystem has acted as a pioneer in the rise of the digital credit market. Introduced in 2007, M-Pesa became the benchmark for mobile transaction services, sparking an influx of both bank-backed platforms (M-Shwari, KCB M-Pesa, and Timiza) and independent non-bank digital credit providers (Tala, Branch, Pesapap, and Zenka). These services initially

operated in an unregulated environment. However, due to widespread public outcry over predatory interest rates, opaque terms, and aggressive debt-collection practices, the government moved to regulate their operations. The Central Bank of Kenya (Amendment) Act, 2021, was enacted, empowering the Central Bank of Kenya (CBK) to license and regulate all non-deposit-taking Digital Credit Providers (DCPs). Under the CBK Digital Credit Providers Regulations, 2022, platforms must secure explicit regulatory clearance, disclose the total cost of credit upfront, protect consumer data privacy, and cease predatory listing of defaulted borrowers on Credit Reference Bureaus (CRBs)

Kisumu County, which is the hub of economic development in western Kenya, provides an ideal setting for testing these credit dynamics. Informal, micro, and small-scale trades predominantly drive Kisumu's economy. At the center of this economy is Kibuye market, one of the largest open-air markets in East Africa, alongside large artisan Jua Kali sectors spread across Kondele, Kamas, and Obunga (Joan, 2023). These businesses operate in cash-sensitive environments characterised by high inventory turnover and thin profit margins. Due to the inflexibility and high collateral requirements of the formal banking sector in Kisumu, traders frequently opt for mobile lending apps. These platforms offer quick loans to bridge financial gaps, restock fast-moving inventories, address daily income shortages, and cope with sudden supply shocks.

1.1.3 Linkage of Variables to Financial Well-Being

In microeconomics, financial well-being is defined as a firm's or an owner's ability to maintain a healthy, sustainable financial position. Financial well-being is measured by net profit margins, operating cash flows, and financial leverage. The sustainability and success of small-scale businesses rely heavily on their ability to maintain steady operational cash flows, retain decent net profit margins, and balance borrowing to ensure debt does not exceed the business's capacity to comfortably offset it.

This study posits that the financial well-being of small business owners in Kisumu County is directly influenced by three independent variables associated with digital lending platforms:

- **Credit Accessibility:** This refers to the ease and speed with which a loan is acquired, characterized by instant disbursement, 24/7 availability, and the bypassing of traditional banking collateral requirements. While easy access offers immediate cash to smooth over short-term operational cash flows, its net effect depends heavily on how effectively entrepreneurs manage this sudden liquidity.

- **Cost of Borrowing:** This encompasses the direct financial burdens imposed on borrowers, including interest rates, processing fees, hidden administrative costs, and rollover charges. High borrowing costs directly tax business revenues, compressing net profit margins. Microeconomic theory dictates that business profits erode when the cost of capital exceeds the marginal product of the capital generated.
- **Debt Utilization and Repayment Behavior:** This captures how borrowed funds are allocated and the behavioral patterns driving loan clearance. When credit is channelled into working capital (such as inventory restocking), it can expand profit margins; when diverted to personal consumption, it threatens business survival. Furthermore, short repayment windows often trap micro-entrepreneurs in a cyclical borrowing-and-paying routine, leading to high financial leverage and over-indebtedness.

1.2 The Problem Statement

Ideally, the rapid expansion of fintech and digital lending platforms is intended to improve financial access. By removing heavy collateral requirements, physical barriers, and extensive paperwork through alternative algorithmic credit scoring (Osabutey & Jackson, 2024), digital lending platforms are supposed to foster financial inclusion and enhance the general financial well-being of small business owners. They are designed to provide the financial cushion needed to offset operational cash flow shocks, protect profit margins from sudden market shifts, and keep financial leverage within safe, sustainable boundaries (Daniel et al., 2025).

However, this is far from the reality on the ground. Despite the Central Bank of Kenya's (CBK) continuous regulatory interventions to clean up non-deposit-taking digital lenders, predatory lending behaviours persist through hidden fees, exorbitant interest rates, and punitive rollover penalties (Muli, 2020). Small business owners in Kisumu County frequently find themselves trapped in "loan stacking"—the practice of borrowing from one mobile platform to offset debt on another. This triggers a vicious cycle of over-indebtedness that directly destabilises their operational cash flows and erodes their net profit margins.

The consequences of predatory behaviour by most mobile lending platforms have eroded small business owners' livelihoods. Micro-entrepreneurs are often subjected to financial distress, misalignment of their working capital to service loans, and complete depletion of

their emergency savings. In worst-case scenarios, these financial burdens and distress often lead to business liquidation.

The consequences of these dynamics are severe. Instead of achieving financial security, micro-entrepreneurs experience extreme financial distress, the diversion of vital working capital toward predatory debt servicing, and the complete depletion of household emergency savings. In worst-case scenarios, these unsustainable financial leverage levels lead to forced asset liquidation or total business collapse.

While a substantial body of local empirical literature exists, a critical conceptual and contextual research gap remains. Existing Kenyan studies heavily favour macroeconomic metrics, focusing almost exclusively on enterprise-level performance indicators like sales volume or labour productivity, while systematically overlooking how these platforms affect the individual owner's holistic financial well-being (Mbogo, 2026; Stanley, 2025; Salome, 2023). Furthermore, few studies examine how these dynamics unfold across different commercial sectors in a lakeside economic hub like Kisumu County. This study seeks to bridge these gaps by investigating the effects of digital lending platforms on the financial well-being of small business owners in Kisumu County, Kenya, specifically focusing on operational cash flows, net profit margins, and financial leverage.

1.3 Research Objectives

The main objective of this study is to assess the Effects of Digital Lending Platforms on the Financial Well-Being of Small Business Owners across various sectors in Kisumu County, Kenya.

The following specific objectives will guide this study:

1. To evaluate how the accessibility of digital credit affects the operational cash flow of small business owners in Kisumu County.
2. To examine how the costs of borrowing (interest rates, hidden fees, penalties, etc.) impact the net profit margins of small business owners in Kisumu.
3. To determine how debt utilisation and repayment behaviours influence the financial leverage and over-indebtedness of small business owners across different commercial sectors in Kisumu County.

1.4 Research Questions

1. How accessibility to digital credit affects the operational cash flow of small business owners in Kisumu County.
2. What is the impact of the costs of borrowing on the net profit margins of small business owners in Kisumu County?
3. How do debt utilisation and repayment behaviours affect the financial leverage and over-indebtedness of small business owners in Kisumu County?

1.5 Research Hypothesis

The following hypothesis will guide this study.

1. H_{01} : Digital credit accessibility has no significant effect on the operational cash flow of small business owners in Kisumu County.
2. H_{02} : The cost of borrowing has no significant impact on the net profit margins of small business owners in Kisumu County.
3. H_{03} : Debt utilisation and repayment behaviour of digital debts has no significant influence on the financial leverage of small business owners in Kisumu County.

1.6 Significance of the study

This study aims to provide significant value to stakeholders across Kenya's financial, academic, and economic sectors.

1. **Policy Makers and Regulators:** This study will provide empirical data to show the gaps that still exist within the digital lending ecosystem. The Central Bank of Kenya and the Communications Authority will be able to identify loopholes that credit institutions utilise that still violate the Consumer Protection Act and affect citizens' daily livelihoods. This should trigger the formulation of more effective measures.
2. **The Digital Credit Providers:** To provide a deeper understanding to lenders on how their product design and measures affect their clients' welfare, to sensitise them towards adopting more sustainable and consumer-centric products.
3. **To small business owners and Traders:** To shed more light on the long-term risks of over-indebtedness and loan stacking, thereby promoting healthier borrowing habits and financial literacy.
4. **To Researchers and Academicians:** This study shifts the focus on the enterprise performance to the human aspect, the financial well-being of the individuals who run these enterprises. It also provides a localised reference point to future scholars who aim

to investigate the fintech ecosystem and dynamics on the livelihoods of the people of Kisumu County.

1.7 The Scope of the Study.

Content Scope: This study is strictly confined to examining the effects of digital lending platforms on the financial well-being of small business owners. The independent variables are restricted to the costs of borrowing digital credit, accessibility of digital credit, and digital debt repayment behaviour. The dependent variable is financial well-being, measured by net profit margins, financial leverage, and operational cash flows.

Geographical Scope: This study will be conducted within the confines of Kisumu County, especially across the major business hubs and markets within the County (e.g., Kibuye, Kondele, Kawas, Uhuru market, etc.), sections where most business owners understand and use digital lending apps to finance their business operations.

Target Population Scope: The respondents will be strictly individuals who own and/or run micro, small, and medium (MSMEs) enterprises and have had access to at least one digital lending platform (e.g., M-Shwari, Tala, Branch, Fuliza, etc.) within the last 12 months.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter provides a detailed review of literature relevant to the study of digital lending and financial well-being among small business owners. It is organised into several sections: the theoretical framework that anchors the study; an empirical review of previous research findings categorised by the study's specific objectives; a critical analysis of the existing literature to identify research gaps; and the conceptual framework representing the hypothesised relationships between variables.

2.1 Theoretical Framework

The theoretical framework outlines the assumptions and theories used to explain digital credit and its impact.

2.1.1 Theories Anchoring Objective 1: Credit Accessibility and Operational Cash Flows Asymmetric Information Theory

The Asymmetric Information Theory, pioneered by George Akerlof (1970) and advanced in credit markets by Joseph Stiglitz and Andrew Weiss (1981), posits that marketplace

participants possess unequal access to critical information. In credit transactions, borrowers possess intimate knowledge regarding their true financial health, risk profiles, and project viability, whereas lenders face an informational deficit. This imbalance gives rise to adverse selection (pre-contractual risk where high-risk borrowers actively seek loans) and credit rationing, as lenders raise interest rates or demand heavy collateral to hedge against unobservable risks.

Historically, formal commercial banks in Kisumu County mitigated asymmetric information by requiring audited financial statements and physical asset collateral, effectively rationing informal microenterprises out of the formal credit market.

Digital lending platforms fundamentally redefine this dynamic by substituting physical asset collateral with alternative data credit scoring algorithms. By extracting real-time mobile data—including M-Pesa transaction velocities, airtime purchase histories, and mobile wallet cash flows—digital lenders bridge the information gap without physical documentation. This theory directly supports the structural aspect of Credit Accessibility, explaining how fintech platforms minimise traditional screening friction to unlock instant credit availability for the unbanked.

Financial Capability Theory

While asymmetric information theory explains the mechanism that grants access to credit, the Financial Capability Theory explains the behavioural outcome of that access on business cash flows. Developed by Margaret Sherraden (2013) and popularised by the World Bank's financial inclusion frameworks, this theory posits that financial well-being is not achieved merely by providing access to financial products. Instead, it requires a combination of internal financial literacy (knowledge, skills, and attitudes) and external access to quality, affordable financial products.

In the context of small business owners in Kisumu, this theory suggests that high credit accessibility (instant, frictionless, and convenient) is a double-edged sword. If a trader has low financial literacy, instant capital access may lead to poor cash management, overallocation of funds to nonproductive assets, or failure to plan for future liabilities.

Conversely, when highly accessible digital credit matches strong internal financial capability, the entrepreneur can optimise cash conversion cycles, manage liquidity gaps, and stabilise operational cash flows. Thus, the theory notes that credit access alone does not guarantee financial well-being; the owner's capability dictates whether accessibility translates to stable operational cash flow.

2.1.2 Theories Anchoring Objective 2: Cost of Borrowing and Net Profit Margins

Liquidity Constraint Theory

The Liquidity Constraint Theory, rooted in the microeconomic consumption-smoothing models of Franco Modigliani and Milton Friedman, was adapted to corporate finance by Zeldes (1989) and Kaplan and Zingales (1997). The framework states that when firms face binding credit constraints, their operational expenditures, working capital investments, and survival capacity become entirely dependent on their current internal cash reserves rather than their long-term economic net worth. In a frictionless capital market, an enterprise borrows to optimise current production by leveraging future cash flows. However, in reality, microenterprises operate under tight liquidity constraints; they cannot borrow at the prevailing market interest rate due to institutional frictions.

For an informal trader at Kibuye Market or a service provider in Kondele, cash flow is highly volatile. A sudden supply shock, equipment breakdown, or rapid change in consumer demand creates an immediate capital deficit.

Digital credit serves as an emergency microeconomic mechanism to lift these binding liquidity constraints by injecting instant funds. This directly underpins Variable 2 (Cost of Borrowing).

While the theory explains that access to credit helps smooth business operations, it establishes that the efficiency of this solution depends heavily on the cost of the capital. If the cost of borrowing, as reflected in digital lenders' high annualised interest rates and upfront processing fees, exceeds the marginal product of capital the small business generates, the loan does not create sustainable growth. Instead, it acts as an expensive capital drain, leading to depleted net profit margins and reduced cash flow stability.

Pecking Order Theory

To understand why small business owners willingly accept the exorbitant costs of digital loans, the study utilises the Pecking Order Theory, pioneered by Stewart Myers and Nicolas Majluf (1984). Grounded in capital structure literature, this theory states that firms follow a strict financing hierarchy to minimise asymmetric information costs. The standard hierarchy dictates that management prefers internal equity (retained earnings) first, followed by safe debt, then risky debt, and finally external equity as a last resort.

For small business owners in Kisumu County, the first two options in the pecking order are often unavailable or highly restricted. Retained earnings are often thin and easily wiped out

by household consumption shocks. Formal bank debt is unavailable due to strict formal banking credit rationing.

Consequently, traders are structurally forced straight down the pecking order to high-cost digital lending apps to sustain operations. This framework explains how capital structure decisions under institutional constraints lead to the adoption of high-interest digital debt, which directly impacts and squeezes the firm's net profit margins.

2.1.3 Theories Anchoring Objective 3: Debt Utilisation, Repayment Behaviour, and Financial Leverage

Moral Hazard and Debt Management Theory

Moral Hazard Theory, a post-contractual branch of Arrow's (1963) Principal-Agent framework, examines behavioural shifts that occur when individuals are insulated from the full consequences of risk. In digital lending, moral hazard risks are amplified by the digital interface's lack of face-to-face accountability and lack of physical asset attachment. Because there is no relationship-driven screening or physical asset to seize upon in default, the social and psychological costs of default are lower.

This theory underpins **Debt Utilisation and Repayment Behaviour**. Due to the frictionless nature of mobile disbursements, borrowers are strongly tempted to misallocate funds. Rather than injecting the digital loan into productive business inventory, owners may divert the liquidity toward immediate, non-income-generating personal consumption or consumption smoothing.

Furthermore, when facing a repayment crunch within the short 14-to-30-day windows, moral hazard manifests as irresponsible debt management behaviour—specifically "loan stacking." Borrowers exploit multiple unregulated or loosely coordinated digital applications, taking a loan from Platform B strictly to cover an overdue balance on Platform A. This behavioural pattern increases systemic credit risk and accelerates financial distress.

Debt-Over-indebtedness Theory

The Debt-Over-indebtedness Theory originated in Irving Fisher's (1933) Debt-Deflation Theory and was later adapted to the microfinance setting by Jessica Schicks (2013). Fisher argued that excessive leverage, while initially acting as an economic stimulant, reaches a tipping point at which the burden of servicing debt shifts borrower behaviour from productive investment to defensive survival. In a micro-enterprise context, over-indebtedness occurs

when a borrower cannot service their concurrent debt obligations without experiencing a substantial reduction in their basic standard of living or business asset base.

This framework explains the final tipping point of the conceptual model. When micro-entrepreneurs use short-term digital debt for projects with slow cash conversion cycles—such as a *Jua Kali* artisan fabricating bulky metal structures—the business cannot generate enough revenue to meet the rapid repayment deadline.

To protect their mobile credit scores and avoid automated blocklisting by Credit Reference Bureaus (CRBs), business owners engage in defensive borrowing. Fisher's theory explains how this behavioural pattern changes credit from an asset into a liability. The resulting high leverage ratios and over-indebtedness cause capital erosion, structurally lowering the financial well-being of the small business owner.

2.2 Empirical Review

While the theoretical framework explains why these credit dynamics occur, the empirical review explores what past researchers have discovered globally, regionally, and locally. This section evaluates past studies to identify patterns and anomalies in how digital credit impacts micro-enterprises.

2.2.1 Credit Accessibility and Operational Cash Flows

Globally, the relationship between fintech credit accessibility and firm cash flow stability is mixed. In an evaluation of mobile-centric business lines in emerging Asian economies, Beck et al. (2020) observed that reducing loan approval turnaround times from weeks to minutes significantly improved short-term operational cash smoothing. Unsecured, algorithm-driven credit lines allowed retail micro-enterprises to capitalise on sudden market demand, reducing stockouts and maximising daily cash inflows. However, the study noted that frictionless access frequently led to cash flow volatility if businesses lacked structured inventory controls.

Regionally, research in Sub-Saharan Africa shows that eliminating physical collateral is the primary driver of financial inclusion for informal traders. A study by Moro et al. (2022) on mobile wallets in West Africa found that alternative credit scoring (based on mobile wallet volumes) successfully bridged the formal financing gap. The instant nature of these loans provided a vital buffer against sudden supply chain shocks. However, the authors warned that while accessibility stabilises immediate cash balances, it can create a false sense of liquidity, leading business owners to treat short-term debt as permanent working capital.

Locally, Kenyan studies emphasise the role of mobile banking platforms like M-Shwari and KCB M-Pesa. In a study of microenterprises in Nairobi's informal settlements, Mwangi and Tari (2021) found a strong positive correlation between digital credit availability and operational cash flow smoothing among fast-moving retail traders. Conversely, Ndung'u (2023) discovered that while accessibility provided immediate relief for daily cash mismatches, it offered minimal long-term benefit to businesses with slower cash conversion cycles, such as artisanal workshops. This underscores the need to analyse how credit accessibility affects cash flows across different commercial sectors in Kisumu County.

2.2.2 Cost of Borrowing and Net Profit Margins

The financial burden of digital credit is a major point of contention in corporate finance literature. Globally, microfinance studies by Banerjee et al. (2019) show that high borrowing costs systematically erode the net profits of small businesses. When the effective interest rate of a loan exceeds the marginal return on capital generated by the business, the credit acts as an economic drain rather than an investment tool.

In Sub-Saharan Africa, non-bank digital lenders often operate with high effective annualised percentage rates (APRs), sometimes exceeding 100% due to compounding rollover fees and processing charges. A study by Robinson (2021) on fintech lending in Tanzania and Uganda found that, while small traders frequently used mobile loans for convenience, their net profit margins contracted significantly over 12 months. The study concluded that high interest expenses transferred the economic surplus from the entrepreneur to the fintech platform.

In Kenya, following the CBK Digital Credit Providers Regulations 2022, platforms are legally required to disclose the total cost of credit upfront. However, empirical evidence suggests that informal traders continue to struggle with the financial burden of these loans. Kamau (2024) conducted a regression analysis on MSMEs in Nakuru and found that borrowing costs associated with digital applications had a significant negative effect on net profit margins. Traders often overlooked the high APRs because they focused primarily on the small, absolute fee amounts for short-term loans. This study extends this research by examining how high borrowing costs affect net profit margins across distinct sectors in Kisumu County.

2.2.3 Debt Utilisation, Repayment Behaviour, and Financial Leverage

The economic destination of borrowed capital and the repayment behaviour determine whether debt drives growth or causes distress. Globally, Karlan and Zinman (2020) demonstrated that when micro-credit is diverted from business investment to personal consumption smoothing (e.g., medical bills or school fees), the business generates no additional revenue to service the debt. This pattern quickly leads to capital erosion and increased financial distress.

Regionally, "loan stacking"—the behavioural practice of maintaining multiple concurrent loans across separate digital platforms—has emerged as a major challenge in African fintech markets. A regional study by the Consultative Group to Assist the Poor (CGAP, 2022) across East Africa found that short repayment windows (typically 14 to 30 days) often force micro-borrowers into a cycle of defensive borrowing. Entrepreneurs frequently take a loan from Platform B strictly to pay off an overdue balance on Platform A, artificially inflating their financial leverage without expanding their business operations.

In Kenya, despite enhanced regulatory oversight and limits on predatory credit reporting, behavioural challenges around loan stacking persist. Academic evaluations by Omondi (2025) noted that small business owners frequently mix personal and business wallets due to the convenience of mobile money. When digital credit is used to smooth household consumption during economic downturns, default risks rise sharply.

This behaviour strains the firm's capital structure and pushes the owner toward over-indebtedness. This study evaluates how these utilisation patterns and repayment behaviours vary across the retail, service, and *Jua Kali* sectors in Kisumu County.

2.4 Conceptual Framework

Based on the theoretical roots and empirical insights reviewed above, the conceptual model below maps out the hypothesised relationships.

The study proposes that three distinct dimensions of digital lending directly influence small business financial well-being. The specific business sector controls this primary relationship to account for differences in cash flow velocities:

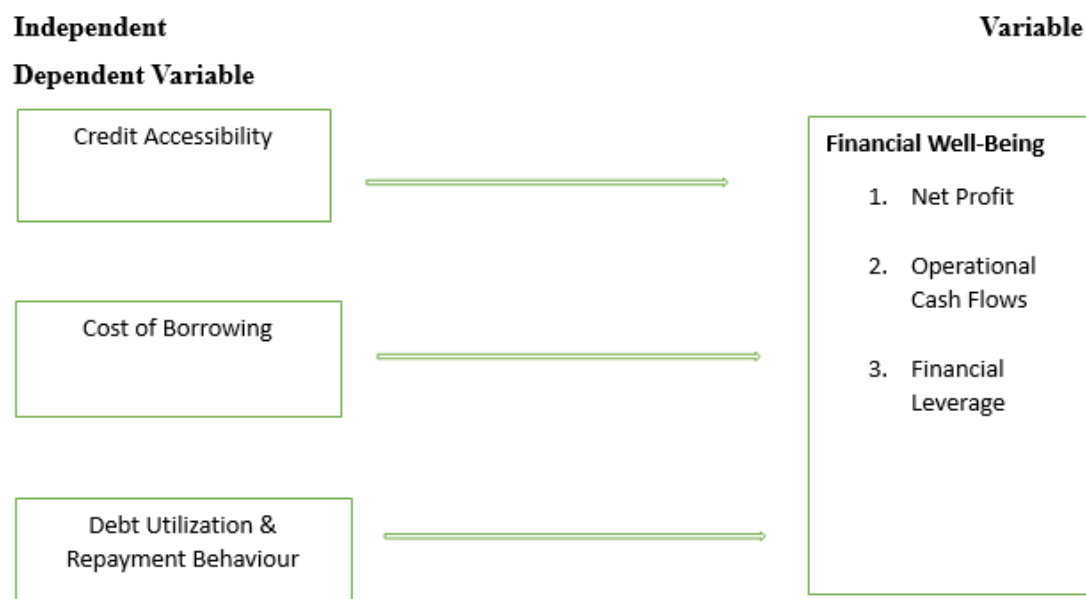


Fig 1: Conceptual Framework.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

This study adopts a descriptive and explanatory cross-sectional survey research design. A cross-sectional design is highly appropriate as it allows the researcher to capture a snapshot of the digital borrowing behaviours and financial metrics of small business owners at a specific point in time under the current Central Bank of Kenya (CBK) regulatory framework. The descriptive component enables the systematic profiling of digital credit utilisation frequencies, platforms, and average interest costs across different business types. Concurrently, the explanatory aspect employs inferential econometrics to establish, quantify, and analyse the causal relationships between the independent variables (credit accessibility, cost of borrowing, debt utilisation/repayment) and the dependent variable (financial well-being).

1.2 Target Population

The target population comprises all formally and informally registered Micro and Small Enterprises (MSEs) operating within the key economic nodes of Kisumu County, Kenya. According to the Kisumu County Department of Commerce, Tourism, and Industrialisation (2025/2026 Registry Data), there are approximately **14,500 registered micro-enterprises** distributed across five major commercial zones: Kisumu Central Business District (CBD)/Kibuye, Kondele, Manyatta, Nyalenda, and Obunga.

To ensure the study captures varying capital velocities and inventory cycles, the population is divided into three distinct operational sectors (strata):

- 1. Retail and Wholesale Traders:** Grocery stalls, boutique shops, hardware retailers, and open-air market vendors (e.g., at Kibuye Market).
- 2. Service Providers:** Salons, barbershops, local eateries/cafes, and transport operators (e.g., Boda Boda repair and operational units).
- 3. Artisanal and Manufacturing (*Jua Kali*):** Metal fabricators, welders, carpenters, and tailors (primarily clustered in the Kamas and Kondele *Jua Kali* sectors).

3.3 Sampling Design and Sample Size

3.3.1 Sampling Technique

This study utilises Stratified Random Sampling combined with Proportionate Allocation. Stratification is mathematically necessary because microenterprises across sectors experience radically different cash flow velocities. By partitioning the target population into three homogenous strata (Retail, Services, and *Jua Kali*), the sampling design minimises sampling error and guarantees that the unique credit realities of slower-turnover businesses are not statistically overwhelmed by high-volume retail traders. Within each stratum, simple random sampling via numerical identifiers or physical stall listings is used to select individual respondents, ensuring every business owner has an equal, unbiased probability of inclusion.

3.3.2 Sample Size Determination

To calculate a statistically valid and representative sample size (n) from the target population ($N = 14,500$), this study applies **Yamane's Formula (1967)**. This formula is standard for finite populations where the variance is assumed to be maximum ($p = 0.5$) at a 95% confidence level with a 5% margin of error ($e = 0.05$):

$$n = \frac{N}{1 + N(e)^2}$$

Where:

- N = Total Target Population (14,500)
- e = Margin of Error (0.05)
- n = Calculated Sample Size

$$n = \frac{14,500}{1 + 14,500(0.05)^2}$$

$$n = \frac{14,500}{1 + 36.25}$$

$$n = \frac{14,500}{37.25}$$

$$\approx 389.26$$

Thus, the baseline sample size required for this study is exactly **389 respondents**. To account for potential non-response bias, missing entries, or unreturned questionnaires during field operations, the sample is inflated by 10%, resulting in a target sample distribution of **428 small business owners**.

3.3.3 Proportionate Sampling Allocation Matrix

Using the county commerce registry percentages, the sample size of 428 is proportionately distributed across the three sectors to maintain structural balance:

Sector	Estimated Population (N)	Population Proportion (%)	Target Allocation (n)	Sample
Retail & Wholesale Trade	7,250	50%	214	
Service Industry	4,350	30%	128	
Artisanal & <i>Jua Kali</i>	2,900	20%	86	
TOTAL	14,500	100%	428	

3.4 Data Collection Instruments and Procedure

Primary data will be gathered using a highly structured, researcher-administered questionnaire. Because small business owners in busy markets like Kibuye cannot easily abandon their operations to complete long forms, a "drop-and-pick" method or direct **mobile-based data entry (via KoboToolbox or Google Forms)** will be deployed.

The questionnaire is partitioned logically:

- **Section A:** Demographic information and business profile matrices (acting as control indicators).
- **Sections B, C, & D:** Metric statements measuring Credit Accessibility, Cost of Borrowing, and Debt Utilisation/Repayment Behaviours using a balanced **5-point Likert Scale** (ranging from 1 = Strongly Disagree to 5 = Strongly Agree).
- **Section E:** Financial Well-Being metrics, capturing numeric ranges of monthly net margins, operational liquidity availability, and self-reported leverage scores.

3.5 Validity and Reliability of the Instrument

3.5.1 Validity

To establish **Content and Construct Validity**, the questionnaire draft will be subjected to expert peer review by university supervisors and senior faculty in the Department of Finance. This ensures that every individual statement aligns tightly with the underlying microeconomic theories mapped in Chapter 2. A pilot study will be conducted on **10% of the sample size (approx. 39 traders)** in the neighbouring sub-counties of Kisumu West to verify that the phrasing is clear, unambiguous, and culturally accessible to local traders. Data from the pilot study will be excluded from the final analysis.

3.5.2 Reliability

To measure the internal consistency and reliability of the Likert scales, the pilot data will be subjected to a **Cronbach's Alpha (α) test** via SPSS or Stata. The mathematical coefficient is expressed as:

$$\alpha = \frac{K}{K - 1} \left(1 - \frac{\sum \sigma_{x_i}^2}{\sigma_x^2} \right)$$

Where K is the number of items $\sum \sigma_{x_i}^2$ is the sum of item variances, and σ_x^2 is the total score variance. Scales generating a Cronbach's Alpha coefficient **equal to or greater than 0.70** ($\alpha \geq 0.70$) will be deemed reliable and ready for immediate field deployment.

3.6 Data Analysis and Model Specification

3.6.1 Data Processing and Diagnostics

Collected questionnaires will be cleaned, coded, and entered into statistical software (**SPSS Version 28 or Stata**). Before running inferential tests, the data must pass strict **classical linear regression diagnostic assumptions**:

- 1. Multicollinearity:** Tested via the Variance Inflation Factor (VIF). Any variable yielding a VIF score greater than 5 will be adjusted to protect model stability.
- 2. Normality:** Assessed through the Shapiro-Wilk test and visual histogram analysis to ensure the error terms are normally distributed.
- 3. Heteroscedasticity:** Evaluated using the Breusch-Pagan test to confirm the variance of the residuals is constant.

3.6.2 Econometric Model Specification

To quantify the direct magnitude and direction of the effects, a **multiple linear regression model** will be constructed. The model includes sector-specific dummy control variables to prevent structural industry biases:

$$FWB_i = \beta_0 + \beta_1 ACC_i + \beta_2 CST_i + \beta_3 UTL_i + y_1 + y_1 D_{Serv_i} + y_2 D_{Juai} + \varepsilon_i$$

Where:

FWB_i = Financial Well-Being Index of business i (Dependent variable computed from a combined index of cash flow stability, profit margin protection, and debt balance).

ACC_i = Credit Accessibility score (Independent Variable 1).

CST_i = Cost of Borrowing score (Independent Variable 2).

UTL_i = Debt Utilisation & Repayment Behaviour score (Independent Variable 3).

D_{Serv_i} = Sector Dummy 1 (1 if the business belongs to the Service industry, 0 otherwise).

D_{Juai} = Sector Dummy 2 (1 if the business belongs to the *Jua Kali* Manufacturing industry, 0 otherwise).

β_0 = The regression intercept constant.

$\beta_1, \beta_2, \beta_3$ = Regression coefficients measuring individual variable effect magnitudes.

y_1, y_2 = Shift coefficients capturing structural differences relative to the retail sector.

ε_i = Stochastic error term representing unobserved microeconomic variances.

Statistical significance will be verified at a **95% Confidence Level ($\alpha = 0.05$)**. If a variable's calculated p-value is less than 0.05 ($p < 0.05$), the null hypothesis is rejected, confirming a statistically significant microeconomic effect.

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