

DIGITAL RESOURCES AND WOMEN-OWNED ENTERPRISE PERFORMANCE IN NIGERIA: DIGITAL LITERACY AS A MEDIATOR AND ENTREPRENEURIAL SUPPORT AS A MODERATOR

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Abstract

Women-owned enterprises increasingly encounter digital platforms and financial technologies, yet access to these resources does not automatically translate into improved performance. Existing research commonly examines platform adoption, entrepreneurial mindset, digital financial access, literacy and support systems separately, leaving the conversion mechanism and relevant boundary conditions insufficiently integrated. This conceptual paper develops a framework explaining how digital platform adoption, entrepreneurial mindset and access to digital financial services influence women-owned enterprise performance in Nigeria. An integrative literature synthesis was undertaken using peer-reviewed studies and authoritative institutional reports located through structured searches of Scopus, Web of Science, Google Scholar and relevant development-agency repositories. The synthesis is organized through the Resource-Based View and Social Capital Theory. The framework proposes direct effects of digital platform adoption, entrepreneurial mindset and digital financial access on enterprise performance; positions digital literacy as the capability through which platform adoption and entrepreneurial mindset are converted into productive use; and treats entrepreneurial support systems as a boundary condition that may complement capabilities when support is relevant and enabling, but substitute for them when it is overly directive. Seven propositions are developed. The paper contributes by distinguishing resource access from capability deployment and by replacing the assumption that support is universally beneficial with a contingent complementarity argument. It recommends differentiated digital training, affordable and gender-responsive financial products, cybersecurity awareness, market-linked mentorship and evaluation of support quality. Future research should test the framework using time-lagged, multi-source designs among women-owned enterprises across rural and urban Nigeria.

Keywords: Digital financial services, Digital literacy, Digital platform adoption, Entrepreneurial mindset, Entrepreneurial support systems

Introduction

Digitalization has altered how small enterprises identify customers, coordinate transactions, obtain information and access finance. Online marketplaces, social media, mobile applications and digital-payment systems can reduce distance and transaction barriers, but the value obtained from them depends on complementary skills, organizational routines and supportive institutions (GEM, 2024). This distinction is particularly important for women-owned enterprises, which often operate with fewer financial buffers and face gendered constraints in markets, networks and technology access (Brush et al., 2022; World Bank, 2022; UN Women, 2023).

The opportunity is substantial but uneven. World Bank evidence on African e-commerce shows that women already own more than half of the businesses observed on a major platform in Nigeria, while persistent differences in digital and financial inclusion continue to limit their sales and movement into higher-value segments (World Bank, 2022; EFInA, 2023). At a broader level, women in low- and middle-income countries remained less likely than men to use mobile internet in 2023, with the gap particularly wide in sub-Saharan Africa (GSMA, 2024; PwC Nigeria, 2024). These verified patterns support a careful problem statement: women participate in the digital economy, but participation, capability and performance are not equivalent.

The empirical literature remains fragmented. Studies commonly report positive associations between digital technology use and enterprise outcomes, entrepreneurial mindset and performance, or digital finance and inclusion. Yet relationships vary by infrastructure, sector, capability and institutional context. Evidence generated among male-dominated SMEs, students or firms in high-connectivity economies cannot be transferred automatically to women-owned enterprises in Nigeria. Moreover, citation accumulation has sometimes substituted for comparison of mechanisms and contexts. A more useful synthesis must explain why a digital resource creates value, when it fails to do so and which conditions alter its effect.

A theoretical gap follows from this fragmentation. Resource-based reasoning explains that valuable resources and capabilities can support advantage, but platform access or a mobile account is not itself a productive capability. Social-capital reasoning explains how networks provide information, legitimacy, finance and market connections, but it does not imply that every support programme improves performance. The two perspectives require integration: internal digital and cognitive capabilities influence resource deployment, while external relationships condition the quantity and quality of resources that can be mobilized. The mechanism gap concerns digital literacy. Platform adoption can precede capability development, occur alongside it or fail because capability is insufficient. Digital literacy is therefore treated here as a conversion mechanism: it enables entrepreneurs to evaluate information, protect accounts, create content, interpret digital records and align technology with business objectives. The framework does not assume that access alone produces literacy. Instead, it proposes that sustained platform engagement and an opportunity-oriented mindset can stimulate capability development, which subsequently supports performance. A plausible competing explanation that prior literacy enables adoption is retained for future empirical testing.

A boundary-condition gap also remains. Entrepreneurial support systems may complement internal capabilities by supplying mentorship, finance, credibility and market access.

However, support may become substitutive when it displaces experimentation, creates dependency or supplies generic instruction unrelated to the enterprise's stage and market. Na-Allah and Ahmad (2022) provide evidence that support can alter indirect entrepreneurial processes rather than operate as an unconditionally positive resource. The relevant question is therefore not whether support exists, but when its design strengthens or weakens the productive use of digital capabilities and financial access.

This paper develops a theoretically grounded framework explaining how digital platform adoption, entrepreneurial mindset and access to digital financial services influence women-owned enterprise performance in Nigeria through digital literacy and under varying levels and qualities of entrepreneurial support. It contributes by integrating technology, cognition, finance and social support; separating resource access from conversion capability; and treating entrepreneurial support as a contingent boundary condition rather than a universal benefit.

Conceptual Questions

- How does digital platform adoption influence women-owned enterprise performance?
- How does entrepreneurial mindset contribute to digital literacy and enterprise performance?
- How does access to digital financial services influence enterprise performance?
- Through what mechanisms does digital literacy transmit the effects of platform adoption and entrepreneurial mindset?
- Under what conditions do entrepreneurial support systems complement or substitute for digital capability and financial access?

Organization of the Paper

The remainder of the paper explains the conceptual-development method, critically reviews the constructs and relationships, integrates the theoretical foundations, develops the propositions and framework, and discusses theoretical and practical implications, limitations and directions for empirical testing.

Method of Conceptual Development and Literature Synthesis

The paper employs an integrative conceptual-review approach. This method is appropriate because the research problem spans digital entrepreneurship, women's entrepreneurship, technology capability, digital finance and entrepreneurial ecosystems. The objective is not to estimate a pooled effect but to compare theoretical assumptions, identify mechanisms and boundary conditions, and develop testable propositions.

Search Strategy

Structured searches were designed for Scopus, Web of Science and Google Scholar, supplemented by repositories of the World Bank, GSMA, Global Entrepreneurship Monitor and African development institutions. Search combinations linked population terms ("women entrepreneur*", "female-owned business", "women-owned enterprise") with explanatory terms ("digital platform adoption", "social media adoption", "digital financial services", "entrepreneurial mindset", "digital literacy", "entrepreneurial support", "business network") and outcome terms ("enterprise performance", "firm performance", "sales", "growth", "innovation", "survival"). Nigeria and Africa were added as contextual terms but were not used to exclude theoretically informative studies from other settings.

Eligibility and Quality Criteria

The core publication window was 2020–2026, while foundational theoretical works were retained regardless of year. Eligible evidence included peer-reviewed journal articles, scholarly books and authoritative institutional reports with transparent provenance. Sources were excluded when bibliographical details could not be verified, the population or construct was unrelated to the proposed relationship, or a numerical claim could not be traced to the cited source. Empirical studies were evaluated for contextual fit, design, measurement and whether their conclusions followed from their evidence. Institutional reports were used for descriptive context rather than causal claims.

Synthesis Procedure

Evidence was organized in a concept matrix recording study context, method, constructs, findings, limitations and relevance to the framework. The synthesis proceeded in four stages: definition of each construct; identification of the theoretical mechanism; comparison of supporting, mixed and competing evidence; and derivation of propositions suitable for future testing. This approach makes the inferential chain visible and prevents evidence from unrelated contexts from being presented as direct proof about Nigerian women-owned enterprises.

Critical Literature Review and Proposition Development

Women-Owned Enterprise Performance

Women-owned enterprise performance refers to the extent to which an enterprise achieves economic, market, operational and strategic objectives. It includes sales and profit growth, customer acquisition, innovation, productivity, survival and owner-assessed goal attainment. A multidimensional definition is preferable because many women-owned firms are micro or informal enterprises for which audited accounts are unavailable. Future empirical research should combine subjective measures with objective indicators where possible and distinguish short-term digital activity from sustained enterprise outcomes (Firmansyah et al., 2023; Hassan, Bello & Adebayo, 2023).

Digital Platform Adoption and Performance

Digital platform adoption is the purposeful use of online marketplaces, social media, mobile applications and related infrastructures for business activities. The mechanism is not simply technological presence. Platforms can enlarge market reach, lower search costs, support customer interaction and create transaction data. Their value depends on regularity, strategic alignment, trust and the entrepreneur's ability to interpret platform signals. World Bank evidence from African e-commerce demonstrates both substantial participation by women and persistent sales gaps, showing that adoption creates opportunity without guaranteeing parity (World Bank, 2022).

Evidence across SMEs generally supports a positive association between digital use and performance, but effect sizes vary with infrastructure, sector and complementary capability. Research from high-connectivity settings often assumes reliable logistics, payments and consumer protection; these assumptions are weaker in many Nigerian markets (Monie Point, 2024). Platform adoption may also impose costs through data charges, fraud exposure,

algorithmic dependence and time-intensive content production. Accordingly, the relationship is expected to be positive on average but conditional rather than automatic.

Proposition 1 (P1): Digital platform adoption is positively associated with women-owned enterprise performance in Nigeria.

Entrepreneurial Mindset and Performance

Entrepreneurial mindset comprises opportunity recognition, innovativeness, calculated risk taking, resilience and learning orientation. It provides a cognitive basis for interpreting environmental change and reallocating resources. Research on women-owned enterprises in Kenya and Albania reports positive performance associations for resilience, innovativeness and risk-related orientations (Farery & Samson, 2021; Zegullaj et al., 2024). However, mindset is not a substitute for finance, infrastructure or market access. Excessive risk taking may be harmful, and self-reported mindset measures may overlap with performance perceptions.

In a volatile digital environment, the most relevant mechanism is adaptive learning: entrepreneurs with an opportunity-oriented mindset are more likely to experiment, seek feedback and acquire new capabilities. This reasoning supports both a direct performance pathway and an indirect pathway through digital literacy.

Proposition 2 (P2): Entrepreneurial mindset is positively associated with women-owned enterprise performance in Nigeria.

Access to Digital Financial Services and Performance

Access to digital financial services means the ability to obtain and effectively use digital payments, savings, credit, insurance and related financial tools. Access has availability, affordability, suitability and effective-use dimensions. An account that is costly, distrusted or disconnected from enterprise cash flow represents nominal rather than functional access. Digital finance can improve transaction speed, record keeping, working-capital management and customer convenience, but it can also introduce fraud, data, debt and service-reliability risks. The World Bank therefore treats responsible digital finance as an inclusion opportunity requiring consumer protection and capability. For women-owned enterprises, digital finance may reduce collateral and distance barriers, yet gender gaps in identification, handset ownership, confidence and product design can constrain use. Supportive evidence justifies a positive relationship, but the magnitude should vary with product relevance and the entrepreneur's ability to integrate financial information into decisions.

Proposition 3 (P3): Effective access to digital financial services is positively associated with women-owned enterprise performance in Nigeria.

Digital Literacy as a Conversion Mechanism

Digital literacy combines technical, cognitive, information, safety and communication capabilities. In enterprise settings it includes evaluating online information, creating and managing content, protecting accounts, interpreting digital records and selecting tools appropriate to business objectives. It is therefore more than basic device operation. Pratiwi et al. (2024) and Jumriaty et al. (2024) connect digital literacy or safety-related capabilities with performance and innovation among women entrepreneurs, although cross-sectional designs limit causal ordering.

The mediation logic requires temporal care. Platform engagement can produce learning-by-doing, while an entrepreneurial mindset motivates experimentation and reflective learning; these processes can develop literacy, which then supports productive deployment. Yet reverse causality is plausible because digitally literate entrepreneurs may adopt platforms earlier. The framework treats mediation as a testable process rather than an established fact and recommends time-lagged research.

Proposition 4 (P4): Digital platform adoption is positively associated with digital literacy among women entrepreneurs.

Proposition 5 (P5): Entrepreneurial mindset is positively associated with digital literacy among women entrepreneurs.

Proposition 6 (P6): Digital literacy transmits positive indirect effects from digital platform adoption and entrepreneurial mindset to women-owned enterprise performance.

Entrepreneurial Support Systems as a Boundary Condition

Entrepreneurial support systems comprise formal and informal relationships through which entrepreneurs obtain knowledge, finance, legitimacy, emotional encouragement and market access. Relevant actors include peers, mentors, associations, financial institutions, incubators, customers and public agencies. Social Capital Theory predicts benefits when relationships provide usable resources that would otherwise be costly or unavailable (Burt, 2000; Ogundana et al., 2023).

Support quality matters more than simple availability. Complementary support enables entrepreneurs to deploy their own digital and financial capabilities through targeted advice, referrals and market connections. Substitutive support can weaken capability development when programmes are overly directive, generic, donor-driven or disconnected from actual customers. Na-Allah and Ahmad (2022) illustrate that entrepreneurial support may change the strength of indirect processes rather than produce a uniformly positive effect. This paper therefore advances competing moderation expectations.

Proposition 7a (P7a): Relevant, autonomy-supportive entrepreneurial support strengthens the positive relationship between digital literacy and women-owned enterprise performance.

Proposition 7b (P7b): Relevant, market-linked entrepreneurial support strengthens the positive relationship between access to digital financial services and women-owned enterprise performance; overly directive or substitutive support weakens these relationships.

Evidence Synthesis and Remaining Gaps

Evidence stream	Typical method/context	Main insight	Limitation informing this paper
Digital platforms	Cross-sectional SME studies; platform reports	Market reach and coordination can improve	Access often conflated with strategic use
Entrepreneurial mindset	Surveys of women-owned or small firms	Resilience and innovation relate to outcomes	Common-method and reverse-causality risks
Digital finance	Financial-inclusion and SME studies	Payments and records may improve resilience	Nominal access differs from effective use
Digital literacy	Cross-sectional	Capability supports	Mediation and temporal

	literacy/performance studies	safer and more order rarely tested
Support systems	Network and ecosystem studies	productive use provide knowledge, legitimacy and markets
		Support quality and substitution underexamined

The synthesis reveals four connected gaps: fragmented empirical treatment of resources; inadequate integration of internal capability and external support theories; limited testing of digital literacy as a temporal conversion process; and insufficient attention to support as a potentially complementary or substitutive boundary condition. Nigerian context strengthens the relevance of these gaps but does not replace them.

Theoretical Integration

Resource-Based View

The Resource-Based View explains heterogeneity in performance through resources and capabilities that are valuable and difficult to reproduce in equivalent combinations (Barney, 1991). In this framework, platform access and digital finance are resource opportunities; entrepreneurial mindset and digital literacy are deployment capabilities. The distinction explains why two firms with similar access may obtain different outcomes. The theory also cautions against labelling common technologies as strategic resources without demonstrating complementary routines and learning.

Social Capital Theory

Social Capital Theory explains how relationships provide access to information, legitimacy, finance and opportunities (Burt, 2000). Entrepreneurial support systems represent the external relational architecture surrounding the enterprise. Their performance value depends on network diversity, trust, relevance and the entrepreneur's autonomy. Dense networks can provide cohesion but may also circulate redundant information or impose conformity.

Integrated Explanation

The theories perform distinct but complementary roles. RBV explains the value of internal cognitive and digital capabilities; Social Capital Theory explains how external relationships extend, validate or constrain those capabilities. Digital literacy converts access and orientation into productive routines, while entrepreneurial support conditions whether internal capability and financial access reach markets. The integrated framework therefore moves from a simple "more technology plus more support equals better performance" claim to a contingent conversion argument.

Proposed Conceptual Framework

Figure 1 presents the proposed relationships. Solid arrows represent direct and mediated paths; dashed arrows indicate the boundary role of entrepreneurial support systems. The model retains both direct and indirect pathways because platform adoption and entrepreneurial mindset may influence performance before the full development of digital literacy. P7a and P7b explicitly distinguish complementary from substitutive support.

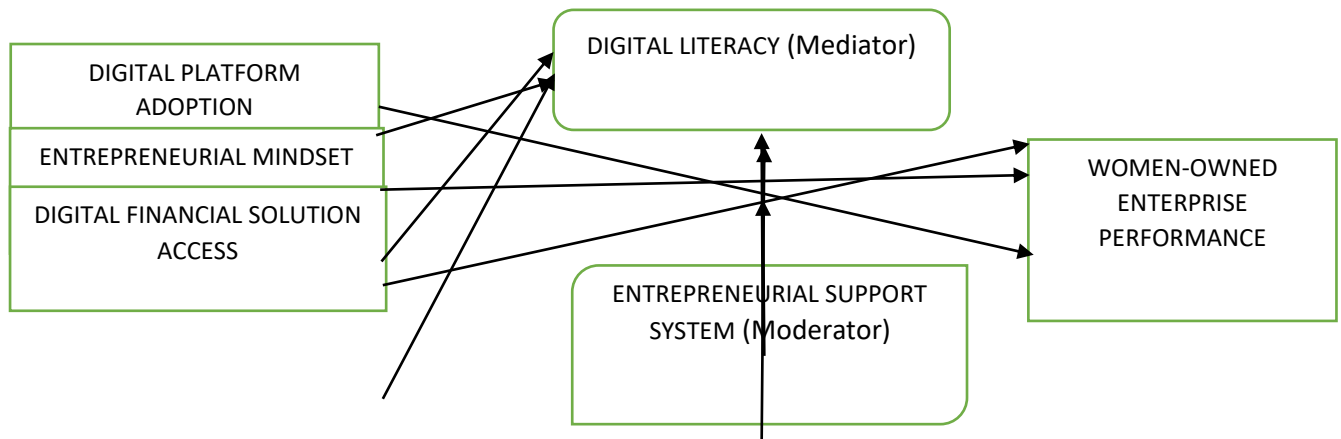


Figure 1. Integrated capability-support framework for women-owned enterprise performance.

Source: Authors' conceptualization. Note: Solid arrows denote proposed direct or mediation paths; dashed arrows denote moderation/boundary conditions.

Discussion and Results

The framework adds to prior scholarship in four ways. First, it integrates platform adoption, entrepreneurial cognition and digital finance rather than treating them as isolated predictors. Second, it distinguishes access from conversion capability: digital tools create options, while literacy and learning routines determine productive deployment. Third, it frames digital literacy as a theoretically specified mechanism rather than a generic control variable. Fourth, it rejects the assumption that support systems are universally beneficial and instead identifies complementarity and substitution as competing possibilities. The Nigerian context changes the expected relationships through uneven connectivity, affordability constraints, logistics, consumer trust, informality and gendered access to finance and networks. These conditions may reduce the average return to platform adoption while increasing the value of market-linked support. They may also produce heterogeneous effects: a social-commerce platform may improve reach for an urban service business but offer limited value to a rural producer without logistics or reliable payments.

Competing causal explanations require explicit recognition. Higher-performing enterprises may have more resources to adopt platforms, acquire training and join networks. Digital literacy may precede adoption rather than result from it. Support providers may select more promising entrepreneurs, creating selection bias. Future empirical research must therefore avoid interpreting cross-sectional associations as established causal mechanisms.

Theoretical Implications

The paper extends RBV by specifying digital literacy as a conversion capability linking widely available technologies to heterogeneous outcomes. It extends Social Capital Theory by treating support quality and fit as conditions that determine whether external ties complement or substitute for internal capability. The framework also encourages entrepreneurship research to model technology, finance and cognition as an interdependent resource system rather than independent checklists.

Practical and Policy Implications

- Design differentiated digital training around actual business tasks, capability levels and sectors rather than one-off generic workshops.
- Expand affordable, gender-responsive digital financial products while strengthening fraud awareness, complaint mechanisms and data protection.
- Link mentorship to verified market opportunities, customers, suppliers and finance rather than measuring success by enrolment alone.
- Address rural connectivity, device affordability and logistics alongside skills so that platform adoption can generate transactions.
- Evaluate support programmes for relevance, autonomy, sustained use and enterprise outcomes not merely availability or participant counts.
- Provide safe experimentation environments where women entrepreneurs can practice digital marketing, payments, record keeping and cybersecurity responses.

Conclusion and Recommendations

Conclusion

Digital resources can expand the opportunity set of women-owned enterprises, but access does not guarantee performance. This paper proposes that entrepreneurial mindset and digital literacy determine how technologies are interpreted and deployed, while entrepreneurial support systems shape the value extracted from capability and financial access. By integrating RBV and Social Capital Theory, the framework identifies digital literacy as a conversion mechanism and support quality as a contingent boundary condition. The seven propositions provide a coherent agenda for empirical research and a practical message for policy: invest not only in access, but also in capability, safety, market connection and the quality of support.

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