www.ijarp.com ISSN 2456-9992 Page: 01-18

International Journal Advanced Research Publications

Case Study

Volume: 02
Issue: 05

WOMEN AND YOUTH ENTREPRENEURSHIP IN THE DIGITAL ECONOMY: A CASE STUDY OF NORTH CENTRAL NIGERIA

[*1]Elisha Rinji Goyil, [2]Akoti Adaji Ezra, [3]Mamman Mathew Christian

[1]Department of Marketing, Federal Polytechnic Nyak, Shendam Plateau State.

[2]Department of History and International Studies, Plateau State University Bokkos Plateau State.

[3]Department of Public Administration, Federal Polytechnic Nyak, Shendam Plateau State.

Article Received: 13 April 2026, Article Revised: 03 May 2026, Published on: 23 May 2026

***Corresponding Author: Elisha Rinji Goyil**

Department of Marketing, Federal Polytechnic Nyak, Shendam Plateau State.

DOI: https://doi-doi.org/101555/ijarp.4557

ABSTRACT

This paper examines the dynamics of women and youth entrepreneurship within the digital economy in North Central Nigeria, encompassing the states of Benue, Kogi, Kwara, Nassarawa, Niger, and Plateau, as well as the Federal Capital Territory (FCT), Abuja. The region is characterised by significant socio-economic diversity, limited access to traditional financial systems, and a rapidly expanding mobile internet infrastructure, creating both opportunities and constraints for digital entrepreneurship among women and youth populations. Employing a mixed-methods approach—combining structured surveys administered to 420 respondents, 18 in-depth interviews with key informants, and secondary data analysis—this study investigates the drivers, barriers, and outcomes of digital entrepreneurial activity among women and young people in the region. Findings reveal that while digital platforms have substantially lowered barriers to market entry, systemic challenges including inadequate digital literacy, limited access to start-up financing, gender-normative social structures, insecurity, and epileptic electricity supply continue to constrain the full potential of entrepreneurial participation. The paper identifies facilitating factors such as mobile money adoption, social media commerce, and government-supported digital hubs as transformative levers. The study contributes to emerging scholarship on inclusive digital economies in sub-Saharan Africa and proposes a context-sensitive policy framework to accelerate sustainable digital entrepreneurship among women and youth in North Central Nigeria.

KEYWORDS: *Digital Entrepreneurship, Women Empowerment, Youth Enterprise, North Central Nigeria, Digital Economy, Inclusive Growth, Mobile Commerce, Fintech*

1. INTRODUCTION

The global digital economy has emerged as a transformative force reshaping patterns of economic participation, wealth creation, and social mobility. In sub-Saharan Africa—home to the world's youngest population—the intersection of digital technology and entrepreneurship holds particular promise for addressing endemic challenges of unemployment, poverty, and gender inequality. Nigeria, Africa's most populous nation and largest economy, stands at a critical juncture in this transformation. With over 122 million internet subscribers, a rapidly expanding fintech ecosystem, and a youth population exceeding 70 million, the country possesses substantial endowments for leveraging digital entrepreneurship as a pathway to inclusive economic growth (Nigerian Communications Commission [NCC], 2023; World Bank, 2024).

Within this national context, the North Central geopolitical zone occupies a strategically significant, yet analytically underexplored, position. Comprising Benue, Kogi, Kwara, Nassarawa, Niger, and Plateau States, along with the Federal Capital Territory (FCT), Abuja, the zone serves as Nigeria's administrative heartland and a microcosm of the country's socio-economic complexity. The region hosts a diverse mosaic of ethnic groups, agricultural economies, and mineral resources, yet simultaneously grapples with persistent conflict, infrastructural deficits, and high youth unemployment rates estimated at 43.2 percent (National Bureau of Statistics [NBS], 2022). Against this backdrop, digital entrepreneurship presents a plausible—and increasingly popular—livelihood strategy, particularly for women and young people historically excluded from formal economic systems.

Despite growing policy interest in youth and women's economic empowerment, empirical research on digital entrepreneurship in North Central Nigeria remains sparse and fragmented. Existing studies predominantly focus on Lagos and the South West corridor (Adeyemo & Bamidele, 2021; Osei-Bonsu, 2020), leaving the North Central zone understudied and underrepresented in the academic literature. This geographic bias in entrepreneurship research creates policy blind spots and impedes the design of regionally appropriate interventions. The present study addresses this gap by providing a systematic investigation of the nature, drivers, and barriers of women and youth digital entrepreneurship in North Central Nigeria.

This paper is structured as follows: Section 2 reviews the relevant theoretical and empirical literature. Section 3 outlines the conceptual framework. Section 4 details the research methodology. Section 5 presents and discusses the empirical findings. Section 6 draws policy implications, and Section 7 concludes the paper.

2. Literature Review

2.1 Digital Entrepreneurship: Conceptual Contours

Digital entrepreneurship, as a field of scholarly inquiry, has witnessed exponential growth since the early 2000s. Hull, Hung, Hair, Perotti, and DeMartino (2007) were among the first to systematically distinguish digital entrepreneurship from traditional forms, emphasising the centrality of digital artefacts—platforms, algorithms, and networked technologies—in value creation and capture. Nambisan (2017) extended this conceptualisation by arguing that digital entrepreneurship is characterised by the indeterminacy of entrepreneurial agency, the distributed nature of digital innovation, and the fluid boundaries of digital ventures. Subsequent scholarship has refined these insights, with von Briel, Davidsson, and Recker (2018) demonstrating that digital infrastructure enables novel venture forms that leverage platform ecosystems and data analytics as primary competitive assets.

2.2 Women's Entrepreneurship in Developing Economies

Gender dimensions of entrepreneurship have attracted sustained scholarly attention, with a broad consensus that women face distinct and compounded barriers to entrepreneurial entry and growth. Brush, de Bruin, Gatewood, and Henry (2010) proposed the '5M' framework—markets, money, management, mentors, and macro-environment—as a lens for understanding women's entrepreneurial ecosystems. In sub-Saharan Africa, these dimensions are further complicated by patriarchal social norms, limited inheritance rights, mobility restrictions, and disproportionate domestic care burdens that constrain women's time and resources for business activities (Aterido, Beck, & Lacovone, 2013; Quartey, Turkson, Abor, & Iddrisu, 2017).

The digital economy, however, presents potentially transformative opportunities for women entrepreneurs. Research by the International Finance Corporation (IFC, 2020) demonstrates that digital platforms can reduce information asymmetries, expand market access, and enable flexible work arrangements that accommodate women's multiple roles. Mobile money platforms, in particular, have been identified as powerful tools for financial inclusion, enabling women to access credit, savings, and payment services without navigating the socio-

cultural barriers associated with conventional banking (Demirguc-Kunt, Klapper, Singer, Ansar, & Hess, 2018). Empirical evidence from Kenya's M-Pesa and similar platforms supports these claims, demonstrating measurable improvements in women's economic agency and household welfare (Jack & Suri, 2014).

In Nigeria specifically, studies by Obasi and Ozor (2021) and Afolabi, Olabode, and Okafor (2022) document the growing use of social media—particularly WhatsApp, Instagram, and Facebook—as commercial platforms by women entrepreneurs, particularly in the informal sector. These platforms offer low-cost market entry, peer networking, and customer acquisition opportunities that complement or substitute for formal retail infrastructure. Nevertheless, digital gender gaps in access, skills, and confidence remain significant barriers to equitable participation in the digital economy (Alliance for Affordable Internet [A4AI], 2021)

2.3 Youth Entrepreneurship and Digital Platforms

Youth entrepreneurship occupies a prominent position in African development discourse, reflecting the urgency of absorbing the continent's growing working-age population into productive economic activity. The African Development Bank (AfDB, 2022) estimates that Africa needs to create 12 million jobs annually to absorb new labour market entrants, a target that formal employment alone cannot meet, making entrepreneurship a critical pathway. Young Nigerians have demonstrated remarkable entrepreneurial creativity, with youth-led enterprises proliferating in sectors including agritech, fintech, edtech, logistics, fashion, and creative industries (Osei-Bonsu & Acheampong, 2023).

Digital platforms have proven especially salient for youth entrepreneurship because of young people's comparatively higher digital nativity, social media fluency, and network connectivity. Platforms such as Jumia, Konga, and Paystack have created ecosystems in which young entrepreneurs can build scalable businesses with limited capital. Research by Ndemo and Weiss (2017) and Friederici (2020) highlights the role of technology hubs, accelerators, and co-working spaces in nurturing youth digital entrepreneurship across African cities, including Abuja.

However, the enthusiasm surrounding digital youth entrepreneurship in Africa must be tempered by recognition of structural constraints. Schoof (2006) and Chigunta (2017) identify limited access to finance, inadequate mentorship, regulatory barriers, and skills mismatches as systemic impediments. In Nigeria's North Central zone, these general challenges are compounded by insecurity—particularly communal conflicts and banditry—that disrupt

economic activity, displace populations, and create adverse environments for entrepreneurial investment (Abah & Nwokedi, 2021).

2.4 The North Central Nigerian Context

The North Central geopolitical zone of Nigeria has historically been characterised as a 'Middle Belt' region—socio-politically positioned between the predominantly Muslim North and predominantly Christian South—with a predominantly agrarian economy anchored in food crop cultivation, livestock rearing, and solid mineral exploitation (Nnoli, 1980). The zone's demographic profile reflects this agricultural heritage, with significant rural populations and high rates of underemployment. FCT-Abuja, as the seat of federal government, presents a notable exception, hosting a concentration of educated labour, government services, and a growing private sector.

Recent years have witnessed a gradual but discernible shift in the zone's economic landscape, driven by increased mobile phone penetration, government digital infrastructure investments, and the entrepreneurial aspirations of an increasingly educated youth cohort. Initiatives such as the Federal Government's Digital Economy Policy and Strategy (NDEPS) 2020-2030, the Central Bank of Nigeria's (CBN) financial inclusion framework, and state-level digital hubs in Abuja (Co-Creation Hub), Makurdi, and Ilorin have created enabling conditions for digital entrepreneurship (Federal Ministry of Communications and Digital Economy [FMCDE], 2020). Yet, the translation of these policy initiatives into substantive entrepreneurial outcomes—particularly for women and youth in secondary cities and rural areas—remains incomplete.

3. Conceptual Framework

This study adopts an integrated conceptual framework that synthesises elements of the Entrepreneurial Ecosystem theory (Stam, 2015; Isenberg, 2010), the Technology Acceptance Model (Davis, 1989), and the Gender and Entrepreneurship in Social Context (GESC) model (Welter, 2011). The framework conceptualises digital entrepreneurial activity among women and youth in North Central Nigeria as a function of the interaction between individual-level factors, organisational-level factors, and systemic-level factors operating within a spatially and institutionally specific context.

At the individual level, entrepreneurial intention and behaviour are shaped by digital literacy, entrepreneurial self-efficacy, access to social networks, and risk tolerance. At the organisational level, the characteristics of the digital venture—its sector, revenue model,

scale ambition, and technology intensity—mediate the relationship between individual endowments and market outcomes. At the systemic level, the entrepreneurial ecosystem—comprising infrastructure, finance, regulation, culture, and markets—creates the structural conditions within which individual and organisational factors operate.

The framework further incorporates a gender and youth sensitivity lens, recognising that systemic factors interact differently with individuals depending on their gender, age, social class, ethnicity, and geographic location. This intersectional perspective is essential for understanding the heterogeneous experiences of women and young entrepreneurs in a diverse region like North Central Nigeria. The framework guides the operationalisation of research variables, the design of data collection instruments, and the interpretation of empirical findings.

4. RESEARCH METHODOLOGY

4.1 Research Design

This study employs a mixed-methods research design, combining quantitative survey methods with qualitative in-depth interviews and documentary analysis. The mixed-methods approach is motivated by the epistemological premise that complex social phenomena such as digital entrepreneurship require multiple lenses of investigation to generate comprehensive and contextually valid insights (Creswell & Plano Clark, 2018). The quantitative component provides statistical generalisability across the study population, while the qualitative component deepens understanding of the processes, mechanisms, and meanings that underlie observed patterns.

4.2 Study Population and Sampling

The study population comprises women and youth (aged 18-35) engaged in or aspiring to engage in digital entrepreneurship across the six states and FCT of North Central Nigeria. A stratified multi-stage sampling procedure was employed to ensure representative coverage across the geographic, gender, and sectoral dimensions of the study population. In the first stage, three states were selected from the zone using purposive sampling to capture diversity: Plateau State (representing mining belt states), Kwara State (representing states with stronger agricultural and commercial heritage), and the FCT (representing the urban administrative hub). In the second stage, two local government areas (LGAs) were selected from each of the three states/FCT, and in the third stage, respondents were sampled using systematic random

sampling from digital business registries, market associations, and digital hub membership lists.

A total of 420 structured questionnaires were administered, with a 94.5 percent response rate yielding 397 usable responses. The sample comprised 56 percent women and 44 percent men (included to enable gender comparative analysis), with 78 percent falling in the 18-30 age bracket. Purposive sampling was additionally used to select 18 key informants for in-depth interviews, comprising entrepreneurs, ecosystem actors (hub managers, incubator directors), government officials, and civil society representatives.

Table 1: Sample Distribution by State and Gender.

State/Territory	Female (n)	Male (n)	Total (n)	% of Sample
Plateau State	78	52	130	32.7%
Kwara State	62	48	110	27.7%
FCT – Abuja	82	75	157	39.5%
Total	222	175	397	100%

4.3 Data Collection Instruments

The quantitative instrument—a structured questionnaire—was developed through an iterative process involving literature review, expert consultation, and pilot testing with 30 respondents (excluded from the main study). The questionnaire comprised five sections: (i) socio-demographic and entrepreneurial profile; (ii) digital platform usage and e-commerce activity; (iii) perceived barriers and enablers of digital entrepreneurship; (iv) access to finance and digital financial services; and (v) entrepreneurial outcomes and performance indicators. Likert-scale items (1-5) were used for attitudinal and perception measures, with reliability testing yielding a Cronbach alpha coefficient of 0.87, indicating satisfactory internal consistency.

The qualitative interview guide was structured around six thematic areas: entrepreneurial motivations and journeys, digital platform adoption and usage, experience of barriers, support systems and ecosystem engagement, aspirations and growth strategies, and policy recommendations. Interviews were conducted in English and, where necessary, in Hausa or indigenous languages with the assistance of trained bilingual research assistants. All interviews were audio-recorded, transcribed, and translated where applicable.

4.4 Data Analysis

Quantitative data were analysed using SPSS Version 26. Descriptive statistics were computed to characterise the sample and summarise key variables. Inferential analysis included chi-square tests for categorical variable associations, independent samples t-tests for gender comparisons, and binary logistic regression to identify predictors of digital entrepreneurial success (defined as consistent positive revenue generation over 12 months). Qualitative data were analysed using thematic analysis (Braun & Clarke, 2006), following a process of familiarisation, initial coding, theme development, review, and definition. NVivo 12 software facilitated the systematic management and analysis of qualitative data.

5. FINDINGS AND DISCUSSION

5.1 Profile of Digital Entrepreneurs in North Central Nigeria

The survey data reveal a predominantly young, educated, but modestly resourced population of digital entrepreneurs in North Central Nigeria. Among respondents, 68 percent held at least a secondary school certificate, with 42 percent having completed tertiary education. Despite relatively high educational attainment, 61 percent reported household incomes below the national median, underscoring the relationship between economic necessity and entrepreneurial motivation—consistent with opportunity-necessity entrepreneurship frameworks (Bosma, Hill, Ionescu-Somers, Kelley, Guerrero, & Schott, 2021).

The most prevalent digital entrepreneurship activities reported were: social media commerce (46%), mobile food delivery and logistics (18%), digital creative services—graphic design, photography, video production (15%), online tutoring and digital education (12%), and agricultural technology services (9%). This distribution reflects both the low capital requirements of social commerce and the region's agricultural base, suggesting that digital entrepreneurship is evolving organically from existing economic activities rather than replacing them wholesale.

Table 2: Sectoral Distribution of Digital Entrepreneurship Activities.

Sector	Frequency	Percentage (%)	Female-Dominated
Social Media Commerce	183	46.1%	Yes (72%)
Logistics & Delivery	72	18.1%	No (29%)
Creative Digital Services	59	14.9%	Mixed (51%)
Online Education & Tutoring	48	12.1%	Yes (67%)

Sector	Frequency	Percentage (%)	Female-Dominated
Agritech Services	35	8.8%	No (31%)
Total	397	100%	—

5.2 Digital Platform Adoption and Usage

WhatsApp Business emerged as the dominant digital entrepreneurship platform, used by 79 percent of respondents, followed by Facebook (61%), Instagram (48%), and Jumia/Konga marketplace (22%). The primacy of messaging and social media platforms over formal e-commerce marketplaces reflects trust dynamics—personal networks and peer recommendations are perceived as more reliable than anonymous online marketplaces in contexts where formal consumer protection mechanisms are weak. This finding echoes Friederici's (2020) observation that African digital entrepreneurs often 'socialise' commerce by embedding transactions in existing social relationships.

Mobile money and digital payment platforms were used by 67 percent of respondents, with OPay (34%), PalmPay (28%), and bank USSD services (24%) most frequently cited. Notably, mobile money adoption was significantly higher among women (73%) than men (59%), aligning with evidence from other sub-Saharan African contexts that mobile financial services disproportionately benefit women by providing accessible, private, and low-cost alternatives to formal banking (Demirguc-Kunt et al., 2018). One female entrepreneur in Plateau State captured this dynamic succinctly: 'Before OPay, customers would not pay me directly. Now they send money to my phone. I do not need to go to the bank. I do not need my husband to sign anything.'

Access to 4G connectivity was reported by 54 percent of respondents in FCT-Abuja, compared with only 31 percent in Plateau State and 28 percent in Kwara State (non-FCT areas), highlighting pronounced intra-regional digital divides. These connectivity disparities correlated significantly with entrepreneurial scale (chi-square = 18.4, $p < 0.001$), suggesting that infrastructure gaps directly constrain the growth potential of digital enterprises outside the FCT.

5.3 Barriers to Digital Entrepreneurship

Participants identified a complex and interrelated set of barriers to digital entrepreneurship. The most commonly cited constraint was epileptic electricity supply, reported by 84 percent of respondents as a 'significant' or 'very significant' barrier. Power unreliability imposes direct

costs through generator fuel expenditure (averaging 22 percent of operating costs among affected respondents), and indirect costs through device damage, data loss, and interruptions to customer service delivery. This finding confirms the persistent centrality of infrastructure deficits in constraining digital economic activity in Nigeria, despite policy attention to the issue (Nwosu & Ugwu, 2022).

Access to start-up and growth capital was identified as the second most significant barrier (79% of respondents). Commercial bank lending remained largely inaccessible due to collateral requirements, high interest rates (averaging 25-28% per annum), and complex documentation demands. Microfinance institutions reached only 18 percent of respondents, and government financing schemes—including the Bank of Industry's Youth Entrepreneurship Support Programme and CBN's Agri-Business/Small and Medium Enterprise Investment Scheme (AGSMEIS)—were accessed by fewer than 9 percent, reflecting awareness deficits and bureaucratic barriers to participation.

Digital literacy and skills gaps constituted the third major barrier (71% of respondents). While social media usage was near-universal, more advanced digital competencies—including digital marketing analytics, basic coding, e-commerce platform management, and cybersecurity awareness—were reported by fewer than 30 percent. Women reported significantly lower confidence in advanced digital skills (mean score 2.3/5) compared with male counterparts (mean score 3.1/5), a gap that qualitative interviews attributed to differential access to computer science education, social norms discouraging women's technology engagement, and lower exposure to digital entrepreneurship role models.

Table 3: Ranking of Barriers to Digital Entrepreneurship (% citing as significant/very significant.)

Barrier	Overall (%)	Women (%)	Youth 18–25 (%)
Epileptic electricity supply	84%	86%	82%
Limited access to capital	79%	83%	81%
Digital skills and literacy gaps	71%	78%	69%
Insecurity and conflict	68%	72%	65%
Poor internet connectivity	63%	66%	71%
Gender/social norms (women)	57%	74%	N/A
Regulatory complexity	44%	41%	48%
Limited market awareness	41%	45%	50%

Insecurity emerged as a distinctive and particularly disruptive barrier in the North Central context, cited by 68 percent of respondents. The region has experienced escalating farmer-herder conflicts, banditry, and kidnapping incidents since 2015, with Benue and Plateau States particularly affected. Beyond the direct disruption of economic activity, insecurity creates adverse psychological environments for entrepreneurship, erodes trust-based social capital essential for business networks, and deters external investment and market development. Several interviewed entrepreneurs described relocating their businesses or pivoting to entirely digital operations to mitigate physical security risks—an adaptive response that simultaneously advanced and constrained digital entrepreneurship.

5.4 Enablers and Facilitating Factors

Against the backdrop of significant constraints, the study identified several enabling factors that have supported the emergence and growth of digital entrepreneurship in the region. Mobile phone penetration—at 76 percent among respondents—constituted the most fundamental enabler, providing a ubiquitous access point for digital commerce, communication, and financial services. The relatively low cost of Android smartphones (entry-level devices available at NGN 25,000-50,000) and the expansion of mobile networks by MTN, Airtel, and Glo into secondary cities and rural areas have democratised access to digital infrastructure, albeit unevenly

Digital innovation hubs and incubators have played a catalytic role in nurturing digital entrepreneurship, particularly in FCT-Abuja. Respondents affiliated with hubs such as CcHub Abuja, Wennovation Hub, and the National Information Technology Development Agency (NITDA)-supported incubators reported significantly higher revenue growth (mean growth rate 34% annually versus 18% for unaffiliated entrepreneurs), greater access to networks and mentorship, and higher rates of formal business registration. Women entrepreneurs, however, were underrepresented in hub programmes, comprising only 31 percent of hub-affiliated respondents, despite representing 56 percent of the overall sample—suggesting that hub outreach and programming may inadvertently replicate existing gender biases.

Social capital—particularly kinship and peer networks—emerged as a critical enabling factor for digital entrepreneurship, especially in the informal economy. The practice of 'digital apprenticeship'—informal skills transmission through peer observation and mentorship within entrepreneurial communities—was reported by 58 percent of respondents as their primary means of acquiring digital business skills. This finding underscores the importance of social learning mechanisms in contexts where formal digital training is scarce, and

suggests that peer entrepreneurship networks may be an underutilised channel for entrepreneurship support interventions.

5.5 Gendered Dimensions of Digital Entrepreneurship

Gender differences in digital entrepreneurial experience were a consistent finding across quantitative and qualitative data streams. Women reported lower average digital entrepreneurship revenues (mean monthly revenue: NGN 48,200 for women versus NGN 72,600 for men), smaller enterprises (mean team size 1.8 for women versus 2.4 for men), and lower rates of formal business registration (24% for women versus 38% for men). These gender gaps are consistent with broader evidence on women's entrepreneurship in Nigeria and sub-Saharan Africa, reflecting the compounding effects of social, financial, and human capital inequalities.

Qualitative data, however, reveal a more nuanced picture. Women entrepreneurs demonstrated distinctive strengths in customer relationship management, product diversity, and adaptive resilience—capabilities forged through experience of navigating adversity. Several women interviewees described leveraging WhatsApp Business communities as peer support networks that provided emotional support, business intelligence, and collective marketing—forming what one respondent termed 'digital cooperative societies.' These female-led digital networks represent an underappreciated form of social entrepreneurship that generates both economic and social value.

Patriarchal social norms were identified as a pervasive constraining force by 74 percent of female respondents and confirmed through qualitative interviews. Constraints ranged from husbands or fathers limiting women's use of mobile devices and social media, to community disapproval of women engaging in business activities that require travel or interaction with male customers, to exclusion from male-dominated entrepreneurial networks. These findings confirm Welter's (2011) GESC model's proposition that social contexts powerfully shape gendered entrepreneurial opportunities, and highlight the need for interventions that address both structural and normative dimensions of gender inequality.

5.6 Predictors of Digital Entrepreneurial Success

Binary logistic regression analysis identified five significant predictors of digital entrepreneurial success (defined as sustained positive revenue generation): digital literacy level (OR = 2.87, $p < 0.001$), access to mobile money services (OR = 2.34, $p < 0.001$), hub or incubator affiliation (OR = 2.18, $p < 0.01$), tertiary education (OR = 1.76, $p < 0.05$), and

membership in an entrepreneurship peer network (OR = 1.65, $p < 0.05$). Notably, gender was not a statistically significant predictor when controlling for these factors, suggesting that the gender gap in entrepreneurial outcomes is mediated by differences in access to enabling resources rather than inherent gender-based differences in entrepreneurial capacity—a finding with important policy implications.

Infrastructure access—particularly reliable electricity and broadband connectivity—did not independently predict success but emerged as a significant moderating variable, with its absence substantially reducing the effect sizes of other enabling factors. This finding reinforces the characterisation of infrastructure deficits as a foundational constraint that limits the returns to investments in other enabling factors such as skills training and financing.

6. Policy Implications and Recommendations

The findings of this study generate a set of evidence-based policy recommendations for government, development organisations, the private sector, and civil society. These recommendations are organised around five strategic priorities:

6.1 Infrastructure Development and Energy Access

Accelerating electricity supply reliability and expanding broadband infrastructure to secondary cities and rural communities in North Central Nigeria should be treated as a prerequisite for digital entrepreneurship development, rather than a complementary intervention. Targeted solar energy subsidies and off-grid renewable energy support for micro and small enterprises, coordinated by state rural electrification agencies in partnership with the Rural Electrification Agency (REA), would substantially reduce the energy cost burden that currently consumes a disproportionate share of small enterprise revenues. Similarly, the Universal Service Provision Fund (USPF) should be directed specifically towards bridging the intra-regional connectivity gap between FCT-Abuja and the zone's secondary cities.

6.2 Gender-Responsive Digital Skills Development

Digital skills training programmes must be explicitly designed to address women's specific constraints, including time poverty, mobility restrictions, and lower baseline digital confidence. Gender-disaggregated digital literacy curricula delivered through community-based channels—religious institutions, women's groups, and rural extension services—would reach women who are excluded from hub-centred programmes. The Gender and Digital Skills Initiative proposed here would involve partnerships between state ministries of women affairs, telecommunications companies, and civil society organisations to deploy mobile digital training units in underserved communities. Particular emphasis should be placed on

digital marketing, mobile commerce, and digital financial services skills that have the most direct application to women's existing entrepreneurial activities.

6.3 Inclusive Finance and Alternative Capital Mobilisation

Expanding access to patient, affordable capital for women and youth digital entrepreneurs requires a diversified financing ecosystem that goes beyond conventional banking. The Central Bank of Nigeria should incentivise commercial banks and microfinance institutions to develop digitally delivered micro-credit products specifically tailored to digital entrepreneurs, using platform transaction data and digital footprints as alternative creditworthiness indicators. Peer-to-peer lending platforms, digital cooperative savings schemes, and diaspora investment vehicles should be promoted as complementary capital sources. Additionally, government enterprise development funds—including AGSMEIS, YouWIN, and state-level equivalents—should be redesigned with simplified application processes, digital submission pathways, and proactive outreach to women and youth in the North Central zone.

6.4 Ecosystem Development and Hub Expansion

Digital innovation hubs and incubators should be geographically expanded beyond FCT-Abuja to state capital cities including Makurdi, Ilorin, Lafia, Minna, Lokoja, and Jos, to democratise access to ecosystem support across the region. Hub programming should incorporate explicit gender equity targets, including female entrepreneur representation quotas, women-only cohorts, and childcare facilities or allowances that enable mothers to participate in hub activities. The creation of virtual hub platforms that deliver mentorship, networking, and business development services digitally would address geographic and mobility barriers for rural and peri-urban entrepreneurs.

Sustained policy attention to insecurity in the North Central zone is a fundamental prerequisite for entrepreneurship development. While security sector reform is beyond the immediate remit of entrepreneurship policy, enterprise development programmes should incorporate conflict-sensitive design principles that acknowledge security constraints and support digital business **6.5 Security and Enabling Environment**

models that reduce exposure to physical security risks. Conflict resolution and peace-building initiatives that promote social cohesion between farming and herding communities would generate the stable social environment necessary for entrepreneurship investment and network development.

7. CONCLUSION

This paper has provided a systematic empirical investigation of women and youth entrepreneurship in the digital economy of North Central Nigeria, drawing on mixed-methods data from 397 survey respondents and 18 in-depth interviews across Plateau State, Kwara State, and the FCT. The findings reveal a landscape of genuine entrepreneurial dynamism—particularly in social commerce, creative digital services, and mobile-enabled logistics—animated by a generation of resourceful, aspiring entrepreneurs who are leveraging accessible digital platforms to build livelihoods and enterprises.

At the same time, the research documents a set of systemic barriers—epileptic electricity supply, limited access to capital, digital skills deficits, gender-normative social constraints, insecurity, and infrastructure gaps—that substantially constrain the scale, formality, and growth potential of digital enterprises, particularly among women and rural youth. The gender gap in digital entrepreneurial outcomes is not attributable to inherent capacity differences but to differential access to enabling resources—a finding that places the policy burden squarely on improving equitable access to infrastructure, finance, education, and ecosystem support.

This study contributes to the growing scholarship on digital entrepreneurship in sub-Saharan Africa by providing a regionally specific, empirically grounded analysis that complements the predominantly southern Nigeria-focused literature. The integrated conceptual framework—combining entrepreneurial ecosystem theory, technology acceptance modelling, and gender-in-context analysis—offers a methodological template for future research in analogous contexts across the continent. Future research should examine longitudinal dimensions of digital entrepreneurial trajectories, explore the role of informal institutions in shaping digital market behaviour, and investigate the potential of platform cooperatives as an inclusive organisational model for digital entrepreneurship in resource-constrained environments.

Ultimately, harnessing the full entrepreneurial potential of North Central Nigeria's women and youth in the digital economy requires sustained, coordinated, and gender-sensitive action by government, the private sector, civil society, and development partners. The stakes are significant: getting this right represents not merely an economic imperative, but a pathway to more equitable, peaceful, and prosperous societies across the region and the nation.

REFERENCES

1. Abah, J., & Nwokedi, C. (2021). Farmer-herder conflicts and economic disruption in the Nigerian Middle Belt: Implications for enterprise development. African Security Review, 30(3), 215-234.
2. Afolabi, O., Olabode, E., & Okafor, R. (2022). Social media commerce and women's economic empowerment in informal markets: Evidence from Nigeria. Journal of African Business, 23(4), 501-520.
3. African Development Bank [AfDB]. (2022). African Economic Outlook 2022: Supporting Climate Resilience and a Just Energy Transition in Africa. AfDB.
4. Alliance for Affordable Internet [A4AI]. (2021). Meaningful Connectivity: A New Target to Raise the Bar for Internet Access. A4AI.
5. Aterido, R., Beck, T., & Lacovone, L. (2013). Access to finance in sub-Saharan Africa: Is there a gender gap? World Development, 47, 102-120.
6. Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. Administrative Science Quarterly, 50(3), 329-366.
7. Bosma, N., Hill, S., Ionescu-Somers, A., Kelley, D., Guerrero, M., & Schott, T. (2021). Global Entrepreneurship Monitor 2020/2021 Global Report. GEM.
8. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77-101.
9. Brush, C., de Bruin, A., Gatewood, E., & Henry, C. (Eds.). (2010). Women Entrepreneurs and the Global Environment for Growth: A Research Perspective. Edward Elgar.
10. Chigunta, F. (2017). Entrepreneurship as a possible solution to youth unemployment in Africa. In L. Kaye (Ed.), Creating Entrepreneurial Space: Talking Through Multi-Voices, Reflections on Emerging Debates. Emerald.
11. Creswell, J. W., & Plano Clark, V. L. (2018). Designing and Conducting Mixed Methods Research (3rd ed.). SAGE.
12. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340.
13. Demirguc-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. World Bank.

14. Federal Ministry of Communications and Digital Economy [FMCDE]. (2020). National Digital Economy Policy and Strategy (NDEPS) 2020-2030. Federal Republic of Nigeria.
15. Friederici, N. (2020). Innovation Hubs in Africa: Assemblers of Technology Entrepreneurs. Oxford Internet Institute.
16. Hull, C. E., Hung, Y. C., Hair, N., Perotti, V., & DeMartino, R. (2007). Taking advantage of digital opportunities: A typology of digital entrepreneurship. International Journal of Networking and Virtual Organisations, 4(3), 290-303.
17. International Finance Corporation [IFC]. (2020). Moving Toward Gender Balance in Private Equity and Venture Capital. IFC.
18. Isenberg, D. (2010). How to start an entrepreneurial revolution. Harvard Business Review, 88(6), 40-50.
19. Jack, W., & Suri, T. (2014). Risk sharing and transactions costs: Evidence from Kenya's mobile money revolution. American Economic Review, 104(1), 183-223.
20. Leke, A., Chironga, M., & Desvaux, G. (2018). Africa's Business Revolution: How to Succeed in the World's Next Big Growth Market. Harvard Business Review Press.
21. Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. Entrepreneurship Theory and Practice, 41(6), 1029-1055.
22. National Bureau of Statistics [NBS]. (2022). Labour Force Statistics: Unemployment and Underemployment Report Q4 2021. NBS Federal Republic of Nigeria.
23. Ndemo, B., & Weiss, T. (Eds.). (2017). Digital Kenya: An Entrepreneurial Revolution in the Making. Palgrave Macmillan.
24. Nigerian Communications Commission [NCC]. (2023). Subscriber/Operator Data. NCC.
25. Nnoli, O. (1980). Ethnic Politics in Nigeria. Fourth Dimension Publishers.
26. Nwosu, A., & Ugwu, C. (2022). Electricity supply and digital enterprise performance in Nigeria: An empirical assessment. Energy Policy, 165, 112934.
27. Obasi, I., & Ozor, J. (2021). WhatsApp commerce and entrepreneurial innovation in Nigeria's informal economy. Information Technology for Development, 27(3), 456-478.
28. Osei-Bonsu, N. (2020). Digital entrepreneurship in Ghana: Enablers, constraints and policy interventions. Journal of Small Business and Enterprise Development, 27(6), 1038-1059.
29. Osei-Bonsu, N., & Acheampong, G. (2023). Scaling digital youth enterprises in West Africa: Evidence from ecosystem surveys. African Journal of Science, Technology, Innovation and Development, 15(2), 187-204.

30. Quartey, P., Turkson, E., Abor, J. Y., & Iddrisu, A. M. (2017). Financing the growth of SMEs in Africa: What are the contraints to SME financing within ECOWAS? Review of Development Finance, 7(1), 18-28.
31. Schoof, U. (2006). Stimulating Youth Entrepreneurship: Barriers and Incentives to Enterprise Start-ups by Young People. International Labour Organization.
32. Senyard, J., Baker, T., Steffens, P., & Davidsson, P. (2014). Bricolage as a path to innovativeness for resource-constrained new firms. Journal of Product Innovation Management, 31(2), 211-230.
33. Stam, E. (2015). Entrepreneurial ecosystems and regional policy: A sympathetic critique. European Planning Studies, 23(9), 1759-1769.
34. von Briel, F., Davidsson, P., & Recker, J. (2018). Digital technologies as external enablers of new venture creation in the IT hardware sector. Entrepreneurship Theory and Practice, 42(1), 47-69.
35. Welter, F. (2011). Contextualizing entrepreneurship—Conceptual challenges and ways forward. Entrepreneurship Theory and Practice, 35(1), 165-184.
36. World Bank. (2024). World Development Indicators 2024. World Bank Group.