Cooperative Collective Action and Youth Livelihood Sustainability in Nigeria's Informal Telecommunications Sector

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ABSTRACT

Across sub-Saharan Africa, youth unemployment and economic precarity remain critical structural crises, thereby forcing urban youths to rely heavily on informal digital economies for survival. While GSM phone sales and repair hubs have emerged as vital employment hubs in Nigerian cities, these micro-enterprises operate within severe institutional voids characterized by credit deserts and high operational vulnerabilities. This study evaluates how cooperative collective action functions as a strategic institutional bypass to foster livelihood sustainability among young operators. Utilizing a quantitative cross-sectional survey design, primary data were gathered from 180 valid youth operators across major commercial GSM clusters in Ibadan, Nigeria, and analyzed via Multiple Regression Analysis and independent sample t-tests. The empirical results demonstrate that cooperative collective action structurally predicts long-term livelihood sustainability, accounting for 59.4% of the total variance ($R^2 = .594$, $p < .05$). Access to cooperative finance emerged as the most powerful determinant ($\beta = .382$), followed closely by formalized social support systems ($\beta = .315$) and collective resource sharing ($\beta = .242$). Furthermore, comparative analysis reveals a significant resilience gap, with cooperative members exhibiting substantially higher business continuity and asset accumulation capabilities than non-members. These findings expand the empirical boundaries of institutional resource pooling theories beyond traditional agricultural settings into the digital informal sector. Ultimately, this research offers crucial insights for development planners and urban policymakers seeking to transition youth empowerment initiatives from short-term survivalist interventions toward scalable, structurally resilient solidarity economies.

Keywords: cooperative collective action, youth livelihood sustainability, social capital, informal economy, GSM enterprises, Nigeria, cooperative finance.

INTRODUCTION

Youth unemployment remains an escalating global socio-economic crisis, acting as a primary driver of structural poverty, social exclusion, and urban vulnerability across developing economies (International Labour Organization, 2018). In sub-Saharan Africa, where formal labor markets have contracted, the informal economy has transformed into the primary mechanism for employment absorption (Virk et al., 2023). Within Nigeria's urban landscapes, this informal safety net has manifested as a vibrant digital livelihood ecosystem centered around mobile telecommunications clusters, specifically GSM phone retailing, technical repairs, and software services (GSMA, 2023). However, beneath the superficial vitality of these high-density urban tech hubs lies a critical, unresolved structural crisis: extreme economic precarity. Young informal operators are severely constrained by a lack of institutional credit, high exposure to market shocks, and non-existent social safety nets (Edewor et al., 2023). Because these operators rely on volatile, fragmented personal resources, their enterprises face high failure rates, leaving the long-term sustainability of these digital youth livelihoods highly unstable and structurally vulnerable.

This persistent vulnerability remains unresolved because traditional institutional frameworks fail to accommodate the unique dynamics of digital informalism. Current scholarship suggests that informal operators try to mitigate these structural voids by forming cooperative societies to act as an "institutional bypass," transforming social ties into economic assets (Folorunsho et al., 2025). Theoretically, these associations operationalize social capital and collective resource pooling, allowing marginalized youth to build constraint-induced capabilities that mimic formal market security (Nwosu et al., 2023). Yet, despite the logical alignment between collective action and micro-enterprise resilience, existing empirical literature suffers from a glaring dual omission. First, empirical studies on sub-Saharan cooperative models remain overwhelmingly locked within traditional agrarian settings or general SME frameworks (Fasakin et al., 2022; Ojo & Babalola, 2022). Second, the burgeoning literature on Africa's digital economy focuses almost exclusively on technological adoption metrics and immediate employment generation numbers (Idris & Maikomo, 2024), completely ignoring the institutional mechanisms required to keep those jobs alive. Consequently, a severe literature gap persists: there is an absence of empirical evidence explaining exactly how, and to what extent, cooperative collective action structurally predicts long-term livelihood sustainability within high-tech, urban informal clusters.

This study directly resolves this empirical gap by examining the predictive influence of cooperative collective action on youth livelihood sustainability within the informal telecommunications sector of Ibadan, Nigeria. Integrating Collective Action Theory, Social Capital Theory, and the Resource-Based View, this research models how collective financial pooling, social support, and asset sharing systematically translate into economic resilience. Utilizing a quantitative cross-sectional survey design analyzing 180 valid responses from active GSM clusters through Multiple Regression Analysis, the study reveals that cooperative action significantly accounts for 59.4% of the variance in youth livelihood sustainability ($R^2 = .594$, $p < .05$), with collective finance emerging as the most robust predictor ($\beta = .382$). These findings advance the field by expanding the empirical boundaries of cooperative theory into the digital informal economy. Ultimately, this study provides a vital scholarly blueprint for policymakers, development agencies, and urban planning institutions seeking to transition youth employment strategies from temporary survivalist interventions to scalable, structurally resilient livelihood frameworks.

LITERATURE REVIEW

Conceptualizing the Informal Telecommunications Sector in Nigeria

The informal sector occupies a central position in the socio-economic structure of Nigeria and remains one of the largest absorbers of labor, particularly among youths. Characterized by low entry barriers, flexible operational structures, and limited formal regulation, the informal economy provides livelihood opportunities for millions of individuals excluded from formal employment systems. According to the International Labour Organization (2018), informal employment constitutes a significant proportion of labor participation across developing economies, with urban youth disproportionately represented in low-capital entrepreneurial activities. In Nigeria, persistent unemployment, economic instability, and rapid urbanization have intensified dependence on informal enterprise systems as alternative livelihood mechanisms.

Within this broader informal economy, the telecommunications-related microenterprise sector has emerged as a rapidly expanding domain of youth entrepreneurship. The proliferation of mobile technologies, increasing smartphone penetration, and growing digital dependence have stimulated the development of urban GSM business clusters specializing in phone sales, software installation, accessories distribution, device maintenance, and technical repairs. These business ecosystems have become particularly prominent in urban centers such as Ibadan, Lagos, and Abeokuta, where informal telecommunications markets provide employment opportunities for technically skilled and semi-skilled youths. Studies have shown that the expansion of mobile communication technologies has reshaped patterns of informal entrepreneurship and livelihood generation across Africa. GSMA (2023) reported that mobile technologies contribute substantially to economic participation and employment creation within sub-Saharan Africa, particularly among young urban populations. Similarly, Virk et al. (2023) argued that the informal ICT sector increasingly serves as a coping mechanism for youth unemployment in Nigeria. Edewor et al. (2023) further observed that digital-

related informal activities constitute important employment channels in sectors where formal labor absorption remains inadequate.

Despite its economic significance, the informal telecommunications sector remains vulnerable to structural instability. Operators often face limited access to formal finance, fluctuating market conditions, technological obsolescence, inadequate infrastructure, and limited institutional protection. These vulnerabilities create uncertainties surrounding business continuity and livelihood sustainability. Consequently, scholars have increasingly emphasized the need to examine the institutional and collective mechanisms through which informal entrepreneurs enhance resilience and economic survival.

Cooperative Collective Action and Informal Entrepreneurship

Collective action refers to coordinated efforts undertaken by individuals pursuing shared interests or common socio-economic goals. The theoretical foundations of collective action are largely associated with Olson (1965), who argued that individuals cooperate to achieve collective benefits that may not be attainable independently. In situations characterized by economic vulnerability and institutional limitations, collective action often emerges as a survival strategy through which individuals pool resources, minimize risks, and improve bargaining capacity.

Cooperative societies represent one of the most institutionalized forms of collective economic action within developing economies. Cooperatives are voluntary associations in which members collectively own, manage, and benefit from shared economic activities. According to International Cooperative Alliance (2021), cooperatives contribute significantly to inclusive economic participation, poverty reduction, and community-based development across both formal and informal economies. With respect to many Africans, cooperatives function not only as financial entities but also as social support systems that strengthen economic resilience among vulnerable populations. Within informal entrepreneurship systems, cooperative arrangements provide mechanisms for accessing credit, information, training, supplier networks, and shared business infrastructure. Birchall (2004) argued that cooperatives play critical roles in achieving sustainable livelihoods by facilitating collective empowerment and economic inclusion among marginalized groups. Similarly, Grashuis (2025) emphasized that cooperative membership often enhances economic security by reducing individual exposure to market risks and improving access to collective resources. Empirical evidence from Nigeria further demonstrates the importance of cooperative institutions in supporting microenterprise sustainability. Akinyemi and Adejumo (2020) found that cooperative participation positively influences youth self-employment, access to startup capital, and income stability in Southwest Nigeria. Arowolo and Oladejo (2019) similarly observed that cooperative financing significantly improves small business growth and enterprise sustainability among Nigerian entrepreneurs. Oni and Daniyan (2018) further reported that cooperative societies contribute meaningfully to poverty reduction and employment generation through collective savings, skill acquisition, and microcredit support.

Although these studies establish the developmental value of cooperatives, much of the existing literature focuses primarily on agricultural cooperatives, artisan associations, or generalized small business sectors. Limited scholarly attention has been directed toward cooperative collective action within digital-oriented informal sectors such as GSM phone sales and repairs. Consequently, important questions remain regarding how cooperative structures shape resilience, sustainability, and long-term livelihood outcomes within Nigeria's evolving informal telecommunications economy.

Social Capital and Livelihood Sustainability

The concept of social capital provides important analytical insight into the functioning of collective economic systems. Social capital broadly refers to the resources embedded within social relationships, networks, trust structures, and reciprocal interactions that facilitate coordinated action and mutual benefit. Pierre Bourdieu (1986) conceptualized social capital as the aggregate of actual or potential resources linked to durable social networks and institutionalized relationships. Similarly, Coleman (1988) argued that social capital enhances collective productivity by fostering trust, cooperation, and information exchange among actors.

Putnam (1993) further emphasized that social networks and civic engagement strengthen institutional performance and socio-economic development. Within informal economic systems where formal institutions are weak or inaccessible, social capital frequently serves as an alternative mechanism for economic coordination and resource mobilization. Informal entrepreneurs often rely heavily on trust-based relationships, cooperative networks, and community associations to secure business support, access market opportunities, and mitigate uncertainty. The relevance of social capital to informal entrepreneurship has been increasingly recognized within African development literature. Nwosu et al. (2023) found that social capital significantly improves credit access and enterprise sustainability among non-farm entrepreneurs in Nigeria. Similarly, Ghani and Jan (2025) demonstrated that social networks enhance resilience and business recovery among informal enterprises facing economic disruptions. These findings suggest that collective associations such as cooperatives may function as social capital institutions that improve livelihood sustainability through mutual support systems, trust-building, and resource sharing.

With respect to informal telecommunications markets, social capital may facilitate business continuity through collaborative learning, shared customer networks, technical assistance, and collective market information. Cooperative participation may therefore strengthen both economic and social resilience among youth entrepreneurs operating within highly competitive and uncertain urban environments.

Resource-Based Perspectives on Cooperative Entrepreneurship

The Resource-Based View (RBV) offers additional theoretical insight into the relationship between cooperative participation and entrepreneurial sustainability. RBV argues that competitive advantage and long-term performance depend on access to valuable, rare, and difficult-to-replicate resources (Barney, 1991). Within entrepreneurship research, resources such as finance, technical skills, market knowledge, and institutional networks are considered critical determinants of enterprise growth and sustainability. For informal entrepreneurs, access to these resources is often constrained by structural inequalities and exclusion from formal financial systems. Cooperative structures may therefore compensate for resource limitations by enabling members to pool capital, exchange expertise, access collective purchasing arrangements, and strengthen market positioning. Through cooperative membership, entrepreneurs may obtain strategic advantages that improve operational stability and livelihood sustainability. Existing Nigerian studies support the relevance of RBV within cooperative entrepreneurship doamin. Ojo and Babalola (2022) found that cooperative membership significantly enhances business growth indicators such as revenue generation, asset accumulation, and enterprise expansion. Emmanuel and Adeyemi (2021) similarly observed that cooperative support structures improve small business performance through shared resources and advisory services. These findings indicate that cooperative associations can function as strategic resource systems that enhance entrepreneurial resilience within informal economies.

Nevertheless, there remains limited understanding of how resource-sharing dynamics operate specifically within informal telecommunications enterprises. The GSM business environment is characterized by rapid technological changes, intense competition, and capital-intensive operational demands. Understanding how cooperative collective action enhances access to strategic resources within this sector therefore represents an important scholarly and policy concern.

Youth Livelihood Sustainability and Informal Digital Economies

The concept of livelihood sustainability extends beyond temporary income generation to encompass long-term economic stability, adaptive capacity, resilience, and the ability to maintain dignified living conditions over time. Sustainable livelihoods involve access to productive resources, institutional support systems, social protection mechanisms, and opportunities for continuous economic participation. Within developing economies, youth livelihood sustainability has become increasingly linked to informal entrepreneurship due to the inability of formal labor markets to absorb growing youth populations. Digital-oriented informal enterprises have emerged as important livelihood pathways for urban youth across Africa. The rise of mobile technologies, digital commerce, and informal ICT services has created new forms of self-employment and microenterprise opportunities. According to United Nations Development Programme (2022), digital inclusion

and youth entrepreneurship are increasingly interconnected within Africa's evolving labor landscape. However, the sustainability of these livelihood systems depends heavily on institutional support, access to finance, technical adaptability, and social resilience. Existing literature suggests that cooperative institutions may enhance livelihood sustainability by strengthening economic security and reducing vulnerability among informal entrepreneurs. However, research examining these relationships within the informal telecommunications sector remains limited. Most Nigerian studies focus on general youth entrepreneurship or cooperative financing without adequately exploring how collective action mechanisms influence long-term livelihood resilience in digital-oriented informal markets.

This study contributes to the literature by integrating perspectives from collective action theory, social capital theory, and the Resource-Based View to examine how cooperative participation shapes youth livelihood sustainability within Nigeria's informal telecommunications sector. By focusing on GSM phone sales and repair clusters in Ibadan, the study expands current understanding of cooperative entrepreneurship within emerging urban digital economies while addressing an important gap in African informal sector research.

METHODOLOGY

Research Design

This study adopted a quantitative cross-sectional survey design to examine the relationship between cooperative collective action and youth livelihood sustainability within Nigeria's informal telecommunications sector. The survey approach was considered appropriate because it enables the collection of standardized data from a relatively large population, facilitates statistical analysis of relationships among variables, and supports generalization of findings within the study domain. The design is particularly suitable for studies investigating perceptions, economic experiences, and institutional participation among informal sector operators.

The study focused on youth engaged in GSM phone sales, accessories trading, software-related services, and mobile phone repair activities within selected informal telecommunications clusters in Ibadan. The study examined how cooperative participation influences livelihood sustainability through access to financial resources, social support systems, business networks, and collective economic opportunities.

Study Area

The research was conducted in major GSM phone sales and repair clusters located within Ibadan. Ibadan represents one of the largest urban commercial centers in southwestern Nigeria and hosts several active informal telecommunications markets characterized by high concentrations of youth-operated GSM enterprises. Major study locations included Dugbe, Challenge, Mokola, Bodija, and Gate Market areas, all of which function as important hubs for mobile phone retailing and technical repair activities.

The choice of Ibadan was informed by the city's large informal economy, expanding youth entrepreneurial population, and growing telecommunications-related commercial activities. The selected clusters also exhibit active cooperative associations and informal business networks among operators, making them suitable doamins for examining collective action and livelihood sustainability.

Population of the Study

The target population consisted of youth entrepreneurs operating within the informal telecommunications sector in selected GSM business clusters in Ibadan. The population included phone retailers, repair technicians, accessories dealers, software service providers, and other GSM-related operators between the ages of 18 and 40 years.

Both cooperative-affiliated and non-cooperative operators were included in the study to enable comparative assessment of livelihood outcomes associated with cooperative participation. Preliminary field assessment and market association records estimated the study population at approximately 350 youth operators across the selected business clusters.

Sample Size Determination

The sample size for the study was determined using the Taro Yamane sample size determination formula:

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

Where:
n = sample size

N = population size (350)

e = margin of error (.05)

$$n = \frac{350}{1 + 350(.05)^2}$$
$$n = \frac{350}{1 + 350(.0025)}$$
$$n = \frac{350}{1 + .875}$$
$$n = \frac{350}{1.875}$$

$n \approx 187$

Accordingly, a sample size of 187 respondents was considered adequate for the study.

Sampling Technique

The study employed a multi-stage sampling procedure to ensure representativeness across the selected GSM business clusters.

At the first stage, purposive sampling was used to select major telecommunications market clusters in Ibadan based on:

i. concentration of GSM-related enterprises
ii. intensity of youth participation
iii. presence of cooperative activities
iv. and accessibility for data collection.

At the second stage, stratified sampling was used to categorize respondents into:

i. cooperative members, and
ii. non-cooperative operators.

This categorization was necessary to examine differences in livelihood experiences associated with cooperative participation.

At the final stage, simple random sampling was employed to select respondents proportionately from each stratum. This procedure minimized selection bias and improved the representativeness of the sample.

Sources of Data

The study relied primarily on primary data obtained directly from respondents through structured questionnaires. Primary data were considered appropriate because the study sought to capture respondents' perceptions, economic experiences, cooperative participation patterns, and livelihood conditions within the informal telecommunications sector.

Secondary data were also utilized to support theoretical discussions and contextual analysis. These included scholarly journal articles, policy reports, cooperative development literature, publications from the International Labour Organization, World Bank, GSMA, and related academic sources on youth employment, informal economies, and cooperative entrepreneurship.

Instrument for Data Collection

Data were collected using a structured questionnaire developed based on the study objectives, theoretical framework, and existing literature on cooperatives, social capital, informal entrepreneurship, and livelihood sustainability.

The questionnaire was divided into five sections:

a. Section A: Demographic characteristics of respondents
b. Section B: Cooperative participation and collective action variables
c. Section C: Access to financial and business resources
d. Section D: Livelihood sustainability indicators
e. Section E: Challenges affecting cooperative participation and business operations

Most questionnaire items were measured using a five-point Likert scale ranging from:

a. Strongly Agree (5)
b. Agree (4)
c. Undecided (3)
d. Disagree (2)
e. Strongly Disagree (1).

The Likert structure enabled quantitative measurement of respondents' perceptions regarding cooperative influence on business sustainability and livelihood outcomes.

Operationalization of Variables

The dependent variable in the study was youth livelihood sustainability, conceptualized in terms of:

a. income stability
b. business continuity
c. enterprise growth
d. economic resilience
e. and long-term employment sustainability.

The independent variable was cooperative collective action, operationalized through indicators such as:

a. cooperative membership
b. access to cooperative finance
c. participation in group activities
d. social support networks
e. information sharing
f. and collective resource mobilization.

Control variables included:

a. age
b. educational level
c. years of business experience
d. type of GSM enterprise
e. and duration of cooperative membership.

Validity of the Instrument

Content and construct validity were ensured through extensive review of relevant literature and alignment of questionnaire items with the study objectives and theoretical constructs. The instrument was also subjected to expert review by scholars in cooperative studies, entrepreneurship, and social science research methodology. Their observations contributed to refinement of ambiguous items, improvement of clarity, and enhancement of measurement adequacy.

Additionally, a pilot study involving 20 GSM operators outside the selected study locations was conducted to assess the appropriateness and comprehensibility of the questionnaire items.

Reliability of the Instrument

The reliability of the instrument was assessed using Cronbach's Alpha coefficient to determine internal consistency among measurement items. Data obtained from the pilot study were analyzed using the Statistical Package for the Social Sciences (SPSS). The reliability coefficient obtained for the instrument was .82, indicating a high level of internal consistency, since values above .70 are generally considered acceptable in social science research. This suggests that the instrument was sufficiently reliable for measuring cooperative participation and livelihood sustainability variables.

Method of Data Collection

The questionnaires were administered physically to respondents at their business locations within the selected GSM market clusters. Direct administration was adopted to improve response rates, clarify questionnaire items where necessary, and ensure proper completion of the instrument. Participation in the study was voluntary, and respondents were informed about the academic purpose of the research. Ethical considerations including anonymity, confidentiality, and informed consent were strictly observed throughout the data collection process.

Method of Data Analysis

Data collected from the field were coded and analyzed using the Statistical Package for the Social Sciences (SPSS) version 27 and Microsoft Excel. Both descriptive and inferential statistical techniques were employed.

Descriptive statistics including:

a. frequencies
b. percentages
c. means
d. and standard deviations

were used to summarize respondents' demographic characteristics and general response patterns.

Inferential statistics were employed to examine relationships between cooperative participation and livelihood sustainability variables. Specifically, the study utilized:

a. Pearson Product Moment Correlation analysis to examine relationships among variables
b. Multiple Regression analysis to assess the predictive influence of cooperative collective action on livelihood sustainability

c. and independent sample t-tests to compare livelihood outcomes between cooperative members and non-members.

The regression model for the study was specified as:

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\mu$$

Where:

a. Y = Youth livelihood sustainability
b. X_1 = Access to cooperative finance
c. X_2 = Social support and networking
d. X_3 = Collective resource sharing
e. β_0 = Constant term
f. $\beta_1 - \beta_3$ = Regression coefficients
g. μ = Error term

The adoption of inferential statistical analysis enabled the study to move beyond descriptive interpretation and empirically examine the extent to which cooperative collective action predicts sustainable livelihood outcomes among youth operators within Nigeria's informal telecommunications sector.

RESULTS AND DISCUSSION

Response Rate and Demographic Profile

A total of 187 questionnaires were administered to youth operators within selected GSM phone sales and repair clusters in Ibadan, out of which 180 were successfully retrieved and found suitable for analysis, representing a response rate of 96.3%. This high response rate enhances the reliability and representativeness of the study findings.

The demographic profile revealed a predominantly youth-driven workforce between the ages of 18 and 40 years, confirming the central role of the informal telecommunications sector as an important employment platform for urban youth. Most respondents operated within high-density commercial hubs such as Dugbe, Challenge, Mokola, Bodija, and Gate markets. This finding supports previous observations that informal enterprise systems continue to absorb substantial proportions of unemployed and underemployed youth within urban Nigeria (Ademuson, 2022; Virk et al., 2023).

The majority of respondents had operated within the GSM business ecosystem for more than three years, suggesting that the sector provides relatively stable livelihood opportunities despite broader economic uncertainties. Cooperative participation was also widespread among respondents, indicating the growing relevance of collective economic arrangements within Nigeria's informal digital economy.

Descriptive Analysis of Study Variables

Table 1: Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Age	18–25 Years	48	26.7
	26–32 Years	71	39.4
	33–40 Years	61	33.9
Gender	Male	124	68.9
	Female	56	31.1
Education	Secondary Education	52	28.9
	OND/NCE	74	41.1
	HND/B.Sc.	54	3.0

Business Type	Phone Sales	49	27.2
	Phone Repairs	67	37.2
	Accessories Trading	38	21.1
	Software Services	26	14.5
Cooperative Membership	Members	112	62.2
	Non-Members	68	37.8

The demographic distribution indicates that the informal telecommunications sector is dominated by economically active youths with varying educational backgrounds and technical specializations. The relatively high proportion of cooperative-affiliated respondents further reflects the growing importance of collective economic structures within urban informal enterprise systems.

Table 2: Descriptive Statistics of Major Study Variables

Variable	Mean	Standard Deviation
Access to Cooperative Finance	4.12	.71
Social Support and Networking	3.94	.76
Collective Resource Sharing	3.81	.69
Youth Livelihood Sustainability	4.08	.73

The descriptive statistics indicate generally high respondent agreement regarding the importance of cooperative collective action in enhancing livelihood sustainability. Access to cooperative finance recorded the highest mean score, suggesting that financial support remains the most visible benefit associated with cooperative participation within the GSM business ecosystem.

Comparative Analysis of Cooperative Members and Non-Members

Table 3: Comparative Livelihood Performance Between Cooperative Members and Non-Members

Performance Metric	Cooperative Members (Mean)	Non-Members (Mean)
Access to Capital	4.2	2.1
Business Resilience	4.5	3.0
Technical Skill Growth	3.9	2.8
Market Information Access	4.1	2.4
Asset Acquisition	3.8	2.5

The comparative analysis revealed substantial differences between cooperative-affiliated and non-cooperative youth operators across all livelihood performance indicators. Cooperative members reported significantly higher mean scores in access to capital, business resilience, market information access, technical skill development, and asset acquisition.

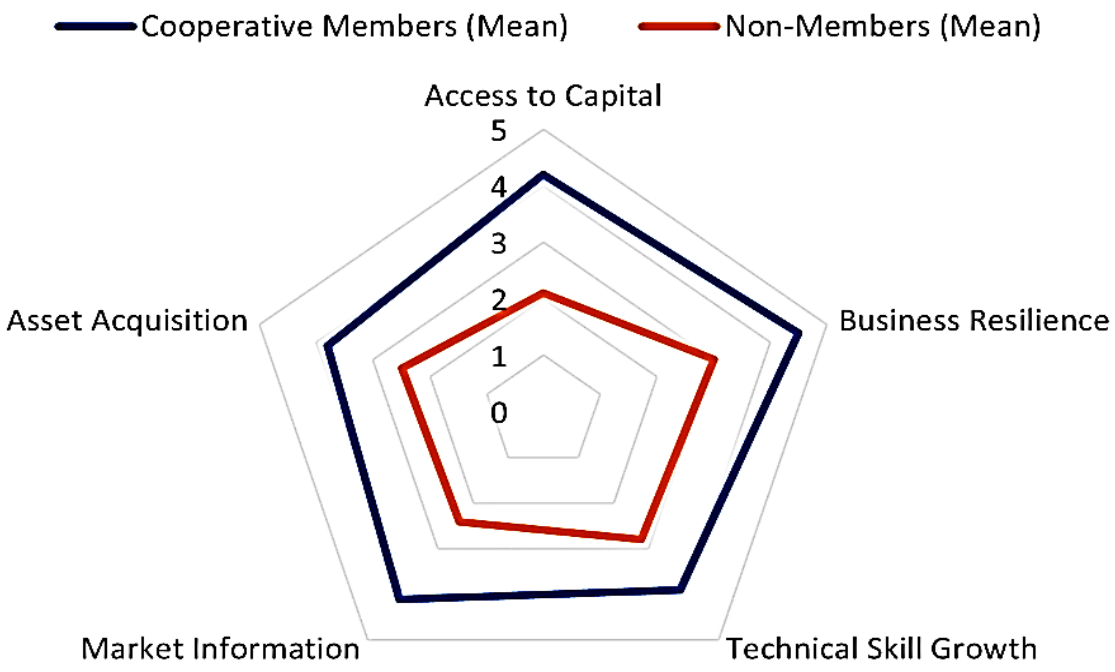


Figure 1: Comparative Impact Radar Chart (Members vs. Non-Members)

The largest disparity was observed in access to capital, suggesting that cooperative societies function as important alternative financial systems for youth entrepreneurs who face exclusion from formal banking institutions. Similarly, the higher scores recorded for business resilience indicate that cooperative participation strengthens the capacity of youth operators to withstand market uncertainties and economic disruptions.

The differences observed in technical skill growth and market information access further demonstrate the role of social capital within cooperative systems. Cooperative networks appear to facilitate collaborative learning, information exchange, and entrepreneurial support mechanisms that improve adaptive capacity and business sustainability among members.

Correlation Analysis

Table 4: Pearson Correlation Matrix

Variables	X_1	X_2	X_3	Y
Access to Finance (X_1)	1			
Social Support (X_2)	.512**	1		
Resource Sharing (X_3)	.467**	.538**	1	
Livelihood Sustainability (Y)	.689**	.641**	.598**	1

Correlation is significant at the .01 level (2-tailed).

The correlation matrix indicates significant positive relationships between all dimensions of cooperative collective action and youth livelihood sustainability. Access to finance demonstrated the strongest relationship with livelihood sustainability (r = .689, p < .01), followed by social support and resource sharing. The correlation values also suggest the absence of severe multicollinearity among the explanatory variables, thereby supporting the suitability of the regression model.

Hypotheses Testing

The following null hypotheses were tested:

H01: There is no significant relationship between access to cooperative finance and youth livelihood sustainability within the informal telecommunications sector.

H02: Social support within cooperative associations does not significantly influence youth livelihood sustainability.

H03: Collective resource sharing has no significant effect on livelihood sustainability among youth operators.

Inferential Analysis and Regression Results

To examine the influence of cooperative collective action on youth livelihood sustainability, Multiple Regression Analysis was conducted using:

i. access to cooperative finance
ii. social support
iii. and collective resource sharing

as explanatory variables.

The dependent variable was Youth Livelihood Sustainability.

Table 5: Multiple Regression Analysis Predicting Youth Livelihood Sustainability

Model Variables	Unstandardized β	Std. Error	Standardized β	t-value	Sig. (p)
Constant	1.085	.321	-	3.380	.001
Access to Finance (X_1)	.418	.075	.382	5.573	.000
Social Support (X_2)	.342	.081	.315	4.222	.000
Resource Sharing (X_3)	.265	.068	.242	3.897	.000

$R = .771$

$R^2 = .594$

$F = 38.42$, $p < .05$

The regression model was statistically significant, indicating that cooperative collective action substantially predicts youth livelihood sustainability within the informal telecommunications sector. The model produced an (R^2) value of .594, implying that approximately 59.4% of the variation in livelihood sustainability is explained by the combined effects of cooperative finance, social support, and collective resource-sharing mechanisms.

Among the explanatory variables, access to cooperative finance emerged as the strongest predictor of livelihood sustainability ($\beta = .382$, $p < .05$), followed by social support ($\beta = .315$, $p < .05$) and collective resource sharing ($\beta = .242$, $p < .05$).

Since all predictor variables recorded statistically significant p-values below .05, the null hypotheses were rejected. The findings therefore confirm that cooperative collective action significantly influences sustainable livelihood outcomes among youth operators within Nigeria's informal telecommunications sector.

DISCUSSION OF FINDINGS

The empirical verification of this model offers crucial insights into the structural dynamics of Africa's digital informalism. The dominant predictive capacity of Access to Cooperative Finance ($\beta = .382$, $t = 5.57$, $p < .001$) solidifies the role of cooperatives as a viable institutional bypass (Temitope, 2026). Within the credit deserts of urban Nigeria, formal banking institutions systematically exclude youth micro-enterprises due to collateral

deficiency. By utilizing member-driven asset pooling, these informal clusters circumvent traditional credit blockades, transforming social liabilities into fluid, operational physical capital. This finding provides clear empirical backing for the Resource-Based View (Barney, 1991), demonstrating that competitive and sustainable advantages within volatile environments can be successfully built through collaborative, non-corporate resource bundles.

Similarly, the statistical significance of Social Support ($\beta = .315$, $p < .001$) and Resource Sharing ($\beta = .242$, $p < .001$) reveals how deeply social capital is integrated into the economics of survival. These structural networks do not merely provide social comfort; they function as decentralized information hubs and informal risk-sharing mechanisms (Folorunsho et al., 2025; Nwosu et al., 2023). Sharing expensive diagnostic tools and trading software patches allows individual technicians to minimize operational overhead while expanding service offerings.

However, the qualitative indicators regarding financial strain (specifically the noted loan repayment pressures) reveal a critical structural tension within these solidarity economies. While collective action offers immediate financial relief, the rigid enforcement metrics of informal governance can create localized debt loops during broader macroeconomic downturns. This pattern supports warnings raised by Grashuis (2025) and Archambault and Ehrhardt (2022) regarding the complex operational challenges of collective groups in sub-Saharan Africa. It suggests that while peer-enforced compliance helps ensure group survival, it can inadvertently suppress individual enterprise growth if market conditions change unexpectedly.

Other specific findings are as follow:

Cooperative Finance and Livelihood Sustainability

The findings demonstrate that access to cooperative finance significantly enhances youth livelihood sustainability within the informal telecommunications sector. Respondents indicated that cooperative financing improves their ability to acquire inventory, purchase modern repair equipment, stabilize business operations, and expand commercial activities. This suggests that cooperative societies function as alternative financial institutions for youth entrepreneurs who are frequently excluded from formal banking systems due to collateral limitations and irregular income structures.

The finding aligns with previous studies emphasizing the role of cooperative financing in promoting informal enterprise growth and employment sustainability (Akinyemi & Adejumo, 2020; Arowolo & Oladejo, 2019). The result also supports the Resource-Based View advanced by Barney (1991), which argues that access to valuable and strategic resources significantly shapes entrepreneurial performance and sustainability.

Social Capital and Collective Resilience

The significance of social support and collective resource sharing highlights the importance of social capital within informal entrepreneurship systems. Cooperative associations appear to facilitate trust-based relationships, information exchange, collaborative learning, technical support, and market coordination among members.

These findings support the arguments of Pierre Bourdieu (1986), Coleman (1988), and Robert Putnam (1993), who collectively emphasize that social networks and reciprocal relationships function as productive economic assets.

Within the GSM business clusters examined, respondents reported that cooperative networks improved supplier access, facilitated technical troubleshooting assistance, and enhanced business information circulation. Approximately 66% of respondents indicated that collective support mechanisms contributed directly to business expansion and operational continuity.

Governance Challenges and Repayment Pressure

Despite the positive livelihood outcomes associated with cooperative participation, respondents also identified repayment pressure and limited cooperative funding as important operational challenges. Approximately 58% of respondents indicated that strict repayment schedules occasionally created financial strain during periods of low sales or economic instability.

This finding suggests that while cooperative systems improve access to financial resources, sustainability also depends on adaptive governance mechanisms capable of accommodating the volatile realities of informal enterprise environments. The result aligns with broader African cooperative literature emphasizing the governance and sustainability challenges associated with collective financial systems (Archambault & Ehrhardt, 2022; Grashuis, 2025).

Contribution to Knowledge

This study contributes to emerging scholarship on informal digital economies by demonstrating how cooperative collective action functions as a resilience mechanism that enhances sustainable youth livelihoods within urban telecommunications microenterprise systems. The study extends existing cooperative literature beyond traditional agricultural and microfinance domains by focusing specifically on the informal telecommunications sector, an increasingly important component of Africa's evolving digital economy. The findings further contribute theoretically by integrating collective action theory, social capital theory, and the Resource-Based View to explain how cooperative institutions strengthen entrepreneurial resilience, resource accessibility, and long-term livelihood sustainability among youth operators in developing economies.

National micro-credit frameworks must pivot from individual-centric lending models to institutional, group-based matching grants. Government interventions (such as the Bank of Industry or SMEDAN initiatives) should channel tech-empowerment funding directly through verified GSM cooperative associations. This strategy reduces administrative tracking costs and uses the cooperative's existing social capital to prevent loan defaults.

Cooperatives must intentionally integrate digitized tracking and risk metrics. Transitioning away from manual bookkeeping toward simple mobile ledger platforms can mitigate the severe loan repayment pressures identified in the study. This ensures financial sustainability without damaging the mutual trust that holds the group together.

CONCLUSION

This study examined the influence of cooperative collective action on youth livelihood sustainability within Nigeria's informal telecommunications sector, with specific focus on GSM phone sales and repair clusters in Ibadan. The study was motivated by the growing dependence of urban youths on informal digital enterprises amid persistent unemployment, economic uncertainty, and limited access to formal economic opportunities. The findings demonstrate that cooperative collective action significantly contributes to sustainable livelihood outcomes among youth operators within the informal telecommunications ecosystem. Through access to cooperative finance, social support systems, and collective resource-sharing mechanisms, cooperative participation enhances business continuity, operational resilience, technical development, and entrepreneurial growth. The regression analysis revealed that cooperative collective action explains a substantial proportion of the variation in youth livelihood sustainability, with access to finance emerging as the strongest predictor. The comparative analysis between cooperative members and non-members further reinforces the developmental significance of cooperative participation. Cooperative-affiliated operators consistently recorded higher performance outcomes across key livelihood indicators including access to capital, market information, business resilience, technical skill growth, and asset acquisition. These findings suggest that cooperative structures function not merely as informal savings associations but as broader socio-economic support systems that strengthen adaptive capacity within fragile informal enterprise environments.

The study also establishes the central role of social capital within Nigeria's informal digital economy. Cooperative networks facilitate trust, reciprocal support, information exchange, collaborative learning, and collective problem-solving among youth entrepreneurs. In domains characterized by institutional weaknesses and financial exclusion, these relational networks become critical mechanisms for sustaining entrepreneurial activity and reducing economic vulnerability. Nevertheless, the study identified important governance-related challenges associated with cooperative operations, particularly repayment pressure and limited funding capacity. While cooperative systems improve access to financial resources, rigid repayment structures may create additional strain for vulnerable entrepreneurs during periods of market instability. This suggests that the long-term sustainability of cooperative-based livelihood systems depends not only on access to collective resources but also on the flexibility, inclusiveness, and responsiveness of internal governance arrangements.

While this study provides robust inferential evidence regarding collective action within a high-growth urban hub, its geographic focus on Ibadan and sectoral concentration on the telecommunications micro-market inevitably limits the broad generalizability of the findings. The socioeconomic dynamics of digital clusters in Southwestern Nigeria may vary significantly from informal markets in other regions or under different regulatory climates. Future research should expand this analytical scope by implementing multi-city comparative designs that encompass distinct geopolitical zones. Additionally, longitudinal studies cross-examining alternative tech-driven informal niches (such as decentralized fintech agents or solar energy installers) would validate if the cooperative resilience dividend observed here remains consistent across the wider, evolving digital informal landscape of sub-Saharan Africa.

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