

RESEARCH ARTICLE



An Empirical Analysis of Livelihood Diversification Among Cooperative Members Through Agency Banking in Anambra State, Nigeria

Taiwo Olabisi Abdulahi^{1,*} and Chinedu Francis Egbunike²

¹*Department of Cooperative Economics and Management, Nnamdi Azikiwe University, Nigeria*

²*Department of Accountancy, Nnamdi Azikiwe University, Nigeria*

Abstract: Livelihood diversification is vital for enhancing economic resilience in underserved regions, yet cooperative members in Nigeria continue to face income instability and limited financial resources. This study evaluates the effect of agency banking (AB) on livelihood diversification among Farmers' Multi-purpose Cooperative Societies in Awka South, Anambra State, focusing on income stability (IS), occupational diversity (OD), poverty reduction (PR), and skill diversity and development (SDD). Using a descriptive survey design, the study applied a multi-stage sampling technique to select 157 respondents from six cooperatives, with data analyzed from 96 valid responses using descriptive statistics and simple linear regression (LR). Findings show that AB has a statistically significant positive effect on all four dimensions. The strongest relationship was found with IS ($R = 0.677$), followed by SDD ($R = 0.494$) and OD ($R = 0.355$), while PR showed a weaker but significant association ($R = 0.271$). These results suggest that access to financial services through local agents helps members manage cash flow, invest in income-generating ventures, and diversify their livelihoods. The study concludes that AB is a transformative tool for socioeconomic empowerment within cooperatives and recommends that policymakers incentivize financial institutions to expand agent networks in rural areas. In contrast, cooperative leadership integrates financial-literacy training to sustain these gains.

Keywords: AB, livelihood diversification, cooperative societies, financial inclusion, IS

1. Introduction

Cooperative societies bring individuals together for mutual support and joint economic action, and in doing so, they have become an important vehicle for livelihood diversification, particularly for people in rural or otherwise underserved areas seeking greater income stability (IS) and economic resilience [1]. Over the past few years, cooperative structures have increasingly absorbed agency banking (AB) into their operations, a shift that has reshaped how members access financial services [2]. Under the AB model, financial institutions rely on authorized, third-party agents to extend banking services into remote localities without the expense of building conventional branches, making the approach especially common in emerging markets where it advances financial inclusion for rural and low-income populations. In practice, these agents are typically local business owners who process deposits, withdrawals, and account openings on the bank's behalf, offering an innovative response to persistent

financial inclusion gaps by letting authorized agents deliver banking services on behalf of licensed institutions [3]. The model carries particular weight in Nigeria, where formal banking infrastructure remains sparse across many remote and underserved communities [2]; because local agents are already trusted, embedded members of these communities, AB widens access to financial services and, in turn, supports economic development and stability [3]. For cooperative members whose livelihoods depend on agriculture, small-scale trade, or informal economic activity, IS remains a persistent concern.

By making savings accounts, credit facilities, and everyday transactions easier to access, AB can meaningfully stabilize members' incomes [3], equipping them to manage their finances and absorb economic shocks with greater resilience. The model also bears on occupational diversity (OD) within cooperative communities. By putting financial tools behind a wider set of income-generating activities, AB expands the range of livelihoods members can pursue. Access to microloans, for example, allows members to start new ventures or grow existing ones, broadening the local economic base [4]. Because poverty alleviation sits at the center of most development agendas, AB's capacity to widen access to financial services also makes it a potentially

*Corresponding author: Taiwo Olabisi Abdulahi, Department of Cooperative Economics and Management, Nnamdi Azikiwe University, Nigeria. Email: ao.taiwo@unizik.edu.ng

powerful anti-poverty tool: It helps members manage resources more effectively, channel funds into income-generating activity, and ultimately improve their economic standing, which is a meaningful step toward better living conditions. Skill diversity matters just as much for members' long-term prospects. Beyond simple access, AB creates openings for financial education through routine interactions with agents, building members' financial literacy and their capacity to manage money and develop new business skills. In this way, it draws cooperative members closer together by making financial services easier to reach.

Rural cooperative societies exist chiefly to pool members' resources and improve their collective welfare. However, distance and weak financial inclusion have long kept traditional banking services out of reach for many of them. AB closes that gap: By making affordable, accessible banking available, it strengthens the financial operations of cooperatives and gives members a more reliable way to invest, save, withdraw funds, and obtain credit. Across Nigeria, cooperative societies remain central to rural and underserved livelihoods, offering mutual assistance and helping members sustain economic activity.

Mhembwe and Dube [4] argue that, notwithstanding these contributions, cooperative members still contend with income instability, narrow OD, poverty, and gaps in financial skills. Bringing AB into cooperative structures has emerged as one way to address these challenges [2], although exactly how it does so still needs clearer empirical grounding. Okore and Ugwuanyi [3] similarly observe that income instability weighs heavily on cooperative members, many of whom depend on agriculture and informal economic activity with limited access to formal finance; while AB is meant to offer steadier access to savings and credit, how far it actually stabilizes members' incomes is still an open question.

Limited financial resources also constrain OD and skill development among cooperative members, and AB's contribution to expanding OD through investment and business-expansion tools deserves closer study. The same is true of its poverty-reduction (PR) potential: Better financial access may support resource management and investment in income-generating activity, but its actual bearing on poverty among cooperative members is not yet well established. Skill diversity, too, is vital for sustained economic progress. However, the evidence on how AB builds financial literacy and skills among cooperative members remains thin, making it important to understand how interactions with agents translate into financial education and skill gains. Existing studies touch on pieces of this puzzle without offering a full empirical picture. Some show that AB widens access to financial services without clarifying whether it stabilizes incomes; Mhembwe and Dube [4] note that financial access lets people explore alternative livelihoods but do not establish whether AB specifically drives new income-generating activity; and Ayeni et al. [5] link AB to PR without showing how effectively it helps members manage resources or invest in better livelihoods. This study responds to these gaps by examining how AB affects IS, OR, PR, and skill development among cooperative members and by tracing how these gains feed into members' broader economic well-being.

Research Gap: Prior work [4, 5] has examined AB's links to financial access, income, and poverty separately, but no study has tested its effect on IS, OD, PR, and skill development jointly within Nigerian cooperative societies, let alone within Awka South Local Government Area (LGA), Anambra State specifically. This study closes that gap by evaluating all four dimensions concurrently among Farmers' Multi-purpose Cooperative Societies (FMCS), offering an integrated, context-specific contribution to the literature.

Building on this, the study sets out to capture the multifaceted way AB shapes cooperative members' livelihood diversification. By examining its bearing on IS, OD, PR, and skill development together, it aims to build a rounded picture of how AB can strengthen the economic well-being of cooperative societies. Accordingly, the broad objective of the study is to assess the impact of AB on cooperative members' livelihood diversification, pursued through the following specific objectives:

- 1) Assess the extent of the relationship that exists between AB and the IS of cooperative members.
- 2) Evaluate the extent to which AB relates to OD within cooperative communities.
- 3) Investigate the nature of the link between AB and PR among cooperative members.
- 4) Examine the correlation between AB and SD among cooperative participants.

2. Literature Review

2.1. Conceptual review

2.1.1. The concept of AB in Nigeria

AB is a well-established financial inclusion strategy [6]. It involves licensed banks or financial institutions (principals) partnering with authorized third-party agents to provide basic banking services to customers in underserved communities. These agents, typically retail outlets or mobile Point-of-Sale (POS) operators, act as representatives of the principal bank, extending financial services beyond the reach of traditional branch networks. AB in Nigeria has become a key means of expanding access to banking services, especially in areas where traditional banks are scarce. This system uses authorized agents to perform basic banking tasks such as cash deposits and withdrawals, bill payments, and money transfers on behalf of banks. The Central Bank of Nigeria (CBN) introduced AB in 2013 to improve financial inclusion and reduce reliance on cash. The CBN has established rules for what agents can and cannot do. Agents are allowed to handle tasks such as deposits and withdrawals but are not permitted to process foreign-currency transactions or checks. Agents are classified into three categories: super-agents, who manage a network of sub-agents; sole agents, who operate independently; and sub-agents, who work under the supervision of super-agents [7]. The two major players in Nigeria's AB sector are OPay and MoniePoint. They control over half of the POS agents in the country. They are critical to providing financial services in areas where traditional banks are absent. As of mid-2023, OPay and MoniePoint accounted for approximately 57.8% of all POS agents in Nigeria [8]. AB has greatly impacted financial inclusion in Nigeria. Many Nigerians use these agents for their financial transactions. For instance, about 50.3% of Nigerians use agents to receive money, and 44.4% use them to send money. The value of POS transactions has also increased significantly, from ₦0.05 trillion in 2012 to ₦6.4 trillion in 2021 [8].

AB has also taken hold in Anambra State, specifically within Awka South LGA. Growing accessibility has driven adoption rates upward, helping the model close persistent financial inclusion gaps for both cooperative members and the wider underserved rural population. User engagement bears this out, sitting at roughly 73%, as most cooperative members now favor AB over traditional banking channels because of its convenience and lower transaction costs.

Nigeria's push toward a cashless economy has further boosted AB. Initiatives such as the eNaira and various domestic card schemes have nudged more transactions into digital channels, while recent cash shortages have pushed many merchants toward cashless payment solutions [9]. The sector operates within a regulatory framework set by the CBN, which lays down standards for agents' conduct to keep them within regulatory bounds and to protect consumers, covering compliance measures, security protocols, and consumer-protection rules that sustain trust in the system.

2.1.2. *The concept of livelihood diversification*

Livelihood diversification refers to households taking up multiple income-generating activities rather than depending on a single source, such as farming, in order to raise income and spread risk [10]. It is a key lever for strengthening food security, raising income, and cutting poverty, especially in rural settings. Several forces drive this diversification in Nigeria: economic pressures such as falling agricultural productivity and volatile market prices push households toward additional income sources. In contrast, environmental pressures such as climate change play an equally significant role—falling rainfall and rising temperatures depress crop yields and prompt farmers to widen their activities to keep their livelihoods afloat. Households respond by growing different crops, keeping more livestock, starting non-farm businesses, and taking up paid work, strategies that help them absorb the combined shocks of climate change and economic instability to their income and food security [10]. Gender also shapes diversification outcomes: Both male- and female-headed households benefit, but their income levels and strategies differ meaningfully, with women typically pursuing a wider spread of activities and realizing higher average income gains as a result [11].

Livelihood diversification matters for Nigeria for several reasons:

- 1) Economic stability: By having multiple income sources, households are less dependent on just one, like farming. This helps them avoid financial troubles if one source fails due to market changes or bad weather.
- 2) Food security: Spreading what households grow and how they earn helps ensure a steady food supply across the year. This benefit is especially pronounced in rural areas where farming remains the principal source of food and income [10].
- 3) PR: Taking on varied types of work lets families raise their earnings and improve their living conditions. This gain carries particular weight in rural areas where poverty rates are high [11].
- 4) Skill development: Diversifying work exposes people to new skills and technologies, leaving them better equipped to handle future economic and environmental challenges.
- 5) Climate change resilience: A diversified livelihood helps households absorb the effects of climate change more readily; if one crop or income source fails because of drought or flooding, other sources can help the family weather the disruption.
- 6) Gender empowerment: Diversification opens up more income-earning opportunities for women, which lifts household income and narrows economic gaps between men and women [11].

2.1.3. *AB and IS among cooperative members*

AB has helped steady the incomes of cooperative members in Nigeria, chiefly by widening access to financial services, expanding savings and credit options, cutting transaction costs, and

advancing financial inclusion [12]. It lets cooperative members, especially those in rural areas, reach banking services without traveling long distances, which in turn makes it easier to deposit savings, take out loans, and carry out other transactions, supporting better cash-flow management and steadier incomes. Regular savings and easier credit access, both of which AB facilitates, are central to IS: Savings offer a cushion in difficult periods, while credit lets members invest in income-generating activity and further stabilize their finances [8]. The model also cuts the transportation and opportunity costs tied to conventional banking; by bringing services closer to members, it lowers transaction costs and enables greater savings and more stable finances overall [9]. Financial inclusion is another important channel through which AB affects cooperative members' incomes—by reaching previously unbanked or underbanked members, it equips them with the tools needed for better income management and investment, thereby reinforcing IS [13]. The model also opens up employment opportunities, since cooperative members can become banking agents themselves, earning commissions and adding a further income stream for their households.

2.1.4. *AB and OD within cooperative communities*

AB has meaningfully broadened OD within Nigeria's cooperative communities. By letting authorized local businesses or individuals deliver banking services on behalf of licensed banks, the model widens financial access in rural and underserved areas, generating job opportunities and entrepreneurial ventures that support economic growth and financial inclusion [12]. Job creation is one of its most direct effects: Members of cooperative communities can take up roles as POS agents, earning transaction commissions that draw them into the formal financial sector and improve their economic standing and social status [8]. Anaele and Nimfa [9] further note that AB spurs related businesses, since POS agents often work from retail outlets that see increased footfall and sales because of the added banking services on offer, a synergy between banking and retail activity that diversifies the local economy and fuels commerce and job creation. Access to credit and savings products, which AB also facilitates, matters for OD in its own right: Members who can save and borrow more easily are more inclined to invest across agriculture, small-scale manufacturing and services, spreading their income sources and strengthening household resilience. Financial inclusion delivered through AB likewise empowers women and other marginalized groups within cooperative communities, giving them a stronger foothold to participate in the economy, start businesses, and achieve financial independence.

2.1.5. *AB and PR among cooperative members*

Cooperative societies play a significant part in PR efforts worldwide, and in Nigeria, these member-owned organizations advance financial inclusion and access to essential financial services, particularly for people in underserved communities. However, geographic limitations and the cost of establishing conventional bank branches often keep cooperatives from realizing their full potential, which is precisely where AB steps in as a tool for bridging the gap and driving PR among cooperative members [14]. By enhancing financial inclusion, easing access to financial services, and stimulating economic activity, AB has played a meaningful role in reducing poverty among cooperative members. The model allows banks to extend services to rural and underserved areas through authorized agents who offer deposits, withdrawals, and loans, bringing financial services closer to

cooperative members, particularly those in rural areas. By shortening the distance to banking facilities, AB saves time and transport costs and makes it easier for people to manage their finances. According to the CBN [12], this greater accessibility matters most for low-income households, since it draws them into the formal financial system; once cooperative members can reach banking services easily, they are more likely to save regularly and use financial products more effectively to manage income and spending. Improved access to credit is one of the clearest benefits here: Members can more readily borrow to invest in farming, small business, or trade, and this access to credit is central to PR because it lets households channel funds into productive ventures that raise income and lift living standards [8].

Anaele and Nimfa [9] note that savings act as a safety net, cushioning households against poverty by giving them resources to draw on in difficult periods. The AB model itself generates employment within cooperative communities: Individuals who become agents earn commissions on the transactions they process, which both supplements their own income and stimulates local economic activity by increasing cash flow within the community. As agents, cooperative members also build valuable business and financial skills, further strengthening their economic empowerment [12]. Through AB, cooperative members typically gain financial education and training that improves their financial literacy, and higher financial literacy in turn supports better financial decisions and more effective management of their resources.

2.1.6. AB and SDD among cooperative participants

AB allows financial institutions to extend their reach through local agents who handle deposits, withdrawals, loan applications, and bill payments on the institution's behalf [15]. How well the model works hinges heavily on how well-trained those agents are, since they must manage transactions efficiently and deliver good customer service. Within cooperatives, skill diversity and development (SDD) refers to the spread of different abilities and expertise members bring to the table, a diversity that is crucial because it strengthens the cooperative's capacity to innovate, solve problems, and adapt to changing market conditions [16]. Effective skill-development programs—covering financial literacy, banking operations, and customer service—are therefore essential for cooperative members engaged in AB [11]. Bringing AB into cooperatives does more than widen financial inclusion; it also drives members' SDD, since training participants as banking agents builds their individual capabilities and strengthens the cooperative's overall performance in delivering financial services. Initiatives such as M-PESA (Mobile Money) in Kenya illustrate the gains that follow from pairing AB with deliberate skill-development strategies [17].

2.2. Theoretical framework

1) Human Capital Theory (HCT)

HCT was developed by economists [18] and [19]. The theory holds that investing in people's education, skills, and health raises their productivity and improves economic outcomes, which bears directly on how cooperative members diversify their livelihoods through AB. Read through an HCT lens, investment in education, skills development, and health builds the capabilities cooperative members need to make fuller use of AB services to generate diversified income. More specifically, AB functions as a channel for human-capital

investment: By bringing routine financial interactions such as savings, credit access, and transaction advice—closer to cooperative members through local agents, it creates repeated, low-cost touchpoints through which financial literacy, record-keeping practice, and entrepreneurial confidence build up incrementally, which is how this study operationalizes the human-capital mechanism under investigation.

2) Financial Intermediation Theory (FIT)

FIT traces back mainly to the seminal work of [20]. Financial intermediaries—banks and, by extension, AB networks—matter to an economy because they lower transaction costs and reduce information asymmetries between lenders and borrowers. The theory holds that the costs of sourcing credit, negotiating contracts, and monitoring investments are among the main obstacles individuals face when trying to deal directly with the financial system and that institutions ease these obstacles by acting as specialized intermediaries that distribute financial resources more effectively. Applied to the present study, AB works as a decentralized extension of this intermediation process, connecting formal financial institutions with rural cooperative members who are traditionally excluded because of geography or weak infrastructure. By offering accessible channels for deposits, withdrawals, and credit, AB networks lower the barriers to financial participation and thereby enable the capital mobilization that livelihood diversification among cooperative members depends on.

2.3. Empirical review

Ayeni et al. [5] assessed how effectively AB serves as a poverty-alleviation mechanism in the agriculturally dependent, economically disadvantaged parts of Plateau State. Working from a descriptive survey design, they used the Taro Yamane formula to draw a representative sample of 360 First Bank of Nigeria Limited (FirstBank) agents and then applied the Statistical Package for the Social Sciences (SPSS) (Version 25.0) to run descriptive statistics and multiple LR in testing their hypotheses [21]. Their results showed that both agents' income and their overall transaction volumes had a statistically significant, positive bearing on PR outcomes. In contrast, agents' educational attainment did not significantly predict poverty alleviation in the region. On this basis, the authors call for financial institutions to expand AB networks into rural areas in support of the CBN's National Financial Inclusion Strategy (NFIS), a push meant to strengthen financial inclusion among women, youth, and micro, small, and medium-sized enterprises (MSMEs) with a target of 99% inclusion by 2030. They also stress the need for financial-literacy campaigns that draw the traditionally unbanked into the formal financial system.

Malik-Abdumajeed [22] studied how the AB model affects financial inclusion in rural parts of Nigeria's North-Central region (Kwara, Kogi and Niger states), examining specifically (i) how bank-innovation strategy affects rural financial inclusion in those states, (ii) how geographical-coverage strategy affects it, (iii) how technological-advancement strategy affects it, (iv) how individual socioeconomic status shapes the link between the AB model and financial inclusion, and (v) how community safety affects that same association. Primary data were gathered from 600 respondents across the selected states between 2019 and 2020 via a questionnaire and analyzed using Tobit regression alongside validity and reliability testing. The results showed that bank-innovation strategy, geographic-coverage strategy, and

technological-advancement strategy each had a positive, significant bearing on rural financial inclusion in the North-Central states (marginal effects and p -values of $\beta = 0.214$, $p < 0.05$; $\beta = 0.326$, $p < 0.05$; and $\beta = 1.523$, $p < 0.05$, respectively). The study further found that individual socioeconomic position and community safety positively and significantly moderated the link between the AB model and financial inclusion ($\beta = 0.190$, $p < 0.05$; $\beta = 0.197$, $p < 0.05$). It concludes that financial inclusion in the selected North-Central states is shaped by the AB model together with individual socioeconomic position and community safety, which act as moderators.

Akighir et al. [14] examined how agent banking affects poverty in Benue State, Nigeria, grounding their study in agency theory, risk-management theory, regulatory dialectic theory, and fundamental-needs theory. Focusing on the agent-banking operations of FirstBank, they selected 199 agents using Taro Yamane's technique, though only 185 completed questionnaires were usable for analysis [21]. The study drew on the Foster-Greer-Thorbecke index alongside descriptive tools such as tables, percentages, and paired tests. It used logit regression to gauge whether agent banks could reduce poverty in the state. The findings pointed to a high incidence of poverty among Benue State's largely unbanked population, with participation in agent banking showing potential to ease that poverty. Agent banking also appeared capable of improving financial inclusion and literacy in a state where only 11 of 23 LGAs have bank branches; its presence was linked to greater business viability and easier financial transactions, which in turn could boost economic activity, create jobs, and reduce poverty. The authors recommend stepping up financial-literacy outreach to encourage long-unbanked rural residents to adopt agent-banking services and suggest that banks operating in the state exploit agent banking to penetrate the rural population further, in line with the CBN's revived NFIS, which prioritizes women, rural areas, youth, Northern Nigeria, and MSMEs in pursuit of a 95% financial inclusion rate by 2024.

Ajayi [23] evaluated the effect of microcredit on rural household livelihoods, drawing on evidence from women micro-entrepreneurs in Oyo State, Nigeria. Using a descriptive survey approach with 180 microcredit recipients, the study found that microcredit raised household income and well-being, lifted living standards, and opened up savings opportunities, with the women microbusiness owners in the sample able to improve their children's educational prospects substantially.

Synthesis: Read together, these empirical studies agree that AB supports financial inclusion and, through it, broader livelihood outcomes, though they differ in emphasis and context. On objective (i), IS, Akighir et al. [14] and Malik-Abdulmajeed [22] both link improved financial access to steadier incomes, though neither treats IS as a distinct outcome separate from financial inclusion more broadly. On objective (ii), OD, Ajayi [23] and Mhembwe and Dube [4] show that financial access widens livelihood options, but chiefly through microcredit rather than AB specifically, leaving the context-specific gap this study addresses. On objective (iii), PR, the most direct evidence comes from Ayeni et al. [5] and Akighir et al. [14], though both rely on agent-level rather than cooperative-member-level data. Objective (iv), SDD, remains the least directly studied, with only Ayeni et al. [5] tying AB to financial-literacy gains, which underscores the value of this study's dedicated SDD construct. This critical reading, rather than a purely descriptive one, is what justifies the four-hypothesis structure adopted in Section 3.

3. Research Methodology

3.1. Research design

This study relies on a descriptive survey design to capture patterns of livelihood diversification among cooperative members facilitated by AB within Awka South LGA. Survey designs are well established in the literature for their capacity to gather data from large populations, giving a broad view of opinions, behaviors, and characteristics at a given point in time [24]; this approach is well suited to the present study, since it supports the collection of varied data across cooperative societies throughout Anambra State and helps surface correlations and effects that other, more qualitative methods might miss. The study was carried out in Anambra State, in south-eastern Nigeria, an area known for its vibrant cultural heritage and economic activity.

3.2. Participants

Ministry of Cooperatives records show that Anambra State has roughly 300 registered cooperative societies, which contribute substantially to employment and income generation across the state. The study population is drawn from FMCS in Awka South LGA, an area the Ministry identifies as home to a considerable concentration of such societies [7]. A multi-stage sampling technique guided the selection of six cooperative societies, chosen purposively based on size, yielding a final sample of 157 FMCS members across Awka South LGA, Anambra State.

Of the 157 questionnaires distributed across the six cooperative societies, 96 came back fully completed and usable for statistical analysis, a response rate of 61.1%. The drop from 157 to 96 reflects non-response, incomplete entries, and questionnaires with missing values on key constructs, all of which were excluded during data cleaning to protect the integrity of the regression analysis. A sample of 96 valid responses is consistent with accepted guidance for correlational and regression work, where an adequate count of complete cases per construct is needed for valid parametric testing [24].

3.2.1. Instruments

Respondents rated descriptive statements for each research variable on a 5-point Likert scale reflecting their relevance to their cooperative society. Section B of the questionnaire covered five sections addressing different facets of livelihood diversification, plus one section on AB. Instrument validity was built up through a multistep process. First, content validity was secured by drawing the questionnaire items directly from the study's four constructs—IS, OD, PR, and SDD—as defined in the reviewed literature [10, 4], so that each item mapped cleanly onto a specific construct. Second, the draft instrument went through expert review by two academics in Cooperative Economics and Management and one senior officer from the Anambra State Ministry of Cooperatives, who judged the items' clarity, relevance, and comprehensiveness; their feedback led to the rewording of ambiguous statements and removal of redundant items. Third, a pilot test with 20 cooperative members outside the main sample, drawn from a cooperative society not included in the final study, checked item clarity and response consistency, and the resulting feedback prompted minor adjustments to question phrasing. Finally, Cronbach's alpha was used to test the instrument's internal consistency reliability, with every construct returning coefficients above the

accepted 0.70 threshold, confirming that the instrument was both valid and reliable for the study's purposes.

3.3. Data processing

Data from the 96 respondents retained after screening for completeness were sorted, coded, and processed using the SPSS software [25]. A 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) was used to assess five dimensions of AB's impact—AB, IS, OD, PR, and SDD—each measured with five specific survey items and analyzed in SPSS (Version 25.0) on the final valid sample of 96 respondents. Table 1 below presents the abridged questionnaire items for these constructs:

Descriptive statistics such as the mean and standard deviation were used to summarize the data above [26], while simple LR tested the hypotheses by modeling the relationship between two variables—predicting a dependent (response) variable from one or more independent (predictor) variables. Respondents' demographic profile was compiled using frequency counts and simple percentages (results not shown for brevity).

3.3.1. Model specification

The general form of a simple LR equation is:

$$y = \beta_0 + \beta_1 X_1 + \epsilon$$

Where:

y = dependent variable
 X = independent variable
 β_0 = intercept (the value of y when $X = 0$)
 β_1 = slope (the change in y for a one-unit change in X)
 ϵ = error term (the difference between observed and predicted values)

$$IS = \beta_0 + \beta_1 AB_1 + \epsilon \quad (1)$$

$$OD = \beta_0 + \beta_1 AB_1 + \epsilon \quad (2)$$

$$PR = \beta_0 + \beta_1 AB_1 + \epsilon \quad (3)$$

$$SDD = \beta_0 + \beta_1 AB_1 + \epsilon \quad (4)$$

Where:

AB - Agency Banking

IS - Income Stability

OD - Occupational Diversity

PR - Poverty Reduction

SDD - Skill Diversity and Development

Table 1
Summary of mean and SD of each questionnaire item

Construct	Survey item	Mean	SD
AB	Access to services	4.42	0.829
	Service reliability	4.25	1.17
	Satisfaction with services	4.24	1.158
	Knowledgeable agents	4.55	0.694
	Preference over traditional banking	4.39	0.838
IS	Ability to save money	4.1	1.252
	Access to credit facilities	4.08	1.149
	Convenience-led IS	4.24	1.103
	Reduced costs/time	4.21	1.151
	Overall financial improvement	4.2	1.148
OD	New business opportunities	4.44	0.88
	Diversification of income sources	4.46	0.857
	Local business growth support	4.47	0.87
	Loans for new ventures	4.48	0.821
	Job creation in cooperatives	4.47	0.845
PR	Financial management control	4.51	0.808
	Reduced financial hardships	4.49	0.808
	Improved family living standards	4.46	0.845
	Investment in income-generating activities	4.49	0.808
	Increased savings via reduced costs	4.48	0.808
SDD	Financial knowledge acquisition	4.46	0.845
	Financial management skill improvement	4.49	0.808
	Development of business-related skills	4.48	0.808
	Impact of financial-literacy programs	4.08	1.149
	Motivation to diversify skills	4.24	1.103

3.3.2. Decision rule

The probability value (p -value) is used to test the significance of each hypothesis. The decision rule is that when the p -value is less than 0.05 (p -value < 0.05), the null hypothesis (H_0) is rejected, and the alternative is accepted. Conversely, if the p -value exceeds 0.05 (p -value > 0.05), the H_0 is not rejected.

4. Data Analysis

4.1. Analysis of research questions

RQ1: What is the extent of the relationship that exists between AB and the IS of cooperative members?

As Table 2 shows, AB and IS among cooperative members are strongly and positively correlated, with a Pearson coefficient of 0.677—meaning that as AB practices grow or improve, IS rises correspondingly among cooperative members. The p -value of 0.000 confirms that this relationship is statistically significant

at the 0.01 level, so the odds of it occurring by chance are vanishingly small. Taken together, these results point to AB as a critical driver of IS among cooperative members.

RQ2: To what extent does AB relate to OD within cooperative communities?

Table 3's correlation analysis points to a moderate, positive relationship between AB and OD within cooperative communities, with a Pearson coefficient of 0.355—evidence that implementing AB is associated with greater occupational diversification among cooperative members, though the relationship is not as strong as the one observed for IS. A p -value of 0.000 confirms statistical significance at the 0.01 level, making a chance result highly unlikely.

RQ3: What is the link between AB and PR among cooperative members?

Table 4 points to a weak, positive relationship between AB and PR among cooperative members, with a Pearson coefficient of 0.271, suggesting that while AB is associated with lower poverty among members, the relationship is comparatively

Table 2
Correlation of AB and IS

Correlations		AB	IS
AB	Pearson correlation	1	.677**
	Sig. (2-tailed)		.000
	N	96	96
IS	Pearson correlation	.677**	1
	Sig. (2-tailed)	.000	
	N	96	96

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

Table 3
Correlation of AB and OD

Correlations		AB	OD
AB	Pearson correlation	1	.355**
	Sig. (2-tailed)		.000
	N	96	96
OD	Pearson correlation	.355**	1
	Sig. (2-tailed)	.000	
	N	96	96

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

Table 4
Correlation of AB and PR

Correlations		AB	PR
AB	Pearson correlation	1	.271**
	Sig. (2-tailed)		.000
	N	96	96
PR	Pearson correlation	.271**	1
	Sig. (2-tailed)	.007	
	N	96	96

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

modest in strength. The p -value of 0.007 confirms that it is statistically significant at the 0.01 level.

RQ4: What is the correlation between AB and SDD among cooperative participants?

Table 5's correlation analysis reveals a moderately strong, positive relationship between AB and SDD among cooperative participants, with a Pearson coefficient of 0.494, indicating that as AB expands or improves, SDD within the cooperative community rises correspondingly. The p -value of 0.000 confirms statistical significance at the 0.01 level, so a chance correlation is highly unlikely.

4.2. Test of hypotheses

4.2.1. Test of H_1

H_1 : AB has a significant effect on IS in the study area.

As Table 6 shows, an R -value of 0.677 points to a strong, positive correlation between AB and IS. With an R -squared of 0.458,

AB accounts for roughly 45.8% of the variation in IS, underscoring its considerable explanatory power in the study area. As Table 7 shows, an F -statistic of 79.388 with a significance value of 0.000 (below 0.05) confirms that the regression model is statistically significant.

As Table 8 shows, the unstandardized coefficient (B) for AB, 1.025, means that a one-unit increase in AB corresponds to a 1.025-unit rise in IS. With a t -statistic of 8.910 and a significance value of 0.000 (below the 0.05 threshold), the H_0 is rejected in favor of the alternative (H_1): AB significantly affects IS in the study area.

4.2.2. Test of H_2

H_2 : AB has a significant effect on OD within cooperative communities.

As Table 9 shows, an R -value of 0.355 points to a moderate, positive correlation between AB and OD. The R -squared of 0.126 indicates that AB accounts for only about 12.6% of the

Table 5
Correlation of AB and SDD

Correlations		AB	SDD
AB	Pearson correlation	1	.494**
	Sig. (2-tailed)		.000
	N	96	96
SDD	Pearson correlation	.494**	1
	Sig. (2-tailed)	.000	
	N	96	96

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

Table 6
Model summary of H_1

Model summary				
Model	R	R -square	Adjusted R -square	Std. error of the estimate
1	.677	.458	.452	.72004

Note: Predictors: (Constant), AB

Table 7
ANOVA summary of H_1

ANOVA						
Model		Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	41.159	1	41.159	79.388	.000
	Residual	48.734	94	.518		
	Total	89.893	95			

Note: Dependent variable: IS

Source: Predictors: (Constant), AB

Table 8
Coefficients output of H_1

Coefficients						
		Unstandardized coefficient		Standardized-coefficient		
Model		<i>B</i>	Std. error	<i>Beta</i>	<i>t</i>	Sig.
1	(Constant)	−.313	.508		−.616	.539
	AB	1.025	.115	.677	8.910	.000

Note: Dependent variable: IS

Table 9
Model summary of H_2

Model summary				
Model	<i>R</i>	<i>R</i> -square	Adjusted <i>R</i> -square	Std. error of the estimate
1	.355	.126	.117	.71383

Note: Predictors: (Constant), AB

variation in OD. As Table 10 shows, an *F*-statistic of 13.595 with a significance value of 0.000 (below 0.05) confirms that the regression model is statistically significant.

As Table 11 shows, the unstandardized coefficient (*B*) for AB, 0.421, means that a one-unit increase in AB is associated with a 0.421-unit rise in OD. With a *t*-statistic of 3.687 and a significance value of 0.000 (below 0.05), H_0 is rejected, and the alternative (H_1) is accepted: AB has a significant effect on OD in the study area.

4.2.3. Test of H_3

H_3 : AB has a significant effect on PR among cooperative members.

As Table 12 shows, an *R*-value of 0.271 points to a weak, positive correlation between AB and PR. The *R*-squared of 0.074 indicates that AB explains only about 7.4% of the variation in PR. However, the effect is statistically significant, and the model's explanatory power is fairly low. As Table 13 shows, an *F*-statistic of 7.475 with a significance value of 0.007 (below the 0.05 threshold) confirms that the overall regression model is statistically significant.

As Table 14 shows, the unstandardized coefficient (*B*) for AB, 0.324, means that a one-unit increase in AB is associated with a

0.324-unit rise in PR. With a *t*-statistic of 2.734 and a significance value of 0.007 (below 0.05), the H_0 is rejected, and H_1 is accepted, confirming that AB has a significant effect on PR in the study area.

4.2.4. Test of H_4

H_4 : AB has a significant effect on SDD and development among cooperative participants.

As Table 15 shows, an *R*-value of 0.494 points to a moderate, positive correlation between AB and SDD. The *R*-squared of 0.244 suggests that AB accounts for about 24.4% of the variation in SDD. As Table 16 shows, an *F*-statistic of 30.319 with a significance value of 0.000 (below 0.05) confirms that the overall regression model is statistically significant, meaning AB has a significant effect on SDD.

As Table 17 shows, the unstandardized coefficient (*B*) for AB, 0.532, means that a one-unit increase in AB is associated with a 0.532-unit rise in SDD. A *t*-statistic of 5.506 with a *p*-value of 0.000 confirms the effect's statistical significance, so the H_0 is rejected in favor of the alternative H_1 : AB significantly affects SDD ($p < 0.05$).

Table 10
ANOVA summary of H_2

ANOVA						
Model		Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	6.927	1	6.927	13.595	.000
	Residual	47.898	94	.510		
	Total	54.825	95			

Note: Dependent variable: OD

Source: Predictors: (Constant), AB

Table 11
Coefficients output of H_2

Coefficients						
Unstandardized coefficients			Standardized-coefficients			
Model		<i>B</i>	Std. error	<i>Beta</i>	<i>t</i>	Sig.
1	(Constant)	2.625	.504		5.211	.000
	AB	.421	.114	.355	3.687	.000

Note: Dependent variable: OD

Table 12
Model summary of H_3

Model summary				
Model	<i>R</i>	<i>R</i> -square	Adjusted <i>R</i> -square	Std. error of the estimate
1	.271	.074	.064	.74221

Note: Predictors: (Constant), AB

Table 13
ANOVA summary of H_3

ANOVA						
Model		Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	4.118	1	4.118	7.475	.007
	Residual	51.782	94	.551		
	Total	55.900	95			

Note: Dependent variable: PR

Source: Predictors: (Constant), AB

Table 14
Coefficients output of H_3

Coefficients						
		Unstandardized coefficients		Standardized-coefficients		
Model		<i>B</i>	Std. error	<i>Beta</i>	<i>t</i>	Sig.
1	(Constant)	3.069	.524		5.859	.000
	AB	.324	.119	.271	2.734	.007

Note: a. Dependent variable: PR

Table 15
Model summary of H_4

Model summary				
Model	<i>R</i>	<i>R</i> -square	Adjusted <i>R</i> -square	Std. error of the estimate
1	.494	.244	.236	.60404

Note: Predictors: (Constant), AB

Table 16
ANOVA summary of H_4

ANOVA						
Model		Sum of squares	<i>df</i>	Mean square	<i>F</i>	Sig.
1	Regression	11.063	1	11.063	30.319	.000
	Residual	34.297	94	.365		
	Total	45.360	95			

Note: Dependent variable: SDD

Source: Predictors: (Constant), AB

Table 17
Coefficients output of H_4

Coefficients						
		Unstandardized coefficients		Standardized-coefficients		
Model		<i>B</i>	Std. error	<i>Beta</i>	<i>t</i>	Sig.
1	(Constant)	2.028	.426		4.757	.000
	AB	.532	.097	.494	5.506	.000

Note: Dependent variable: SDD

4.3. Empirical findings and discussion

Support for the first hypothesis—that AB significantly affects IS—echoes Akighir et al. [14] and Malik-Abdulmajeed [22]. Akighir et al. [14] found that AB widened financial access, enabling residents of Abuja to engage more effectively in economic activity and thereby stabilize their incomes. Malik-Abdulmajeed's [22] study similarly found that the accessibility of banking services

through AB advanced financial inclusion, letting low-income individuals manage their finances more effectively and reach steadier income levels. In both cases, AB allowed individuals to engage in an OD broader range of economic activities.

The findings also support the second hypothesis, concerning AB's effect on OD. Ajayi [23] similarly showed that AB gave rural dwellers in Oyo State access to financial services that diversified their economic activities, letting them move beyond subsistence

farming into other occupations. Ayeni et al. [5] reinforce this, showing that financial services delivered through AB improved financial literacy and encouraged entrepreneurship, widening the range of occupational choices available to community members and helping communities diversify their income sources and build resilience to economic fluctuations.

The third hypothesis—that AB significantly affects PR—is likewise supported. Malik-Abdulmajeed [22] and Akighir et al. [14] both found that AB strengthened financial inclusion, particularly in rural areas, expanding economic opportunity and reducing poverty; the present analysis similarly found that easier access to banking services correlated with poverty alleviation. Suri and Jack's [17] longitudinal study in Kenya adds a further dimension, showing that mobile-money services, including AB, particularly benefited female-headed households by strengthening their financial resilience and contributing to PR. Together, these studies point to AB's reach into underserved areas as a direct check on poverty.

The fourth hypothesis showed AB affects skill diversity and development. Ayeni et al. [5] found that AB not only delivers financial services but also improves financial literacy among community members, fostering SDD. Osabutey and Jackson [27] make a related point, noting that mobile-money-based financial services widen access to educational and economic opportunities across Africa, further building individuals' skills. Gains of this kind in financial literacy and SDD matter for sustaining economic growth within cooperative communities.

Linking results to theory: Taken together, these results support both theoretical strands underpinning the study. In line with HCT, the strongest effects appear for IS and SDD—the two outcomes most directly bound up with members' capacity to manage and deploy financial resources—suggesting that AB's human-capital-building role (financial literacy, transaction experience) is its most potent channel. In line with FIT [20], the comparatively weaker, though still significant, effect on PR reflects the theory's prediction that intermediation lowers transaction costs and widens access without directly guaranteeing income redistribution or poverty outcomes, which hinge on additional structural factors beyond financial access alone.

Comparative/benchmark analysis: Applying Cohen's conventional thresholds [28] for R -squared in the social sciences (small approx. 0.02, medium approx. 0.13, large approx. 0.26), the income-stability model (R -squared = 0.458) and SDD model (R -squared = 0.244) fall in the large-to-medium range, the OD model (R -squared = 0.126) sits near the small-to-medium boundary, and the PR model (R -squared = 0.074) falls below the conventional medium threshold. This benchmarking makes clear that AB's explanatory power differs materially across outcomes and that PR in particular is likely shaped by factors outside the present model's scope, such as household size, off-farm employment, and social transfers—a pattern broadly consistent with the smaller PR effect sizes Akighir et al. [14] report relative to their financial inclusion effect sizes.

5. Conclusion and Recommendations

This study concludes that AB has a bearing on livelihood diversification among cooperative members. Livelihood diversification remains a crucial strategy for building IS and economic resilience, particularly for people in rural or underserved regions, and cooperative societies—which bring members together for

mutual assistance and joint economic activity—play a vital role in promoting it. The findings show that AB is a valuable tool for widening access to financial services among underserved populations, delivering gains in IS, OD, and overall economic empowerment. In short, AB is a transformative force that both meets immediate financial needs and fosters broader economic development. The study offers the following recommendations. Specifically, AB exerts a strong, highly influential effect on IS ($R = 0.677$), a moderately strong effect on SDD ($R = 0.494$), a moderate effect on OD ($R = 0.355$), and a comparatively modest, though still statistically significant, effect on PR ($R = 0.271$). This gradient suggests that AB is most transformative as an income-management tool and least sufficient, on its own, as a PR instrument.

Enhancing IS through AB: CBN and licensed deposit money banks should pursue initiatives that increase the availability of AB outlets in underserved areas, including incentives for financial institutions to expand their agent networks, especially in rural and low-income urban areas. Training programs for agents should also be developed to sharpen their financial literacy and customer-service skills so that clients receive solid support in managing their finances.

Promoting OD: The Anambra State Ministry of Cooperative Societies, working with cooperative apex bodies, should build environments that encourage entrepreneurship and skills development within cooperative societies. Programs offering financial education and business training can help members put AB services to work across a wider range of income-generating activities. In contrast, partnerships with local businesses and non-governmental organizations can open up mentorship opportunities that help individuals build the skills needed to succeed in different occupations.

Support PR efforts: The State Ministry of Cooperative Societies, in partnership with cooperative initiatives, should work to weave AB into existing social welfare programs, including partnerships between AB institutions and government agencies to facilitate direct cash transfers and other financial support to cooperative members. Awareness campaigns highlighting the benefits of AB can also encourage more co-operators to use these services, expanding their economic opportunities and reducing poverty levels.

Fostering SDD: The CBN's NFIS secretariat and cooperative training institutions should put in place policies supporting financial-literacy programs aimed at cooperative societies and their members, including financial education woven into cooperative training sessions and resources tailored to different community members' needs. Partnerships with educational institutions can further widen access to vocational training aligned with needed skills, helping cooperative members thrive in a fast-changing job market.

Limitations: This study is limited by its cross-sectional design, which rules out causal inference; by its focus on a single Awka South LGA within Anambra State, which may limit how far the findings generalize to other cooperative contexts; and by its reliance on a modest valid sample ($n = 96$) drawn from six cooperatives, which constrains the statistical power available for more granular subgroup analysis.

Future research directions: Future studies should adopt longitudinal or quasi-experimental designs to establish causality, extend the sampling frame across multiple LGAs and states to test generalizability, and incorporate qualitative methods, such as agent and member interviews, to unpack the specific

mechanisms—including financial-literacy transfer—through which AB shapes livelihood outcomes.

Acknowledgments

The authors gratefully acknowledge the Divisional Cooperative Officer and staff in Awka South LGA, Anambra State, whose support during fieldwork was instrumental to the success of this study.

Ethical Statement

This study received ethical approval from the Review Board of the Department of Cooperative Economics and Management at Nnamdi Azikiwe University, Awka, under approval number [NAU/FMS/CEM/REC/2026/022]. We conducted all procedures involving human participants in accordance with the committee's ethical standards and guidelines. We obtained informed consent from all participants before data collection, and we did not disclose any personally identifiable information in the study.

Conflicts of Interest

The authors declare that they have no conflicts of interest to this work.

Data Availability Statement

Data are available from the corresponding author upon reasonable request.

Author Contribution Statement

Taiwo Olabisi Abdulahi: Conceptualization, Methodology, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization, Supervision, Project administration. **Chinedu Francis Egbunike:** Software, Validation, Formal analysis.

References

- [1] Akonu, S. C., Nwankwo, F. O., & Nwafor, G. O. (2025). Determinants of livelihood diversification strategies among agricultural cooperative members in Anambra State. *International Journal of Finance, Accounting and Management Studies*, 2(2), 200–225. <https://www.ijfams.com/index.php/ijfams/article/view/181>
- [2] Nkechika, C. G. (2023). Digital financial services and financial inclusion in Nigeria: Milestones and new directions. *Economic and Financial Review*, 60(4), 151–170. <https://doi.org/10.33429/1957-2968.2089>
- [3] Okore, O. A., & Ugwuanyi, L. (2022). Appraisal of agency banking as a financial inclusion strategy in Nigeria. *International Journal of Economics and Financial Management*, 7(2), 62–74. <https://doi.org/10.56201/ijefm.v7.no2.2022.pg62.74>
- [4] Mhembwe, S., & Dube, E. (2017). The role of cooperatives in sustaining the livelihoods of rural communities: The case of rural cooperatives in Shurugwi District, Zimbabwe. *Jamba: Journal of Disaster Risk Studies*, 9(1), 1–9. <https://doi.org/10.4102/jamba.v9i1.341>
- [5] Ayeni, A. O., Folagbade, A., Arandong, I. J., Dare, O., & Adeoye, S. (2024). Agency banking and poverty reduction in Plateau State. *International Journal of Advanced Studies in Business Strategies and Management*, 11(1), 136–156. <http://doi.org/10.48028/ijprds/ijasbm.v11.i1.10>
- [6] Bangladesh Bank. (n.d). *Guidelines on agent banking for the banks*. Retrieved from: https://www.bb.org.bd/aboutus/regulationguideline/psd/agentbanking_banks_v13.pdf
- [7] Okechukwu, C., Nwakoby, N. P., Chilokwu, C. G., & Okoye, N. J. (2023). Effect of financial intermediation on agricultural production among members of cooperative societies in Anambra State, Nigeria. *Journal of the Management Sciences*, 60(1), 1–15.
- [8] Ayadi, O. F., Oke, B., Oladimeji, A., & Aladejebi, O. (2023). Agency banking in Nigeria: Impact and impediments. *Small Enterprise Development and Management Extension*, 50(3), 227–247. <https://doi.org/10.1177/09708464231195916>
- [9] Anaele, C., & Nimfa, D. T. (2025). How financial inclusion functions between agency banking and performance of POS merchants in Jos metropolis. *Research Journal of Management Practice*, 5(10), 53–62. <https://doi.org/10.5281/zenodo.18108785>
- [10] Nyamamu, E. J., Nchimbi, C. S., Mteti, S. H., & Ndimbo, G. K. (2025). Potentials and challenges for rural livelihood diversification and poverty alleviation in Sub-Saharan Africa: A systematic review. *SAGE Open*, 15(4), 21582440251379011. <https://doi.org/10.1177/21582440251379011>
- [11] Gwandi, O., Adewuyi, A. K., & Dia, Y. Z. (2024). Evaluation of livelihood diversification strategies as a panacea to poverty reduction among rural farming households in Adamawa State, Nigeria. *International Journal of Agriculture and Environmental Research*, 10(2), 230–250. <https://doi.org/10.51193/IJAER.2024.10206>
- [12] Central Bank of Nigeria. (2022). *National financial inclusion strategy*. Retrieved from: <https://www.cbn.gov.ng/Out/2022/CCD/NFIS1.pdf>
- [13] Agbor, U. I., Abang, P. O., Obaji-Akpet, I. O., Duke, O. O., & Eja, T. R. (2023). Evaluating the agent banking policy on financial inclusion among rural unbanked populations: Evidence from Nigeria. *Ianna Journal of Interdisciplinary Studies*, 5(1), 19–31. <https://iannajournalofinterdisciplinarystudies.com/index.php/1/article/view/152>
- [14] Akighir, D. T., Jacob, T. T., & Ateata, A. (2020). Agent banking and poverty reduction in Benue State, Nigeria. *Advances in Social Sciences Research Journal*, 7(5), 213–229. <https://doi.org/10.14738/assrj.75.8058>
- [15] Quadri, Y. O., Malik-Abdulmajeed, K. M., Akinwumi, A. O., & Omotosho, I. O. (2024). Agent banking, mobile money operation and financial inclusion in Nigeria: Supply side perspective. *The International Journal of Applied Business*, 8(1), 104–116. <https://doi.org/10.20473/tijab.v8.i1.2024.43814>
- [16] Gupta, D., & Nath, P. K. (2024). Why do cooperatives succeed? A comparative analysis of the Global South and North. *International Journal of Rural Management*, 20, S105–S122. <https://doi.org/10.1177/09730052231224575>
- [17] Suri, T., & Jack, W. (2016). The long-run poverty and gender impacts of mobile money. *Science*, 354(6317), 1288–1292. <https://doi.org/10.1126/science.aah5309>
- [18] Becker, G. S. (1964). *Human capital: A theoretical and empirical analysis, with special reference to education*. National Bureau of Economic Research.
- [19] Schultz, T. W. (1961). Investment in human capital: Reply. *American Economic Review*, 51(5), 1035–1039.
- [20] Gurley, J. G., & Shaw, E. S. (1960). *Money in a theory of finance*. Brookings Institution.

- [21] Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper and Row.
- [22] Malik-Abdulmajeed, K. M. (2021). *Effect of agency banking model on financial inclusion in rural areas in the North-Central Region, Nigeria*, Master's Thesis, Kwara State University.
- [23] Ajayi, C. O. (2016). The effect of microcredit on rural household livelihood: Evidence from women micro entrepreneurs in Oyo State, Nigeria. *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development*, 16(3), 29–36.
- [24] Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods research* (4th ed.). SAGE Publications.
- [25] Onwuchekwe, S. I., Ibekwe, C. C., Ezech, S. S., & Okpala, F. C. (2023). Public perception of ex-convicts' reintegration in Idemili-North Local Government Area of Anambra State, Nigeria. *Journal of Law and Judicial System*, 6(1), 15–29. <https://doi.org/10.22259/2637-5893.0601002>
- [26] Iremeka, F. U., Eseadi, C., Ezenwaji, C., Ezenwaji, I. O., Okide, C. C., Ogbonna, C. S., & Onwuchekwe, S. I. (2021). Effect of school-based rational-emotive behaviour program on burnout among adult learners: Moderating influence of participants' demographic variables. *Journal of Rational-Emotive & Cognitive-Behaviour Therapy*, 39(4), 712–729. <https://doi.org/10.1007/s10942-021-00393-4>
- [27] Osabutey, E. L. C., & Jackson, T. (2024). Mobile money and financial inclusion in Africa: Emerging themes, challenges and policy implications. *Technological Forecasting and Social Change*, 202, 123339. <https://doi.org/10.1016/j.techfore.2024.123339>
- [28] Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

How to Cite: Abdulahi, T. O., & Egbunike, C. F. (2026). An Empirical Analysis of Livelihood Diversification Among Cooperative Members Through Agency Banking in Anambra State, Nigeria. *FinTech and Sustainable Innovation*. <https://doi.org/10.47852/bonviewFSI62029936>