

Managing at the Margin: A Conceptual Framework of Nano-Enterprise Management, Collective Support, Survival and Real Graduation in Nigeria

Oforbuike Francis Nwachukwu ¹; Akpan Ifeyinwa Gift ²; Udoka Stephen Otika ³; Ani Jude Ndubuisi ⁴ and Taiwo Olabisi Abdulahi ⁵

¹Department of Entrepreneurial Studies, National Open University of Nigeria. ²Directorate of Entrepreneurship and General Studies, South East, National Open University of Nigeria. ³Department of Marketing, University of Agriculture and Environmental Sciences, Imo State, Nigeria. ⁴Department of Entrepreneurial Studies, Coal City University, Enugu State, Nigeria. ⁵Department of Cooperative Economics and Management, Nnamdi Azikiwe University, Awka, Nigeria.

Corresponding author: onwachukwu@noun.edu.ng

DOI: <https://doi.org/10.62154/ajmbr.2026.023.01042>

Abstract

Most Nigerian enterprises are very small, and since 2021 national policy has treated the smallest of them, those with turnover below ₦3 million and one or two workers, as a separate nano tier. Management research and support programmes often treat these ventures as miniature versions of larger firms, although their owners work under acute scarcity of capital, time and attention. This conceptual, theory-building paper integrates scarcity theory, evidence on management practices and business training in small firms, entrepreneurial bricolage and collective-action theory, and draws on the authors' studies of cooperative membership and savings. Its specific contribution is a scarcity-based framework of nano-enterprise management that separates survival and income stability from real graduation to the micro tier, which is measured on turnover deflated to 2021 naira. Nine propositions, each with falsification criteria and boundary conditions, state that scarcity lowers the quality of management practices; those simple practices matter at least as much as conventional training for survival, and personal-initiative capability matters more for graduation; that bricolage protects survival but does not by itself produce growth; and that cooperative support helps where governance is sound and complements capability building. The paper concludes that short, simple support delivered through well-governed collectives is the most promising route to survival and graduation, although no proposition has yet been tested. It recommends that SMEDAN and development partners pilot and evaluate simple-rule and personal-initiative modules against conventional training and track graduation on deflated turnover.

Keywords: Nano Enterprises, Microenterprise Management, Resource Scarcity, Bricolage, Cooperatives, Nigeria.

Introduction

Nigeria's enterprise population is overwhelmingly very small. A joint survey by the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) and the National Bureau of Statistics (NBS) counted 39,654,385 micro, small and medium enterprises

(MSMEs) in December 2020, of which 38,413,420 were reported as micro enterprises (Otaru, 2022). That figure should be read with care: the survey introduced a nano category of enterprises with only one or two persons engaged (SMEDAN, n.d.-b), so the figure is likely to combine nano and micro firms, and the coverage consulted does not report a separate nano count. In 2021, the Federal Government approved a reviewed National Policy on Micro, Small and Medium Enterprises (2021 to 2025) (Federal Ministry of Industry, Trade and Investment, 2021) that split the micro category and created a nano, or homestead, tier, defined by SMEDAN as enterprises with annual turnover below ₦3 million and one or two workers, often run by a family (SMEDAN, n.d.-a; Anaja, 2021). The change recognises that the smallest ventures differ from other micro enterprises in ways that matter for policy. Research on how such ventures is managed has not kept pace with policy. Evidence from other developing countries shows that conventional business training often has modest and uneven effects on small firms, with average gains of about 5 to 10 per cent in profits and sales (McKenzie, 2021; McKenzie & Woodruff, 2014), that small firms differ widely in basic management practices (McKenzie & Woodruff, 2017), and that in Togo training in personal initiative raised firms' profits and sales more than traditional training (Campos et al., 2017; see also Dimitriadis & Koning, 2022, whose short social-skills module raised monthly profits in Togo by roughly 20 per cent). A separate literature shows that scarcity itself taxes attention and decision-making (Mani et al., 2013; Mullainathan & Shafir, 2013), although a replication audit of the scarcity literature found considerable variability in how well its findings hold (O'Donnell et al., 2021). These strands are rarely brought together, and little of this work treats the Nigerian nano tier as its own object. Nano ventures have begun to attract attention (Olagboye et al., 2022; Yarima et al., 2026), but not yet through an integrated, testable account of how they are managed.

The authors have studied cooperatives in Nigeria from several angles: social capital and financial inclusion among 864 members of a cooperative investment and credit society in Osun State (Abdulahi et al., 2024c), collective entrepreneurship and financial inclusion (Abdulahi et al., 2024a), collective entrepreneurship and savings habits (Abdulahi et al., 2024b), capacity building (Emejulu et al., 2019), and cooperatives and entrepreneurial business growth in South West Nigeria (Nwachukwu et al., 2025). Cooperatives are a natural setting in which to ask how very small ventures are supported, because they supply savings, credit, training and peer networks that a nano owner cannot assemble alone. Two of the Osun State studies report the same sample of 864 members of one society, so they are treated here as a single line of evidence on mechanisms and not as independent corroboration.

This paper therefore asks how nano enterprises are managed and what supports their survival and growth. Its contribution is threefold. First, it offers an integrated framework that treats scarcity as the starting condition of nano-enterprise management. Second, it proposes which management practices and capabilities are likely to matter at this scale, and states when collective support is expected to help. Third, it identifies a measurement

problem specific to turnover-based classification under inflation and derives testable propositions with falsification criteria.

Empirical and Institutional Context

The 2021 policy review moved Nigeria from asset-based to turnover-based size classes, a change prompted by the erosion of the 2007 asset thresholds through inflation and naira depreciation (Anaja, 2021). Press coverage of the policy adds that, in 2013, most micro enterprises (83.2 per cent) had begun with start-up capital of ₦100,000 or less (Anaja, 2021). Conditions for operating are demanding. In a PwC survey administered online in 2022 and published in 2024, 557 MSME operators across 13 sectors named access to finance (35 per cent) and infrastructure, chiefly electricity (21 per cent), as their main obstacles; 96.2 per cent of the businesses were sole proprietorships and 67 per cent had seen demand fall (PwC Nigeria, 2024). Because only firms with annual turnover of ₦5 million or more were sampled, these findings describe businesses above the nano threshold and say little about nano owners directly. The NBS and SMEDAN survey recorded that 37.3 per cent of micro enterprises had been temporarily closed by the COVID-19 lockdown (Otaru, 2022); because the closures were temporary, the figure measures disruption and not exit.

Problem statement

The problem: Millions of Nigerians run ventures with one or two workers and annual turnover under ₦3 million, and the state and development partners now target them as a distinct group. However, to the authors' knowledge no integrated, testable theory yet explains how such ventures are managed, which practices and supports drive their survival and growth, or when collective institutions such as cooperatives help. Programmes therefore borrow training content designed for larger firms and judge success by nominal turnover, which inflation distorts.

What previous studies have established: Sections 2.2 to 2.8 review the theory and the empirical evidence. In brief, business-training evidence is mixed, scarcity impairs decision-making, and Nigerian data rarely report the nano tier on its own.

Research gaps

The gap: The theory and evidence reviewed in Section 2 leave four gaps.

Gap 1 (theoretical): Much management research treats micro and small firms as scaled-down versions of larger ones. It does not take the nano owner's binding scarcity as its starting point or explain why management practices that work for larger firms fail at this scale.

Gap 2 (mechanism): The training evidence is mixed, but it does not say which practices and capabilities matter for owners with one or two workers, or through what mechanism they act on survival and growth.

Gap 3 (collective support): The authors' related Nigerian cooperative studies relate membership to savings, financial inclusion and growth without isolating nano owners, and they do not specify how collective support changes management practice.

Gap 4 (measurement and testability): The 2021 national survey introduced a nano category (one or two persons engaged), but the headline figures reported in the press combine nano and micro firms, and the policy's nano tier (turnover below ₦3 million as well as one or two workers) is not reported on its own in the coverage consulted. The most prominent recent firm survey excluded businesses below ₦5 million turnover (PwC Nigeria, 2024), and a nominal turnover threshold lets inflation move ventures across tiers without any real growth. Work on nano ventures exists, including a conceptual chapter on nano classification, survival and growth in sub-Saharan Africa (Olagboye et al., 2022) and a survey of 255 nano-enterprise owners in Plateau State (Yarima et al., 2026), but, to the authors' knowledge, it has not been set out as testable propositions that link scarcity-based management mechanisms, collective support and a deflated measure of graduation. This paper therefore states, for each proposition, what result would count against it (Table 3).

Purpose and Contribution

How this Paper Addresses the Gaps

For Gap 1, it takes scarcity as the starting condition and builds a framework around it (Section 2.2; Section 4, Figure 1). For Gap 2, it defines the management practices and capabilities and the mechanisms linking them to survival and growth, and it separates simple practices from conventional training (Sections 2.3 and 4). For Gap 3, it specifies when cooperative and other collective support relieves scarcity and when it fails, with governance quality and trust as moderators (Sections 2.5 and 4). For Gap 4, it proposes a deflated measure of graduation between tiers, states propositions P1 to P9 with falsification criteria (Table 3), and sets out a research design with robustness checks (Sections 4 and 6) and rival explanations (Section 5.5). The paper addresses the theoretical gap and makes the empirical gap tractable; the empirical question itself still requires the tests it specifies.

Purpose

The paper asks: through which management mechanisms and supports do nano enterprises survive and grow, and under what conditions does collective support help? Its theoretical contribution is a framework (Section 4) that specifies constructs, relationships, underlying logic and boundary conditions, as recommended for conceptual contributions (Whetten, 1989).

Objectives and Research Questions

The central question is addressed through four objectives, each with an aligned sub-question mapped to the propositions in Section 4.2.

Objective 1: To explain how resource scarcity shapes the management practices of nano owners and which practices and training content fit that condition. *Sub-question 1:* Does scarcity lower the quality of management practices, and do simple rules perform as well as conventional training for survival and income stability? (P1, P2)

Objective 2: To specify the capability and resourcefulness through which nano ventures survive and graduate. *Sub-question 2:* Does personal-initiative capability raise real graduation more than conventional training, and does bricolage protect survival without producing growth? (P3, P4)

Objective 3: To establish when collective support helps. *Sub-question 3:* Does cooperative thrift and credit relieve liquidity strain and raise management practices where governance and trust are strong, and does it complement capability building? (P5, P6)

Objective 4: To define the conditions and the measurement issues that bear on outcomes. *Sub-question 4:* Do necessity-driven and opportunity-driven owners differ in growth orientation but not in survival, how does inflation distort nominal graduation, and do digital tools widen reach at the cost of platform dependence? (P7, P8, P9)

Organisation of the Paper

The remainder of the paper is organised as follows. Section 2 clarifies the key concepts, reviews the theories and the empirical evidence, and summarises the remaining gaps. Section 3 sets out the methodology of the conceptual synthesis, the selection of sources and the treatment of contrary evidence, and the limits of the evidence base. Section 4 presents the conceptual framework, the propositions and their boundary conditions. Section 5 discusses the theoretical, practical and policy implications, sets out recommendations (Section 5.3), the research agenda (Section 5.4) and rival explanations (Section 5.5). Section 6 presents an illustrative design for testing the propositions. Section 7 states the limitations and concludes.

Literature Review

Conceptual Clarifications

Nano enterprise: Following SMEDAN (n.d.-a), a nano enterprise is a business with annual turnover below ₦3 million and one or two people engaged, often family-run. The paper uses this as its working definition and treats it as a turnover-based, not asset-based, category. The 2021 national survey applied the employment criterion alone (one or two persons engaged; SMEDAN, n.d.-b), so survey counts of nano firms and policy-defined nano firms need not coincide.

Nano-enterprise management: The set of decisions and routines through which an owner-operator allocates scarce money, time and attention across the venture and the household: record keeping, separation of household and business funds, pricing, stock control, and the choice of whether to seek credit or join a collective.

Resource scarcity: A condition in which the owner has less capital, time and cognitive bandwidth than the venture and household jointly demand. Scarcity is treated here as a state of the owner's situation, not as a trait (Mullainathan & Shafir, 2013).

Bricolage: Making do by combining resources at hand for new purposes (Baker & Nelson, 2005).

Personal-initiative capability: A self-starting, proactive and persistent orientation towards opportunities and obstacles, as taught in the personal-initiative training evaluated by Campos et al. (2017).

Collective support: Savings, credit, training, market access and peer exchange supplied through a cooperative or similar membership organisation, with governance quality and trust treated as separate moderators of its effects (Ostrom, 1990; Olson, 1965).

Graduation: Movement of a venture from the nano tier to the micro tier, which can occur through a rise in turnover above ₦3 million or in headcount above two. This paper measures graduation on the turnover criterion and records headcount-based moves separately. Nominal graduation is a rise in reported turnover above ₦3 million; real graduation is the same rise after deflating turnover to 2021 naira, the year the threshold was set, so the threshold keeps a constant real value. Table 1 sets out the constructs, their working definitions and indicative measures.

Table 1. Key constructs, working definitions and indicative measures

Construct	Working definition	Indicative measure
Nano enterprise	Turnover below ₦3 million; one or two people (SMEDAN, n.d.-a)	Reported annual turnover; headcount
Resource scarcity	Capital, time and bandwidth shortfall; bandwidth is the mechanism and liquidity strain the observable proxy	Liquidity ratio; days of cash cover; time-use diary; short cognitive task
Management practices	Record keeping, fund separation, pricing, stock control	Count of practices observed, scored from an audit checklist
Simple rules	Low-attention routines such as a separate cash box and a daily sales tally	Routine adopted and observed in use
Conventional training	Standard accounting-based business training	Attendance and completion
Personal-initiative capability	Proactive, persistent orientation	Personal-initiative scale (Frese et al., 1997)
Bricolage	Making do with resources at hand	Entrepreneurial bricolage behaviour scale (Davidsson et al., 2017)
Capital access	Access to external funds from credit or a savings pool; moderator in P4	Loan or savings-pool access and amount
Collective support	Cooperative thrift, credit, training and market access	Membership; savings and loan use

Construct	Working definition	Indicative measure
Motive	Necessity or opportunity entry	Self-reported reasons for starting, scored on a necessity–opportunity scale.
Survival	Trading at follow-up	Operating at 12 and 24 months
Income stability	Variability of monthly income	Coefficient of variation of monthly income
Real graduation	Move from nano to micro tier after deflating turnover to 2021 naira	Turnover deflated to 2021 naira above ₦3 million at follow-up
Governance quality and trust	Quality of cooperative governance and members' trust; moderators of collective support	Governance rating; trust scale
Growth orientation	Intention and effort to expand the venture	Self-reported expansion intentions and actions
Digital tools and digital literacy	Use of digital tools for sales, payments or records; the owner's skill in using them	Tool use; digital-literacy scale
Platform dependence	Reliance on a single platform for sales or payments	Platform share of sales
Deflator	Price index used to restate turnover in 2021 naira	National consumer price index; sector-specific indices as a robustness check

Source: Authors' compilation from the literature reviewed in Sections 2.2 to 2.8 and the SMEDAN classification (SMEDAN, n.d.-a). Note: Scales are those named in the last column; other measures are indicative.

Scarcity and Bandwidth

Scarcity theory holds that having too little of something captures attention and leaves less bandwidth for other decisions (Mullainathan & Shafir, 2013). Experimental evidence links financial strain to lower performance on cognitive tasks (Mani et al., 2013). For a nano owner who must meet household and business demands from the same small cash flow, the implication is that routines requiring sustained attention, such as detailed bookkeeping, planning and record-keeping, are the first to lapse under liquidity pressure. Scarcity is therefore treated here as a bandwidth mechanism, with liquidity strain as its observable proxy, and it is why management practices that work for larger firms may fail at the nano scale. This is the paper's starting condition and the source of P1. The evidence comes from experiments and from other settings, so whether the effect strengthens, weakens or becomes habitual when scarcity is chronic is an open question. The evidence base for scarcity effects is itself uneven: an audit and replication of 20 studies from this literature found considerable variability, with some strong successes and some clear failures

(O'Donnell et al., 2021). P1 is therefore stated as a proposition to be tested for nano owners and not as an established effect.

Management Practices and Training

Management-practice research shows large differences in practices across small firms and a link between practices and performance (McKenzie & Woodruff, 2017). Training evidence is mixed: a review finds modest average effects of business training on small firms (McKenzie & Woodruff, 2014), a later reassessment puts the average effect of training at about 5 to 10 per cent on profits and sales and lists heuristics and psychology-based approaches among the ways to make training more effective (McKenzie, 2021), a randomised trial in the Dominican Republic finds that simple rule-of-thumb training outperformed standard accounting training (Drexler et al., 2014), and a Togolese trial finds personal-initiative training raised profits more than traditional training (Campos et al., 2017; see also Dimitriadis & Koning, 2022, whose short social-skills module raised monthly profits in Togo by roughly 20 per cent). The authors read this evidence as suggesting that content matched to owners' constraints may matter more than content volume; the trials did not test bandwidth directly, so this is an interpretation and not a finding. On that reading, rule-of-thumb routines such as a daily sales tally are cheap to apply. In contrast, accounting courses demand sustained attention (P2), and personal-initiative training works on a different margin, by changing how owners act on opportunities and obstacles, so it is expected to raise graduation partly through improved practices (P3). The Dominican Republic and Togo trials may not carry over to Nigerian nano owners, and the paper treats transfer as an assumption to be tested.

Bricolage and Effectuation

Bricolage describes how resource-constrained entrepreneurs create something from what is at hand (Baker & Nelson, 2005), and effectuation describes starting from available means rather than predetermined goals (Sarasvathy, 2001). Both help to explain how owners survive with almost no capital: they begin from the means at hand, combine them for new purposes and accept affordable loss. These are strengths for survival. The authors conjecture that the same logic limits scale, because the resources at hand rarely include the capital or market access growth needs; this is not a finding of Baker and Nelson (2005) or Sarasvathy (2001). Recent work in African settings shows that bricolage can be enabled by passion and a sense of community among social entrepreneurs (Ciambotti et al., 2023) and that, in one sub-Saharan organisation, low-cost replication of simple heuristics allowed bricolage to scale across locations (Busch & Barkema, 2021). This suggests that bricolage need not always cap growth, so P4 is stated as conditional on capital access and tested, not assumed. The framework therefore treats resourcefulness as a buffer and not a growth strategy, and expects it to lead to graduation only where capital access also improves. This grounds P4.

Collective Action and Cooperatives

Collective-action theory explains both the promise and the risk of cooperation: groups can overcome individual constraints, yet free riding undermines large groups without selective incentives (Olson, 1965), and well-governed local institutions can sustain shared resources (Ostrom, 1990). Cooperative thrift and credit can relieve liquidity strain, the proxy for scarcity used here, and offer training and peer discipline. The authors' studies relate cooperative membership to financial inclusion, savings habits and entrepreneurial growth (Abdulahi et al., 2024a, 2024b, 2024c; Nwachukwu et al., 2025); because two of the Osun State studies share one sample of 864 members, they are read as a single line of evidence on plausibility and not as independent corroboration. Independent evidence is thin and mixed. A survey of 240 members of farmers' cooperatives in South East Nigeria found that most cooperatives had not obtained credit from formal or informal lenders (Ume et al., 2022), and a study of savings and credit cooperatives in Moshi, Tanzania, found that members broadly recognised their role in building debt-management skills but differed on how effective the training had been (Paschal et al., 2024). Cooperative support therefore cannot be assumed to relieve liquidity or to build capability. Even so, the authors' studies point to the support pathway. Thrift and credit societies pool small savings, relieving the liquidity pressure scarcity theory identifies, and they offer peer discipline and training (P5). They also carry the risks of free riding and weak governance, which is why governance quality and trust are treated as moderators. For P6, the authors conjecture that liquidity relief lets owners act on what capability training teaches, for example by buying the stock or tools that a new idea requires, so that the two supports reinforce each other; the cited studies did not test this mechanism. The authors' studies concern members of cooperative societies, who may differ from nano owners outside any society, so selection into membership is a rival explanation. This grounds P5 and P6.

Necessity and Opportunity Entrepreneurship

Entrepreneurship motives are commonly divided into necessity and opportunity (Reynolds et al., 2005, cited here for the categories only). The authors conjecture that nano ventures are disproportionately necessity-driven, and that the distinction affects growth orientation more than survival: owners who start because they lack other income may survive as long as opportunity-driven owners but are expected to be less oriented to growth. This grounds P7. In practice, the distinction is a continuum, since many owners start for mixed reasons, so the framework measures motive on a scale rather than as a binary label, consistent with evidence from rural Tanzania that necessity entrepreneurship takes several distinct forms that differ in activities, determinants and outcomes (Weber et al., 2022). Work on the economic lives of people experiencing poverty and on informal firms (Banerjee & Duflo, 2007; La Porta & Shleifer, 2014; Ulysea, 2020) describes livelihood-oriented ventures that differ from growth-oriented firms, which the authors read as consistent with treating survival and graduation as separate outcomes.

Measurement Under Inflation and Digital Tools

A turnover threshold in nominal naira is not a stable measure of size when prices rise. Because the 2021 policy moved to turnover-based classification precisely because asset thresholds had eroded (Anaja, 2021), the same logic applies to the turnover thresholds themselves. A venture whose nominal turnover rises with prices can cross the ₦3 million threshold without any increase in real activity, and would count as graduating even though nothing has changed in real terms. The remedy is to deflate turnover to 2021 naira, the year in which the threshold was set, and to report both nominal and real graduation. A single national price index may not reflect the prices that a given nano owner faces, so sector-specific deflators are a robustness check. Two features of this argument need stating plainly. First, the direction of P8 is close to arithmetic: when prices rise and real turnover is unchanged, nominal turnover rises, so some ventures cross a fixed nominal threshold without real growth. P8 is therefore framed as a measurement claim whose content lies in the size of the gap and its consequences for evaluation, and not in its direction. If cumulative price change between the base year and a follow-up wave is π , a venture counted as graduating on nominal turnover but not on deflated turnover is one whose turnover in 2021 naira lies between ₦3 million/(1 + π) and ₦3 million; for a cumulative price rise of 50 per cent, for example, that band runs from ₦2 million to ₦3 million. The expected gap between nominal and real graduation is therefore the share of nano ventures in that band, which a baseline survey can estimate. Second, inflation-indexed size thresholds are not new: South Africa's 2019 revision of its small-enterprise definitions set turnover thresholds to account for inflation since the previous revision in 2003 (BusinessTech, 2019). That is a periodic reset of the threshold itself. P8 differs by proposing that research and programme evaluation deflate observed turnover to a fixed base year at every wave, so that graduation is counted net of price changes between resets and nominal and real estimates of programme impact can be compared. This grounds P8.

Digital tools: P9 has two parts. The first is grounded in prior work: mobile money lowered transaction costs and helped households share risk in Kenya (Jack & Suri, 2014), and entrepreneurs who depend on digital platforms face power asymmetries and risks that rise with that dependence (Cutolo & Kenney, 2021). The second, that net benefits are larger where owners have higher digital literacy, is the authors' conjecture and has no direct source in the literature reviewed here. P9 is therefore the least developed of the nine propositions and is also carried on the research agenda (Section 5.4).

Empirical Evidence on Small-Enterprise Management

Evidence on training and practices: Sections 2.2 and 2.3 review the training, management-practice and scarcity evidence, which is not repeated here. It comes from other countries and from trial samples, so its transfer to Nigerian nano owners is an assumption, and training effects are uneven.

Nigerian evidence and its design limits: Section 1.1 reports the headline figures from the joint NBS and SMEDAN survey and from the PwC survey of MSMEs. Two design limits matter for the argument: the headline NBS and SMEDAN totals, as reported in the coverage consulted, combine the nano and micro tiers and give no separate nano count (Otaru, 2022), and the PwC sample covered only businesses with turnover of ₦5 million and above (PwC Nigeria, 2024). The authors' cooperative studies relate membership to financial inclusion, savings and entrepreneurial growth without isolating nano owners (Abdulahi et al., 2024a, 2024b, 2024c; Nwachukwu et al., 2025). Work on nano ventures themselves is limited. Olagboye et al. (2022) propose a nano-enterprise classification as a route to legitimacy, survival and growth for informal enterprises in sub-Saharan Africa, and Yarima et al. (2026) report a survey of 255 nano-enterprise owners in Plateau State. This paper complements that work by deriving testable propositions on management mechanisms, collective support and deflated graduation.

Where the Theories Converge and Diverge

In the authors' synthesis, the theories can be read as converging on one point, although none of them states it: for the nano owner, relaxing the binding constraint matters more than adding generic skills. They diverge on mechanism. Scarcity theory points to bandwidth, training research to practices and capabilities, bricolage to resourcefulness, and collective-action theory to institutions. The framework in Section 4 does not claim that one is right. It assigns each a role: scarcity as the starting condition, practices and capability as proximate mechanisms, bricolage as a buffer, and collective support as the moderating and complementary institution.

Summary of the Evidence and Remaining Gaps

The evidence shows that training effects are modest and depend on fit, that scarcity impairs decisions, and that Nigerian small firms face finance and infrastructure constraints. It does not show which practices and capabilities matter for owners with one or two workers, how collective support changes them, or how real growth should be measured under inflation. The framework in Section 4 addresses these questions.

Methodology

Theory Synthesis

The paper is a conceptual, theory-building contribution of the synthesis type (Jaakkola, 2020). It follows the criteria of what, how, why, who, where and when for a theoretical contribution (Whetten, 1989) and the guidance on what a conceptual paper is (Gilson & Goldberg, 2015). The authors chose the sources for relevance to the nano tier and to cooperative support, not through a systematic search, so the review is integrative and not exhaustive (Snyder, 2019). The synthesis proceeded in four steps: defining the nano tier from official sources; identifying the mechanism that bears on very small ventures in each of four core literatures (scarcity, management practices and training, bricolage and

effectuation, and collective action) and in two supporting strands (necessity and opportunity motives, and measurement and digital tools); assigning each mechanism a role in a single framework; and deriving propositions with falsification criteria.

Source Selection and Treatment of Contrary Evidence

The sources were not identified through a systematic search. To make the selection reproducible in outline, the logic used for each literature is stated here. Foundational works were retained whatever their date. The evidence base was then updated through web-based searches of publisher platforms and the RePEc/IDEAS bibliographic database, restricted to 2021 to 2026. Items were included if they were peer-reviewed or issued by a recognised institution, concerned small or micro enterprises, informal or necessity-driven ventures, or cooperatives, and bore on a mechanism in the framework.

Scarcity: Foundational works: Mullainathan and Shafir (2013) and Mani et al. (2013). Update: audit and replication evidence (O'Donnell et al., 2021). Search terms: scarcity, bandwidth, poverty and cognition, replication.

Management practices and training: Foundational works: McKenzie and Woodruff (2014, 2017), Drexler et al. (2014) and Campos et al. (2017). Update: McKenzie (2021) and Dimitriadis and Koning (2022). Search terms: business training, management practices, personal initiative, rules of thumb, randomised trial.

Bricolage and effectuation: Foundational works: Baker and Nelson (2005) and Sarasvathy (2001). Update: Busch and Barkema (2021) and Ciambotti et al. (2023). Search terms: bricolage, resource constraints, Africa.

Collective action and cooperatives: Foundational works: Olson (1965) and Ostrom (1990). Update: the authors' own studies, supplemented by independent work on cooperatives in Nigeria and East Africa (Ume et al., 2022; Paschal et al., 2024). Search terms: cooperative, savings and credit, financial inclusion, Nigeria.

Supporting strands: Necessity and opportunity motives (Weber et al., 2022), informality (Ulyssea, 2020), digital tools (Jack & Suri, 2014; Cutolo & Kenney, 2021) and work on nano enterprises (Olagboye et al., 2022).

Contrary and null evidence: Studies reporting null, small or mixed results were retained and used to qualify the propositions and not set aside: the modest average training effects (McKenzie & Woodruff, 2014; McKenzie, 2021), the variable replicability of scarcity findings (O'Donnell et al., 2021) and the finding that many farmers' cooperatives in South East Nigeria had not obtained credit (Ume et al., 2022). Where evidence came only from other countries or from the authors' own studies, the text says so. The search was targeted and not exhaustive, so relevant work may be missing (Section 7.1).

Evidence Base and Its Limits

Three limits of the evidence base should be stated plainly. First, official figures describe the micro category as a whole, and the headline survey totals reported in the press combine the

nano and micro tiers (Otaru, 2022). Second, the PwC (2024) sample excludes businesses below ₦5 million turnover, so it cannot be used to describe nano owners. Third, much of the training and scarcity evidence comes from other countries and experimental samples, so applying it to Nigerian nano owners is an assumption the propositions test. The authors' own cooperative studies are cross-sectional or single-region, two of them share one sample of 864 members, and the paper draws on them for the plausibility of mechanisms, not as proof.

Conceptual Framework and Propositions

Overview

Figure 1 summarises the framework. Resource scarcity is the starting condition. It degrades management practices (P1). Simple rules and conventional training both act through practices, and simple rules are expected to be at least as effective as conventional training for survival and income stability (P2). Personal-initiative capability building is proposed to raise real graduation more than conventional training, both directly and through improved practices (P3). Survival and income stability are shown as a separate outcome from real graduation, because the framework expects different drivers for each. Bricolage is expected to raise survival (P4a) but to raise graduation only where capital access also improves (P4b). Collective support relieves liquidity and raises practices where governance and trust are strong (P5), and is complementary to capability building (P6). Motive, digital tools and measurement under inflation extend the framework (P7 to P9). Table 2 summarises the propositions with indicative measures and tests, and Table 3 states what would count against each.

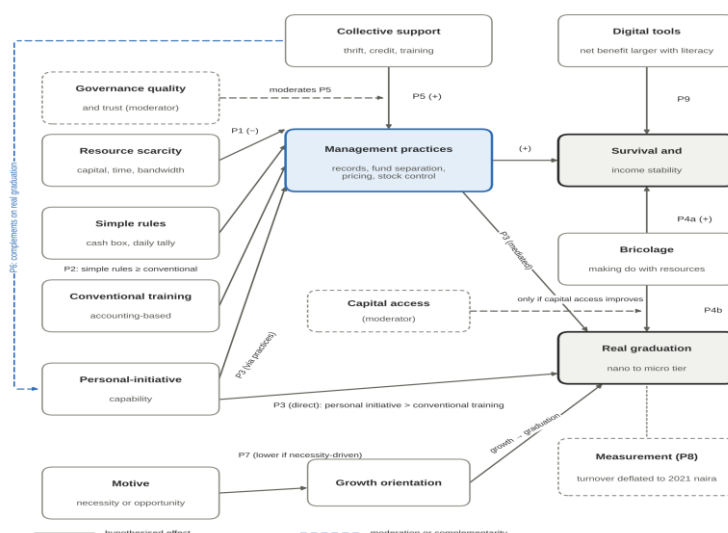


Figure 1: Conceptual framework of nano-enterprise management, collective support, survival and real graduation.

Source: Authors' conceptualisation. Note: Solid arrows show hypothesised effects; dashed arrows show moderation or complementarity. P2 compares simple rules with conventional

training for survival and income stability; P₃ compares personal-initiative capability with conventional training for real graduation, with a direct path and a path mediated by management practices; P₇ also predicts similar survival by motive; P₉ concerns net benefit, which is larger with higher digital literacy.

Propositions

P₁ (scarcity and practices): The greater a nano owner's liquidity pressure, the lower the quality of management practices, because scarcity absorbs the bandwidth that routine record-keeping and planning need (Mani et al., 2013; Mullainathan & Shafir, 2013).

P₂ (simple rules): For survival and income stability, simple rule-of-thumb practices (a separate cash box, a daily sales tally) are at least as effective as conventional training in accounting, within a non-inferiority margin set as the smallest effect of interest (2.5 per cent for income-based outcomes, half the lower bound of the 5 to 10 per cent average training effect in McKenzie, 2021, and 5 percentage points for 24-month survival; Lakens, 2017), because, the authors conjecture, they demand little bandwidth (Drexler et al., 2014, report that rule-of-thumb training outperformed standard accounting training in the Dominican Republic).

P₃ (capability): Personal-initiative capability building raises the probability of real graduation more than conventional training, and the effect runs partly through improved management practices (Campos et al., 2017, report larger profits in Togo; the graduation outcome and the mediation through practices are the authors' extension).

P₄ (bricolage): (a) Bricolage raises survival under scarcity, but (b) it does not raise graduation unless capital access also improves, because, the authors conjecture, making do with resources at hand limits scale (on bricolage, see Baker & Nelson, 2005).

P₅ (collective support): Membership of a cooperative that offers thrift and credit relieves liquidity pressure and raises management practices, and the effect is stronger where governance quality and member trust are high (Ostrom, 1990; Olson, 1965).

P₆ (complementarity): Collective support and capability building are complements: their combined effect on real graduation exceeds the sum of their separate effects, because, the authors conjecture, liquidity relief lets owners act on what capability building teaches. The interaction is defined on the additive scale of the probability of real graduation: $P(\text{both}) - P(\text{capability only}) - P(\text{support only}) + P(\text{neither}) > 0$ (VanderWeele & Knol, 2014).

P₇ (motive): Necessity-driven and opportunity-driven nano owners show similar survival, but necessity-driven owners show lower growth orientation, with survival judged similar within an equivalence margin of 5 percentage points in 24-month survival (the smallest difference of interest; Lakens, 2017) (motive categories from Reynolds et al., 2005; the prediction itself is the authors' conjecture).

P₈ (classification drift; a measurement claim): Under a cumulative price change π since 2021, the share of nano ventures counted as graduating on nominal turnover exceeds the share graduating on turnover deflated to 2021 naira by approximately the share whose

2021-naira turnover lies between ₦3 million/(1 + π) and ₦3 million. The direction of this claim follows arithmetically from rising prices; its content is the size of the gap and its effect on estimates of programme impact (Section 2.7).

P₉ (digital tools): Digital tools lower transaction costs and widen market reach but add platform dependence, and net benefits are larger where owners have higher digital literacy. The first part draws on Jack and Suri (2014) and Cutolo and Kenney (2021) (Section 2.7); the moderation by digital literacy is the authors' conjecture.

Boundary Conditions

The propositions are expected to hold for owner-operated ventures with one or two workers and annual turnover below ₦3 million. They are not claimed for firms above that threshold, for ventures that employ non-family labour in larger numbers, or for settings without a functioning cooperative or comparable institution (for P₅ and P₆). Gender, sector, location (urban or rural), and exposure to power outages and insecurity are plausible moderators and are treated as conditions to be tested, not assumed. A press report of the 2020 national survey states that males owned 67.1 per cent of micro enterprises (Otaru, 2022), so if that figure is accurate, gender differences in access to capital and collective membership deserve particular attention.

Table 2. Summary of propositions, indicative measures and tests

Proposition	Core claim	Indicative measures	Indicative test
P ₁	Scarcity lowers practice quality	Liquidity ratio; practice score	Panel fixed-effects regression of practice score on liquidity shocks
P ₂	Simple rules match complex training for survival and stability	Survival at 12 and 24 months; income variability	Randomised trial with simple-rules, accounting-training and control arms (Section 6); non-inferiority margin set as in P ₂
P ₃	Initiative training beats conventional training for graduation, via practices.	Real graduation; practice score	Randomised trial with mediation analysis (Imai et al., 2010)
P ₄	Bricolage buffers survival, not growth	Bricolage scale; survival; graduation	Moderated regression with capital access as moderator
P ₅	Thrift and credit relieve liquidity; governance moderates	Membership; governance rating; liquidity	Matched comparison and staggered-adoption difference-in-differences
P ₆	Collective support and capability complement each other	Real graduation	2 × 2 factorial design; additive-scale interaction contrast
P ₇	Necessity owners grow less, survive equally	Motive; survival; growth orientation	Survival and growth models by motive; equivalence test

Proposition	Core claim	Indicative measures	Indicative test
			for survival with a margin of 5 percentage points
P8	Nominal thresholds overstate graduation	Nominal and deflated turnover	Compare nominal and deflated graduation rates; compare the gap with the band-share prediction in P8
P9	Digital tools help reach, add dependence	Tool use; sales reach; platform share of sales	Interaction of tool use with digital literacy

Source: Authors' derivation from Section 4.2. Note: Tests are indicative; margins for P2 and P7 are those stated in Section 4.2 and would be confirmed in a pre-analysis plan.

Table 3. Falsification criteria

Proposition	The proposition is not supported if
P1	Practice scores do not fall when liquidity shocks occur, after controlling for owner fixed effects.
P2	Conventional training yields higher survival or income stability than simple rules by more than the margin set in P2 (2.5 per cent on income-based outcomes; 5 percentage points in 24-month survival).
P3	Initiative training yields no higher real graduation than conventional training, or practices do not mediate the effect.
P4a	Bricolage shows no positive association with survival under scarcity.
P4b	Bricolage raises graduation without any improvement in capital access.
P5	Members show no improvement in liquidity or practices relative to matched non-members, or the effect does not vary with governance quality.
P6	The interaction term is zero or negative.
P7	Survival differs by motive by more than the equivalence margin of 5 percentage points, or growth orientation does not differ by motive.
P8	The predicted band share (Section 4.2) lies outside the 95 per cent confidence interval of the observed gap between nominal and deflated graduation rates in a wave that follows a cumulative price rise since 2021, or the gap leaves estimates of programme impact on graduation unchanged.
P9	Digital tool use has no association with reach, platform dependence does not rise with tool use, or benefits do not vary with digital literacy.

Source: Authors' derivation from Section 4.2. Note: Where a proposition contains more than one claim, a separate criterion is given for each.

Discussion

Theoretical Implications

The framework changes how nano ventures are theorised. They are not small firms in miniature but ventures whose binding scarcity shapes which management practices can survive. It offers a hypothesis for the mixed training evidence, locating the effect in fit

between content and owner bandwidth, which the trials reviewed did not test directly (Section 2.3), and it suggests why cooperatives could matter by treating thrift and credit as relief for the binding constraint, and governance and trust as the conditions under which relief arrives. The measurement proposition (P8) adds a contribution that is specific to turnover-based classification under inflation, and it differs from periodic threshold resets such as South Africa's 2019 revision (Section 2.7) in proposing deflation at every wave.

Implications for Practice and Policy

For SMEDAN and other programme designers, the framework suggests piloting and evaluating short, rule-based modules alongside longer accounting courses; tracking deflated, not nominal, turnover when counting graduation; and using cooperatives as delivery channels only where governance is sound. For cooperative leaders, it suggests piloting thrift and credit together with brief capability training. Section 5.3 and Table 4 set out the recommendations, each tied to a proposition and its evidence status.

Recommendations

Because no proposition has been tested, each recommendation below is phrased as a pilot to be evaluated and not as a practice to be adopted. Table 4 ties each recommendation to its proposition and the current status of the evidence.

Table 4. Recommendations by stakeholder, with linked propositions

Stakeholder	Recommendation (pilot and evaluate)	Proposition and evidence status
Nano owners	Trial a few simple routines (a separate cash box, a daily sales tally) and keep them only if they help survival and income stability.	P2. Supported by trials from the Dominican Republic (Drexler et al., 2014); untested for Nigerian nano owners.
Cooperatives	Pilot short capability training alongside thrift and credit, and monitor governance quality.	P5, P6. Plausible from the authors' studies; mechanism untested; governance is a moderator.
SMEDAN and policymakers	Report the nano tier separately and pilot graduation measures based on deflated turnover.	P8. Measurement claim; the size of the gap is to be estimated from a baseline survey.
Development partners	Evaluate simple-rule and personal-initiative modules against conventional training in randomised pilots.	P2, P3. Evidence from Togo (Campos et al., 2017; Dimitriadis & Koning, 2022) and the Dominican Republic; transfer to Nigeria is assumed.
Researchers	Pre-register tests of P1 to P9 and report results that count against them.	All propositions; none yet tested.

Source: Authors' derivation from Sections 4.2 and 5.2. Note: Evidence status follows Sections 2.2 to 2.8.

Implementation matters as much as content. Modules should be short, delivered where owners already meet (markets and cooperative meetings), and timed outside peak trading hours, because time is one of the scarce resources the framework identifies. Cooperatives can serve as the delivery channel where their governance is sound, and SMEDAN or development partners can supply the content and the evaluation.

Research Agenda

Four priorities follow. The first is a baseline survey that identifies nano ventures within the micro population and reports their characteristics. The second is a randomised trial comparing simple-rule, conventional and personal-initiative training, with and without cooperative support (P2, P3, P6). The third is a longitudinal study of classification drift (P8) across inflation episodes. The fourth is a review of the digital-tools literature on microenterprises, to ground the digital-literacy moderation in P9 before it is tested.

Sequencing matters. A baseline survey that identifies nano ventures and their characteristics should come first, because the other tests need a sampling frame. The trial of simple-rule, conventional and personal-initiative training comes second, ideally with a partner cooperative or SMEDAN office that can deliver the arms. The classification-drift study can run alongside the others, using the deflated turnover already collected.

Rival Explanations

Several rival explanations could account for results consistent with the propositions. Selection: owners who join cooperatives may already be more capable or better connected, which would produce an apparent effect of support without any causal contribution (relevant to P5). Reverse causation: ventures with better practices may be better able to save and so join (P1, P5). Demand shocks: falling consumer demand, reported by two-thirds of surveyed MSMEs above the nano threshold (PwC Nigeria, 2024), could drive survival regardless of management. Survivorship: studying only continuing ventures would overstate the value of the practices that survivors share. The design in Section 6 addresses these through randomisation where possible, owner fixed effects, matching, attrition analysis and sensitivity tests.

Illustrative Research Design

This section sketches how the propositions could be tested. It is illustrative, and the conceptual contribution of the paper does not depend on it.

Sample and waves: Follow nano owners in two or three states, drawing cooperative members from the membership lists of participating societies and non-members from market and neighbourhood listings in the same localities, matched on sector, location and baseline turnover, so that comparisons for P5, P7 and P9 do not rest on members alone. Interview owners at baseline and at 12 and 24 months.

Measurement: Score practices from an observed checklist, not self-report alone. Measure turnover independently of any tally that the programme introduces, using enumerator-observed sales on sampled days, mobile-money or point-of-sale records where available, and validated recall, and deflate it to 2021 naira using the national consumer price index. Measure personal initiative with the scale of Frese et al. (1997) and bricolage with the scale of Davidsson et al. (2017).

Randomised arms (P2, P3, P6): Where a programme partner permits, a first trial would assign owners to simple rules, conventional (accounting) training, personal-initiative training or a control, testing P2 and P3 (Table 2). A second, 2×2 design would cross capability building (personal-initiative training or none) with collective support (a cooperative thrift and credit offer or none), and the additive-scale interaction contrast would test P6.

Margins (P2, P7): Because P2 and P7 are parity claims, the analysis plan would fix a non-inferiority or equivalence margin before data collection and test it with two one-sided tests (Lakens, 2017). The proposed margins are those in Section 4.2: 2.5 per cent for income-based outcomes, which is half the lower bound of the 5 to 10 per cent average training effect reported by McKenzie (2021), and 5 percentage points for 24-month survival, both to be confirmed with programme partners.

Observational tests (P1, P4, P5, P7, P9): Use owner fixed effects, matching and staggered-adoption estimators that avoid the biases of two-way fixed effects (Callaway & Sant'Anna, 2021; Goodman-Bacon, 2021), with standard errors clustered at the level of assignment (Cameron & Miller, 2015).

Measurement test (P8): Deflate the turnover recorded at each wave to 2021 naira, compare nominal and real graduation rates, report the share of ventures that cross ₦3 million in nominal but not in real terms, and compare it with the band-share prediction in P8.

Robustness checks: (i) Sensitivity to omitted variables (Cinelli & Hazlett, 2020); (ii) alternative turnover definitions and deflators; (iii) attrition analysis, since the weakest ventures are most likely to close and drop out; (iv) mediation estimates with sensitivity analysis (Imai et al., 2010); (v) pre-registration of hypotheses and analysis plans (Nosek et al., 2018); (vi) measurement invariance of scales across language groups (Putnick & Bornstein, 2016).

Ethics: Participants would give informed consent, in their own language where needed. Business and household financial data are personal data and would be handled in line with the Nigeria Data Protection Act (Federal Republic of Nigeria, 2023). Randomised arms would not withhold support that participants are otherwise entitled to, and control participants would be offered the training after the final follow-up.

Conclusion

Limitations

Five limitations apply. First, the paper is conceptual, and it tests no proposition. Second, the nano definition rests on a turnover threshold that will itself erode with inflation and may be revised. Third, the evidence on training and scarcity is largely from other settings. Fourth, the authors selected the sources so that relevant work may be missing (Section 3.2). Fifth, the paper does not model heterogeneity by sector, gender or region, which are treated as conditions to be tested (Section 4.3).

Concluding Remarks

Nigeria has formally recognised a nano tier of very small ventures, but management and entrepreneurship theory has not yet caught up. This paper proposes a framework that starts from resource scarcity, assigns roles to management practices, personal-initiative capability, bricolage and collective support, and adds a measurement proposition on classification drift. Nine propositions with falsification criteria and an illustrative design make the framework testable. If the propositions hold, short and simple support, delivered through well-governed collectives and evaluated with deflated turnover, may serve nano owners better than scaled-down training for larger firms. If they fail, Table 3 states where.

References

- Abdulahi, T. O., Ibrahim, M. G., & Nwachukwu, O. F. (2024a). Effect of collective entrepreneurship on financial inclusion among cooperative members in Osun State, Nigeria. *ASEAN Entrepreneurship Journal*, 10(1), 64–76. <https://ir.uitm.edu.my/id/eprint/144541/>
- Abdulahi, T. O., Ibrahim, M. G., Nwachukwu, O. F., & Mgbemena, I. C. (2024b). Collective entrepreneurship influence on savings habits of Cooperative Investment and Credit Societies Limited members in Osun State, Nigeria. *UBS Journal of Business and Economic Policy*, 2(1), 97–108. <https://journals.unizik.edu.ng/ubsjbep/article/view/4456>
- Abdulahi, T. O., Nwachukwu, O. F., & Ibrahim, M. G. (2024c). Evaluation of the relationship between social capital and financial inclusion: A case of members of Cooperative Investment and Credit Society Limited, Osun State, Nigeria. *Journal of the Management Sciences*, 60(4), 235–249. <https://journals.unizik.edu.ng/jfms/article/view/3654>
- Anaja, H. A. (2021, April 20). *Nigerian government approves reviewed MSMEs policy*. Voice of Nigeria. <https://von.gov.ng/nigerian-government-approves-reviewed-msmes-policy/>
- Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, 50(3), 329–366. <https://doi.org/10.2189/asqu.2005.50.3.329>
- Banerjee, A. V., & Duflo, E. (2007). The economic lives of people with low incomes. *Journal of Economic Perspectives*, 21(1), 141–167. <https://doi.org/10.1257/jep.21.1.141>
- Busch, C., & Barkema, H. G. (2021). From necessity to opportunity: Scaling bricolage across resource-constrained environments. *Strategic Management Journal*, 42(4), 741–773. <https://doi.org/10.1002/smj.3237>
- BusinessTech. (2019, March 24). *These are the new definitions for micro, small and medium enterprises in South Africa*. <https://businesstech.co.za/news/business/305592/these-are-the-new-definitions-for-micro-small-and-medium-enterprises-in-south-africa/>

- Callaway, B., & Sant'Anna, P. H. C. (2021). Difference-in-differences with multiple time periods. *Journal of Econometrics*, 225(2), 200–230. <https://doi.org/10.1016/j.jeconom.2020.12.001>
- Cameron, A. C., & Miller, D. L. (2015). A practitioner's guide to cluster-robust inference. *Journal of Human Resources*, 50(2), 317–372. <https://doi.org/10.3368/jhr.50.2.317>
- Campos, F., Frese, M., Goldstein, M., Iacovone, L., Johnson, H. C., McKenzie, D., & Mensmann, M. (2017). Teaching personal initiative beats traditional training in boosting small business in West Africa. *Science*, 357(6357), 1287–1290. <https://doi.org/10.1126/science.aan4767>
- Ciambotti, G., Zaccone, M. C., & Pedrini, M. (2023). Enabling bricolage in resource-constrained contexts: The role of sense of community and passion in African social entrepreneurs. *Journal of Small Business and Enterprise Development*, 30(1), 167–185. <https://doi.org/10.1108/JSBED-02-2022-0049>
- Cinelli, C., & Hazlett, C. (2020). Making sense of sensitivity: Extending omitted variable bias. *Journal of the Royal Statistical Society: Series B*, 82(1), 39–67. <https://doi.org/10.1111/rssb.12348>
- Cutolo, D., & Kenney, M. (2021). Platform-dependent entrepreneurs: Power asymmetries, risks, and strategies in the platform economy. *Academy of Management Perspectives*, 35(4), 584–605. <https://doi.org/10.5465/amp.2019.0103>
- Davidsson, P., Baker, T., & Senyard, J. M. (2017). A measure of entrepreneurial bricolage behavior. *International Journal of Entrepreneurial Behavior & Research*, 23(1), 114–135. <https://doi.org/10.1108/IJEBR-11-2015-0256>
- Dimitriadis, S., & Koning, R. (2022). Social skills improve business performance: Evidence from a randomized control trial with entrepreneurs in Togo. *Management Science*, 68(12), 8635–8657. <https://doi.org/10.1287/mnsc.2022.4334>
- Drexler, A., Fischer, G., & Schoar, A. (2014). Keeping it simple: Financial literacy and rules of thumb. *American Economic Journal: Applied Economics*, 6(2), 1–31. <https://doi.org/10.1257/app.6.2.1>
- Emejulu, G. A., Nwachukwu, O. F., Okafor, O. E., & Abdulahi, T. O. (2019). Capacity building in cooperative organisation: Ground for change. *Archives of Current Research International*, 17(4), 1–12. <https://doi.org/10.9734/acri/2019/v17i430119>
- Federal Ministry of Industry, Trade and Investment. (2021). *National policy on micro, small and medium enterprises (MSMEs) (2021–2025)*. Federal Government of Nigeria.
- Federal Republic of Nigeria. (2023). *Nigeria Data Protection Act, 2023*.
- Frese, M., Fay, D., Hilburger, T., Leng, K., & Tag, A. (1997). The concept of personal initiative: Operationalization, reliability and validity in two German samples. *Journal of Occupational and Organizational Psychology*, 70(2), 139–161. <https://doi.org/10.1111/j.2044-8325.1997.tb00639.x>
- Gilson, L. L., & Goldberg, C. B. (2015). Editors' comment: So, what is a conceptual paper? *Group & Organization Management*, 40(2), 127–130. <https://doi.org/10.1177/1059601115576425>
- Goodman-Bacon, A. (2021). Difference-in-differences with variation in treatment timing. *Journal of Econometrics*, 225(2), 254–277. <https://doi.org/10.1016/j.jeconom.2021.03.014>
- Imai, K., Keele, L., & Tingley, D. (2010). A general approach to causal mediation analysis. *Psychological Methods*, 15(4), 309–334. <https://doi.org/10.1037/a0020761>
- Jaakkola, E. (2020). Designing conceptual articles: Four approaches. *AMS Review*, 10(1–2), 18–26. <https://doi.org/10.1007/s13162-020-00161-0>
- Jack, W., & Suri, T. (2014). Risk sharing and transactions costs: Evidence from Kenya's mobile money revolution. *American Economic Review*, 104(1), 183–223. <https://doi.org/10.1257/aer.104.1.183>
- Lakens, D. (2017). Equivalence tests: A practical primer for t tests, correlations, and meta-analyses. *Social Psychological and Personality Science*, 8(4), 355–362. <https://doi.org/10.1177/1948550617697177>
- La Porta, R., & Shleifer, A. (2014). Informality and development. *Journal of Economic Perspectives*, 28(3), 109–126. <https://doi.org/10.1257/jep.28.3.109>

- Mani, A., Mullainathan, S., Shafir, E., & Zhao, J. (2013). Poverty impedes cognitive function. *Science*, 341(6149), 976–980. <https://doi.org/10.1126/science.1238041>
- McKenzie, D. (2021). Small business training to improve management practices in developing countries: Re-assessing the evidence for “training doesn’t work”. *Oxford Review of Economic Policy*, 37(2), 276–301. <https://doi.org/10.1093/oxrep/grab002>
- McKenzie, D., & Woodruff, C. (2014). What are we learning from business training and entrepreneurship evaluations around the developing world? *World Bank Research Observer*, 29(1), 48–82. <https://doi.org/10.1093/wbro/lkt007>
- McKenzie, D., & Woodruff, C. (2017). Business practices in small firms in developing countries. *Management Science*, 63(9), 2967–2981. <https://doi.org/10.1287/mnsc.2016.2492>
- Mullainathan, S., & Shafir, E. (2013). *Scarcity: Why having too little means so much*. Times Books.
- Nosek, B. A., Ebersole, C. R., DeHaven, A. C., & Mellor, D. T. (2018). The preregistration revolution. *Proceedings of the National Academy of Sciences*, 115(11), 2600–2606. <https://doi.org/10.1073/pnas.1708274114>
- Nwachukwu, O. F., Ibrahim, M. G., Lawal, K. A. A., & Abdulahi, T. O. (2025). Analysis of cooperative societies, entrepreneurial business growth and poverty alleviation in South West Nigeria. *Journal of Economics and Allied Research*, 10(2), 135–148. <https://jearecons.com/index.php/jearecons/article/view/547/541>
- O'Donnell, M., Dev, A. S., Antonopolis, S., Baum, S. M., Benedetti, A. H., Brown, N. D., Carrillo, B., Choi, A. L., Connor, P., Donnelly, K., Ellwood-Lowe, M. E., Foushee, R., Jansen, R., Jarvis, S. N., Lundell-Creagh, R., Ocampo, J. M., Okafor, G. N., Rahmani Azad, Z., Rosenblum, M., ... Nelson, L. D. (2021). Empirical audit and review and an assessment of evidentiary value in research on the psychological consequences of scarcity. *Proceedings of the National Academy of Sciences*, 118(44), Article e2103313118. <https://doi.org/10.1073/pnas.2103313118>
- Olagboye, D., Obembe, D., & Okafor, G. (2022). Enterprise survival and growth: A conceptual exposition of entrepreneurial activities in Sub-Saharan Africa. In O. Kolade, D. Rae, D. Obembe, & K. Woldesenbet Beta (Eds.), *The Palgrave handbook of African entrepreneurship* (pp. 93–114). Springer. https://doi.org/10.1007/978-3-030-75894-3_5
- Olson, M. (1965). *The logic of collective action: Public goods and the theory of groups*. Harvard University Press.
- Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511807763>
- Otaru, A. (2022, January 13). Over 39.65m MSMEs operate in Nigeria, says report. *The Guardian Nigeria*. <https://guardian.ng/business-services/over-39-65m-msmes-operate-in-nigeria-says-report/>
- Paschal, J., Mayala, N., & Lamu Amos, A. A. (2024). Influence of savings and credit co-operative societies in enhancing debt management literacy among members in Moshi Municipality, Tanzania. *Business Management and Strategy*, 15(2), 260–282.
- Putnick, D. L., & Bornstein, M. H. (2016). Measurement invariance conventions and reporting: The state of the art and future directions for psychological research. *Developmental Review*, 41, 71–90. <https://doi.org/10.1016/j.dr.2016.06.004>
- PwC Nigeria. (2024). *PwC MSME survey report 2024*. <https://www.pwc.com/ng/en/assets/pdf/pwc-msme-survey-report-2024.pdf>
- Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., Lopez-Garcia, P., & Chin, N. (2005). Global Entrepreneurship Monitor: Data collection design and implementation 1998–2003. *Small Business Economics*, 24(3), 205–231. <https://doi.org/10.1007/s11187-005-1980-1>

- Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243–263. <https://doi.org/10.5465/amr.2001.4378020>
- Small and Medium Enterprises Development Agency of Nigeria. (n.d.-a). *Types of businesses*. <https://smedan.gov.ng/types-of-businesses/>
- Small and Medium Enterprises Development Agency of Nigeria. (n.d.-b). *2021 national survey on micro, small and medium enterprises*. <https://smedan.gov.ng/?p=49903>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Ulyssea, G. (2020). Informality: Causes and consequences for development. *Annual Review of Economics*, 12, 525–546. <https://doi.org/10.1146/annurev-economics-082119-121914>
- Ume, C., Onah, O. G., Enete, A. A., Okoye, C. U., & Onyia, C. (2022). Assessment of the financial inclusion of farmers' cooperative societies in South East, Nigeria. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4119907>
- VanderWeele, T. J., & Knol, M. J. (2014). A tutorial on interaction. *Epidemiologic Methods*, 3(1), 33–72. <https://doi.org/10.1515/em-2013-0005>
- Weber, C., Faße, A., Grote, U., & Haugh, H. (2022). Varieties of necessity entrepreneurship: New insights from Sub-Saharan Africa. *Entrepreneurship Theory and Practice*. Advance online publication. <https://doi.org/10.1177/10422587221111737>
- Whetten, D. A. (1989). What constitutes a theoretical contribution? *Academy of Management Review*, 14(4), 490–495. <https://doi.org/10.5465/amr.1989.4308371>