

# Innovation Ambidexterity in Resource-Constrained MSMEs: A Systematic Literature Review and Research Agenda

Afina Hasya<sup>1</sup> , and Nana Varian Januardi<sup>2</sup>

<sup>1,2</sup>Department of Management, Faculty of Economics and Business, Universitas Diponegoro, Indonesia

Correspondence should be addressed to Afina Hasya; [afinahasya@live.undip.ac.id](mailto:afinahasya@live.undip.ac.id)

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**ABSTRACT-** Purpose — Innovation ambidexterity has attracted growing scholarly attention, yet its manifestation in resource-constrained micro, small, and medium enterprises (MSMEs), particularly in developing economy contexts, remains poorly understood. This paper presents a systematic literature review examining how innovation ambidexterity operates in MSMEs confronting resource scarcity, with specific attention to the enabling mechanisms, gender dimensions, and institutional contexts that have been systematically neglected in extant research. Design/methodology/approach — Following PRISMA 2020 guidelines, a comprehensive search of the Scopus database was conducted, covering the period 2004–2024. After a structured screening process, 78 peer-reviewed journal articles underwent rigorous thematic synthesis guided by an iterative coding procedure. Findings — The review identifies six major thematic clusters: (1) antecedents of innovation ambidexterity in MSMEs, including entrepreneurial orientation, organisational slack, and environmental dynamism; (2) enabling mechanisms, notably entrepreneurial bricolage and dynamic capabilities; (3) social capital as a compensatory and mediating resource; (4) digital technology as an amplifier of ambidextrous capacity; (5) gender and innovation ambidexterity, an almost entirely neglected dimension; and (6) developing economy and informal sector contexts. An integrative conceptual framework and a structured six-item research agenda are proposed. Research limitations — The review is restricted to English-language, database-indexed publications. The evolving nature of the field means that emerging streams, including indigenous scholarly contributions from non-Anglophone research communities, may be underrepresented. Practical implications — Findings are directly relevant for MSME support policy, particularly in the design of social capital-building interventions and digital literacy programmes that can simultaneously enhance exploratory and exploitative innovation capacity among resource-constrained MSME operators. Originality/value — To the authors' knowledge, this is the first systematic literature review to explicitly foreground resource constraints, gender, and developing economy context as intersecting dimensions of innovation ambidexterity in MSMEs, and the first to integrate bricolage theory with the ambidexterity framework in a comprehensive review.

**KEYWORDS-** Innovation Ambidexterity, Msmes, Resource Constraints, Bricolage, Social Capital, Gender, Developing Economies

## I. INTRODUCTION

The capacity to innovate is increasingly recognised as a survival imperative for micro, small, and medium enterprises (MSMEs) in rapidly changing competitive environments. Yet innovation in MSMEs is inherently paradoxical: organisations that devote all available resources to exploring new opportunities risk losing the operational efficiency needed to sustain current performance, while those focused exclusively on exploiting existing competencies risk obsolescence as technologies, markets, and competitive dynamics shift [1]. Innovation ambidexterity — the organisational ability to pursue exploratory and exploitative innovation concurrently — has emerged as a construct that directly confronts this paradox, offering a framework for understanding how firms balance short-term operational efficiency with long-term adaptive renewal [2], [3].

The intellectual appeal of ambidexterity theory lies in its diagnostic power. By distinguishing between exploration (the search for new knowledge, technologies, and markets) and exploitation (the refinement and deepening of existing capabilities and customer relationships), the framework provides a richer vocabulary for describing innovation strategy than either orientation alone [4], [5]. A substantial body of evidence has accumulated over two decades showing that ambidextrous organisations — those managing both orientations simultaneously — outperform their non-ambidextrous counterparts across a wide range of performance indicators [6], [7].

Despite this accumulation of evidence, a striking imbalance characterises the literature. The overwhelming majority of ambidexterity research has been conducted in large, resource-rich corporations and technology-intensive industries in advanced economies — enterprises where dedicated research and development units, slack financial resources, and formalised knowledge management systems make the simultaneous pursuit of exploration and exploitation organisationally feasible [8], [9]. The situation facing most MSMEs — and particularly those operating in the informal sector of developing economies — is fundamentally different. These enterprises are typically

characterised by severe financial constraints, limited managerial capacity, compressed decision-making horizons, and fragile institutional environments where formal support structures such as patent protection, venture capital access, and technology transfer programmes are largely absent [10], [11]. Under these conditions, the exploration-exploitation trade-off is not merely a strategic choice but an acute daily operational dilemma.

Three specific gaps in the existing literature motivate the present review. First, while several reviews have examined ambidexterity in general SME contexts [5], [6], none has comprehensively examined the specific dynamics of ambidexterity in resource-constrained and informally operating MSMEs, where the enabling mechanisms are likely to differ qualitatively from those identified in studies of formal, better-resourced organisations. Second, the gender dimension of innovation ambidexterity has received almost no systematic scholarly attention, despite compelling evidence that women entrepreneurs in developing economies operate in fundamentally different resource environments, social network structures, and institutional contexts [12], [13]. Third, the rapidly growing role of digital technology — including platform-based commerce, social media networks, and low-cost artificial intelligence tools — in potentially reconfiguring the exploration-exploitation dynamic for resource-constrained MSMEs has not been comprehensively integrated into the ambidexterity framework [14], [15].

This paper addresses these gaps through a systematic literature review of innovation ambidexterity in resource-constrained MSMEs. Specifically, this review pursues four objectives: (1) to map the intellectual landscape and thematic evolution of the literature on innovation ambidexterity in MSMEs; (2) to synthesise the antecedents, enabling mechanisms, and performance outcomes identified across the reviewed corpus; (3) to critically examine under-researched dimensions, with particular attention to resource constraints, gender, digital technology, and developing economy contexts; and (4) to develop a structured research agenda identifying productive directions for future empirical investigation.

The remainder of this paper is structured as follows. Section 2 provides theoretical background, contextualising innovation ambidexterity theory within the MSME literature. Section 3 describes the systematic review methodology. Section 4 presents thematic findings across six clusters. Section 5 develops an integrative conceptual framework and discusses theoretical and practical implications. Section 6 proposes a structured research agenda. Section 7 concludes.

## II. THEORETICAL BACKGROUND

### A. Innovation Ambidexterity: Conceptualisation and Typologies

The conceptual roots of innovation ambidexterity lie in March's [1] influential distinction between exploration and exploitation as fundamentally different modes of organisational learning. Exploration involves search, variety, experimentation, and discovery of new possibilities — activities associated with risk-taking, flexibility, and distant search. Exploitation, by contrast, entails the refinement, extension, and application of existing knowledge,

capabilities, and technologies — activities that generate more reliable, near-term returns but that risk strategic lock-in if pursued at the expense of renewal. March's central insight was that the returns to exploration are inherently uncertain and temporally distant, while returns to exploitation are more immediate and predictable, creating structural pressures that tend to crowd out exploration in resource-constrained environments — making the tension between the two orientations especially acute for MSMEs.

Building on this foundational work, Tushman and O'Reilly [2] introduced the concept of the ambidextrous organisation — one capable of competing in mature markets through exploitation while simultaneously developing competencies for new markets through exploration. Their structural approach proposed that ambidexterity could be achieved through organisational designs that create separate units with distinct cultures, systems, and processes, integrated at the senior leadership level. Gibson and Birkinshaw [3] subsequently advanced a complementary contextual model, arguing that ambidexterity need not rely on structural separation but can emerge from the organisational context — systems, processes, and beliefs — that enables and encourages individuals to make their own judgements about how to divide their time between alignment and adaptation-oriented activities. This contextual perspective is particularly relevant for owner-managed MSMEs, where structural separation into distinct exploratory and exploitative units is typically neither feasible nor desirable.

He and Wong [4] provided the first systematic operationalisation of ambidexterity at the product-innovation level, distinguishing between exploratory innovation (developing next-generation products for new customers) and exploitative innovation (upgrading existing products for existing customers). Their empirical work established that the interaction between these two orientations — not either alone — significantly predicts sales growth. Subsequent scholars have identified additional typologies, including sequential ambidexterity (alternating between exploration and exploitation over time) and network-level ambidexterity, where exploratory and exploitative activities are distributed across collaborative partnerships rather than concentrated within a single firm [6], [16].

### B. The Distinctive Ambidexterity Challenge in MSMEs

The applicability of ambidexterity theory to MSMEs is not straightforward. Much of the theoretical architecture was developed with large, diversified corporations in mind — enterprises with the managerial depth, resource slack, and structural complexity needed to simultaneously operate what O'Reilly and Tushman [16] term 'two fundamentally different business models.' MSMEs, by contrast, are typically characterised by resource paucity, centralised and often owner-dependent decision-making, limited market power, and high environmental vulnerability — conditions that systematically disadvantage exploratory innovation while creating powerful reinforcing pressures towards exploitation [7].

Yet the argument that MSMEs are constitutionally ill-suited to ambidexterity is undermined by mounting empirical evidence to the contrary. Voss and Voss [9] demonstrated that small performing arts organisations navigating resource

constraints could achieve strategic ambidexterity by alternating exploratory and exploitative orientations across product and market domains. Lubatkin et al. [7] showed that the behavioural integration of top management teams in small and medium-sized firms plays a pivotal role in enabling ambidextrous performance, suggesting that the human and relational dimensions of the enterprise — not merely its structural configuration — are central. More recently, Flaminiano [10] provided evidence from Philippine MSMEs that entrepreneurial bricolage serves as a critical pathway to product, process, and marketing innovation in resource-scarce environments, and Simba et al. [11] found that ambidextrous innovation strategies interact with resilience in complex ways in developing-world SME settings.

**C. Resource Constraints, Bricolage, and the Ambidexterity Interface**

The relationship between resource constraints and innovation ambidexterity in MSMEs is more nuanced than a simple negative linear effect. Baker and Nelson's [17] theory of entrepreneurial bricolage provides an important counterpoint to the assumption that resource scarcity invariably forecloses ambidextrous innovation. Bricolage — defined as 'making do by applying combinations of the resources at hand to new problems and opportunities' — offers a mechanism through which even severely resource-constrained entrepreneurs can generate both exploratory and exploitative innovations, not despite their constraints but, paradoxically, because of them [18], [19].

This insight carries important theoretical implications. It suggests that the relationship between resource constraints and innovation ambidexterity in MSMEs is not merely one of limitation but also of possibility — that constraints can function as drivers of innovative behaviour under the right enabling conditions. Identifying what those enabling conditions are — the quality of social capital networks, the availability and nature of digital tools, the degree of institutional support — constitutes one of the central intellectual questions motivating this review [20]-[22].

**III. METHODOLOGY**

**A. Systematic Review Protocol**

This study follows the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, which provide a transparent and reproducible framework for conducting systematic literature reviews in management and social science research [23]. The protocol was registered prior to data collection and comprises five sequential stages: database search, deduplication, title and abstract screening, full-text assessment, and thematic synthesis.

**B. Search Strategy and Database Selection**

Scopus was selected as the sole bibliographic database for this systematic review, consistent with recent systematic and bibliometric reviews on ambidexterity in SME contexts that have similarly relied on Scopus as their primary search source [24], [25]. As Ruano-Arcos et al. [25] noted, Scopus provides broader coverage than Web of Science, indexing substantially more journals across management and

entrepreneurship disciplines, making it particularly well-suited as a stand-alone database for reviews in these fields. The following Boolean search string was applied to the title, abstract, and keyword fields (TITLE-ABS-KEY): TITLE-ABS-KEY ("innovation ambidexterity" OR "ambidextrous innovation" OR "exploratory innovation" OR "exploitative innovation" ). The search was deliberately focused on the core theoretical construct rather than firm-size terminology, as many empirically relevant studies examine SME and MSME populations without explicitly employing these labels in their titles, abstracts, or keywords; relevance to the MSME context was therefore assessed during the title and abstract screening phase rather than at the search stage. The temporal scope was set at 2004 to 2024, reflecting the period following He and Wong's [4] foundational operationalisation that catalysed the empirical literature. The search was conducted in March 2026, yielding an initial corpus of 747 records.

**C. Inclusion and Exclusion Criteria**

Table 1 summarises the inclusion and exclusion criteria applied during screening. Articles were included if they were published in peer-reviewed journals, engaged substantively with innovation ambidexterity or the exploration-exploitation construct in MSME contexts, and were written in English. Articles were excluded if they were conference papers, book chapters, editorials, or non-peer-reviewed materials; focused exclusively on large corporations or public sector organisations without MSME comparison; or addressed ambidexterity solely in supply chain or information systems domains without innovation strategy relevance.

Table 1: Inclusion and Exclusion Criteria

	Inclusion	Exclusion
Publication type	Peer-reviewed journal articles	Conference papers, book chapters, editorials, grey literature, theses
Subject area	Management, entrepreneurship, strategy, innovation	Engineering, clinical sciences (unless directly cross-disciplinary)
Organisational focus	MSMEs, small business, micro-enterprise, informal enterprise	Exclusively large corporations or public sector without MSME comparison
Content	Innovation ambidexterity, exploration and exploitation, ambidextrous innovation in MSME contexts	Ambidexterity exclusively in supply chain, IS, or leadership without innovation focus
Language	English	Non-English language publications
Time period	2004–2024	Publications prior to He & Wong [4] operationalisation of the construct

**D. Screening, Selection, and Analysis**

The initial database search returned 747 records. As a single database was employed, no cross-database duplicates were present; any internal duplicates identified by Scopus's

deduplication function were removed, yielding 747 unique records for screening. Titles and abstracts were screened independently against the inclusion criteria, with particular attention to whether each study engaged substantively with innovation ambidexterity or the exploration-exploitation construct and whether the empirical or conceptual focus was relevant to MSME or small firm contexts. Articles meeting inclusion thresholds at the title-abstract stage were retrieved for full-text assessment, resulting in a final corpus of 78 articles after applying the exclusion criteria. Inter-rater reliability for the title-abstract screening stage was assessed using Cohen's kappa ( $\kappa = 0.78$ ), indicating acceptable to good agreement. Disagreements were resolved through discussion and, where necessary, adjudication by a third reviewer.

The retained articles were analysed using a thematic synthesis approach informed by Thomas and Harden [26], involving three sequential stages: (1) free line-by-line coding of study findings; (2) development of descriptive themes capturing concepts shared across studies; and (3) generation of analytical themes going beyond descriptive categorisation to provide new interpretive frameworks relevant to the review questions. A concept matrix was maintained throughout the analysis to track the distribution of coded themes across the corpus and to ensure systematic coverage of all included studies.

#### IV. FINDINGS

##### A. Descriptive Overview of the Literature

The reviewed corpus spans 21 years of scholarly work across 42 peer-reviewed journals, reflecting the multi-disciplinary appeal of innovation ambidexterity as a theoretical lens. The most frequently appearing publication venues include small business management journals (Small Business Economics, International Small Business Journal, Journal of Small Business Management), entrepreneurship outlets (Entrepreneurship Theory and Practice, Journal of Business Venturing), and strategy and innovation journals (Strategic Management Journal, Organization Science, Research Policy, Technovation). Publications have grown markedly over the review period, with approximately 68% of the corpus published after 2015, suggesting accelerating scholarly interest in MSME-level ambidexterity. Quantitative survey-based designs predominate (approximately 54%), followed by qualitative case studies, mixed-method designs, and — in the most recent years — bibliometric and systematic review papers.

##### B. Theme 1: Antecedents of Innovation Ambidexterity in MSMEs

The literature identifies antecedents of innovation ambidexterity at three levels: the individual entrepreneur, the organisational context, and the external environment.

At the individual level, entrepreneurial orientation — encompassing risk-taking propensity, proactiveness, and innovativeness — emerges as one of the most robust predictors of ambidextrous behaviour. The owner-manager's cognitive flexibility, tolerance for ambiguity, and prior cross-functional experience appear particularly important in the MSME context, where the absence of specialised management depth means the ambidexterity challenge rests predominantly on a single decision-maker. Personal learning

orientation directly shapes the organisation's propensity to engage in knowledge-seeking behaviours that underpin exploratory innovation while simultaneously attending to the operational demands of exploitation.

At the organisational level, the behavioural integration of the leadership team emerges as a critical antecedent. Lubatkin et al.'s [7] landmark study demonstrated that top management team behavioural integration — encompassing collaborative behaviour, mutual and team-based reward structures, and shared information — significantly enhances ambidextrous performance. Even in resource-constrained settings, the quality of managerial interactions and shared mental models among key decision-makers can partially compensate for the absence of structural mechanisms such as dedicated R&D departments. Organisational slack plays a moderating role, though the evidence is mixed: studies of highly innovative MSMEs in developing economies frequently identify firms that achieve high ambidexterity precisely because they have learned to innovate under conditions of near-zero slack, through bricolage and relational resource mobilisation [17].

At the environmental level, technological turbulence and market dynamism consistently emerge as positive moderators of the ambidexterity-performance relationship: the more volatile the competitive environment, the greater the premium on ambidextrous capability [6], [27]. Institutional voids — the absence of reliable formal institutions including contract enforcement, intellectual property protection, and formal finance — characteristic of many developing economy contexts appear to function as both constraint and stimulus: they constrain formal innovation investment while simultaneously incentivising the informal, network-based, bricolage-oriented strategies that constitute a distinctive form of MSME ambidexterity in these settings.

##### C. Theme 2: Enabling Mechanisms – Bricolage and Dynamic Capabilities

Perhaps the most theoretically significant finding of the review is that the mechanisms through which MSMEs achieve innovation ambidexterity differ substantially from those identified in the large-firm literature. Where large organisations typically achieve ambidexterity through structural separation, dedicated innovation units, or formalised portfolio management, MSMEs rely on a qualitatively different set of enabling mechanisms rooted in creative resourcefulness, relational assets, and adaptive capability.

Bricolage occupies a central position in this literature. Building on Baker and Nelson's [17] foundational work, a growing stream of studies has demonstrated that entrepreneurial bricolage enables MSMEs to simultaneously generate novelty and operational efficiency without the substantial resource investments required by formal ambidexterity mechanisms [10], [18], [19]. Importantly, bricolage is not merely an inferior substitute for formal innovation management: in informal market environments characterised by ambiguity and institutional instability, the flexibility and contextual responsiveness of bricolage may produce innovations that are more appropriate and commercially viable than those produced through formal

R&D processes [20]. Tehseen et al.'s [20] study of new venture growth in the Bangladesh garment industry specifically demonstrated that entrepreneurial bricolage enhances innovation ambidexterity through the mediating role of new venture adaptiveness, providing one of the first direct empirical links between bricolage and ambidextrous outcomes at the firm level.

Dynamic capabilities theory [22], [28] provides a complementary perspective, positioning innovation ambidexterity as a second-order capability that requires the orchestration of lower-order sensing, seizing, and reconfiguring capacities. The challenge for resource-constrained MSMEs is that the investment in capability development implied by dynamic capabilities theory is itself resource-intensive, creating a potential circularity. Bricolage theory, in this sense, offers a more parsimonious account of how MSMEs in practice develop functional equivalents to formal dynamic capabilities through informal, improvisational, and network-mediated means.

#### ***D. Theme 3: Social Capital as Mediating Mechanism***

Social capital — the actual and potential resources embedded in, available through, and derived from networks of relationships — has emerged as a critical enabler of innovation ambidexterity in resource-constrained MSMEs. Conceptualised across structural, relational, and cognitive dimensions [29], [30], social capital functions as a compensatory resource that allows MSMEs to access the diverse knowledge, market intelligence, and collaborative support needed to sustain both exploratory and exploitative activities without requiring correspondingly diverse internal resource endowments.

The structural dimension — the pattern and composition of network ties — appears particularly important for exploratory innovation: MSMEs with rich and non-redundant networks characterised by bridging ties across different communities of practice exhibit greater capacity for distant knowledge acquisition, supporting the generation of genuinely novel ideas and market insights. The relational dimension — trust, reciprocity, and shared norms — underpins the reliable information sharing and collaborative resource exchange needed to sustain exploitation activities under resource-scarce conditions. He and Wu [27] provided empirical evidence from Chinese SMEs that structural and relational social network dimensions differentially predict exploratory and exploitative innovation outcomes, with dynamic capabilities serving as a key mediating mechanism between social networks and ambidextrous innovation.

Stam, Arzlanian, and Elfring's [31] meta-analysis of the social capital-performance relationship in entrepreneurial firms offered important nuance, demonstrating that the performance implications of social capital are contingent on the stage of firm development, the structural position of the entrepreneur in the network, and the degree of institutional complexity in the operating environment. Li and Shafait [21], in a study of resource bricolage and innovation performance among Pakistani SMEs, found that network embeddedness functions as a foundational mechanism for SME innovation, with organisational readiness moderating the translation of embedded social resources into tangible innovation outcomes — a finding with direct implications for

understanding the social capital-ambidexterity link in developing economy contexts.

#### ***E. Theme 4: Digital Technology as Amplifier***

The rapid diffusion of digital platforms, social commerce applications, and accessible artificial intelligence tools has generated a growing stream of research on digital technology and MSME innovation ambidexterity. This theme, while relatively nascent in the corpus, is growing at a noticeably faster rate than the broader literature, reflecting the pace of technological change and its disruptive implications for MSME innovation dynamics.

Digital technology's relationship with ambidexterity is nuanced and potentially paradoxical. On one hand, platforms and social commerce tools can substantially reduce the resource requirements for market exploration — enabling MSMEs to gather customer intelligence, test new products, and reach new market segments at marginal cost, thereby making exploratory innovation more accessible to resource-constrained operators. On the other hand, the operational efficiencies generated by digital tools primarily support exploitative activities, reinforcing the risk that digital adoption may strengthen operational efficiency while crowding out more open-ended, resource-intensive exploratory activities. Nambisan, Wright, and Feldman [14] argued that digital transformation fundamentally alters the boundaries of the innovation process, distributing exploratory and exploitative activities across platform ecosystems rather than confining them within single firms — a perspective implying that the unit of analysis for MSME ambidexterity may need to shift from the individual firm to the platform ecosystem in digitally intensive contexts.

For resource-constrained women entrepreneurs specifically, Hammad [15] demonstrated that digital platforms play a distinctive role in the entrepreneurial opportunity process, with online social capital serving as an important amplifier of the value extracted from participation on platforms. This suggests that the digital technology-ambidexterity relationship operates partly through its effects on social capital accumulation and the quality of knowledge accessible through digital networks, with implications for the integrated model proposed in Section 5.

#### ***F. Theme 5: Gender and Innovation Ambidexterity***

The intersection of gender and innovation ambidexterity represents the most conspicuous lacuna in the reviewed literature. Across the entire corpus, no study was identified that directly and explicitly examines how gender shapes the antecedents, processes, or outcomes of innovation ambidexterity in MSMEs — a striking absence given the scale of women's participation in MSME entrepreneurship globally and the distinctive resource environments, social network structures, and institutional constraints characterising women's entrepreneurship in developing economies [12], [13], [32].

The indirect evidence available from adjacent literatures is nevertheless suggestive of several mechanisms through which gender is likely to shape ambidexterity processes. First, women entrepreneurs in developing economies consistently report more constrained access to formal financial capital than their male counterparts, amplifying the

resource-constraint dynamic that is already characteristic of MSMEs generally. If resource constraints shape the mechanisms through which ambidexterity is achieved — favouring bricolage, social capital, and digital tools over formal R&D investment — then the acute resource scarcity facing many women-led MSMEs may make these enterprises particularly instructive cases for understanding ambidexterity mechanisms generalisable to the broader informal MSME population.

Second, women entrepreneurs tend to embed themselves in qualitatively different network structures, with stronger ties to local community organisations, family networks, and women's collective associations [33]. Whether these network structures facilitate or constrain ambidexterity relative to the more diverse, far-reaching networks often associated with male entrepreneurship is an empirical question that remains entirely unresolved. Third, the dual role burden — managing both business and primary caregiving responsibilities — constrains the time and cognitive bandwidth available for exploratory activities relative to the more urgent demands of operational exploitation [34]. Collectively, these considerations suggest that a gendered model of MSME innovation ambidexterity would diverge in theoretically significant ways from the gender-neutral models that currently dominate the literature.

#### ***G. Theme 6: Developing Economies and the Informal Sector***

The sixth thematic cluster concerns the contextual embeddedness of MSME innovation ambidexterity in developing economy and informal sector environments. Institutional voids characteristic of many developing economy contexts — including weak intellectual property protection, unreliable contract enforcement, limited venture capital ecosystems, and fragmented formal business support infrastructure — systematically alter the economics of exploration and exploitation. In contexts where the formal mechanisms that large-firm ambidexterity theory relies upon (structured R&D investment, patent portfolios, formal technology partnerships) are largely inaccessible, MSMEs must develop alternative pathways to ambidextrous innovation rooted in informal institutional substitutes: relational trust, community networks, localised knowledge commons, and flexible improvisation [11].

Indonesia provides a compelling illustrative case. As one of Southeast Asia's largest and most diverse MSME economies — hosting over 64 million registered enterprises with an estimated 30-40% operating primarily in the informal sector — Indonesia offers rich empirical terrain for studying the contextual dynamics of MSME ambidexterity. The dominance of women entrepreneurs in this sector (approximately 64.5% of MSME operators by national statistics) makes Indonesia particularly important for examining the gendered dimensions of informal MSME ambidexterity. Kadiyono and Sulistiobudi's [34] quantitative study of women MSME operators in Indonesia found that psychological capital and technology readiness jointly mediate the entrepreneurial orientation-financial performance relationship, offering preliminary evidence that the ambidexterity mechanisms operative in this context are distinctive and may not straightforwardly replicate findings

from Western, formally institutionalised MSME environments.

## **V. DISCUSSION AND INTEGRATIVE FRAMEWORK**

### ***A. Synthesis: Towards an Integrative Framework***

The six thematic clusters identified in this review are not independent but form an interconnected theoretical architecture. The integrative framework proposed in Figure 1 positions resource constraints (financial, human capital, and temporal) as the primary antecedent conditions shaping the MSME innovation ambidexterity challenge. Rather than treating constraints as purely limiting, the framework — drawing on bricolage theory — recognises that severe constraint can serve simultaneously as barrier and catalyst, creating the improvisational necessity that drives creative resource recombination [17].

The mediating mechanisms through which constrained MSMEs achieve ambidexterity comprise three interdependent pathways: entrepreneurial bricolage (the micro-foundational mechanism of creative improvisation under scarcity), social capital (the relational and structural resources embedded in the entrepreneur's network that compensate for internal resource deficits), and digital technology adoption (which reconfigures the economics of both exploration and exploitation by extending network reach and reducing the marginal cost of market intelligence). Gender functions as a systematic boundary condition — shaping both the nature and strength of the mediating pathways — rather than a simple moderator, consistent with feminist institutionalist perspectives that emphasise how gender structures access to resources, networks, and legitimacy in systematic ways [13], [35].

### ***B. Theoretical Contributions***

The framework carries four principal theoretical implications. First, it extends ambidexterity theory beyond its large-firm origins, establishing that the construct is applicable and theoretically illuminating in informal MSME contexts, provided the enabling mechanisms are reconceptualised accordingly. Second, it rehabilitates resource constraints as potentially productive antecedents of innovation rather than purely limiting factors, foregrounding bricolage as the micro-foundational mechanism linking constraint to ambidextrous capacity. Third, it positions social capital — rather than financial capital or technical sophistication — as the pivotal mediating resource in resource-constrained ambidexterity, shifting theoretical focus from firm-level endowments to network-level assets. Fourth, it constitutes a call for a gender-aware theory of innovation ambidexterity, one that recognises how the structural position of women entrepreneurs in economic and social networks shapes both their access to ambidexterity-enabling resources and the forms of innovation available to them.

### ***C. Practical Implications***

For policymakers and development organisations, the central implication is that interventions aimed at enhancing MSME innovation should attend to the social and relational infrastructure of innovation — the networks, trust

relationships, and community-based knowledge commons — at least as much as to the technological infrastructure. Programmes that build bonding and bridging social capital among women MSME operators through cooperative formation, women's business networks, and mentorship programmes may generate innovation benefits exceeding those achievable through equivalent investments in technical training or digital equipment provisioning alone. For practitioners, the finding that digital platforms can amplify social capital and ambidextrous innovation capacity suggests that investment in social commerce literacy — understanding how to leverage platform-based social networks for both market exploration and operational exploitation — offers exceptional returns relative to cost.

**VI. RESEARCH AGENDA**

The synthesis presented in this review identifies six priority areas for future empirical investigation, summarised in Table 2. Each priority is grounded in a specific gap identified in the thematic analysis and is accompanied by recommended methods and target publication venues.

Table 2: Structured Research Agenda

	Key Research Question(s)	Recommended Methods	Target Journals
RA1	How do resource constraints shape the exploration-exploitation balance in informal MSMEs, and how do these mechanisms differ from formal organisations?	Longitudinal qualitative (ethnography, case studies); diary methods; grounded theory	Small Business Economics; Entrepreneurship Theory and Practice; Journal of Small Business Management
RA2	Do gender differences in resource access, social network structure, and institutional treatment systematically shape the antecedents, mechanisms, and outcomes of innovation ambidexterity?	Cross-sectional quantitative survey (PLS-SEM); comparative qualitative; mixed methods	Gender in Management; International Small Business Journal; Journal of Business Venturing
RA3	Does social capital mediate the relationship between resource constraints and innovation ambidexterity in MSMEs, and does mediation vary across different network types (bonding vs. bridging)?	SEM-PLS; social network analysis; multi-wave longitudinal survey	Journal of Business Research; Small Business Economics; Strategic Management Journal
RA4	Does digital technology adoption moderate the relationship between social capital and innovation ambidexterity, and do effects vary with platform type, usage intensity, and digital literacy?	Moderated mediation SEM; experimental and quasi-experimental designs; platform data analysis	Research Policy; Technovation; Technology Analysis & Strategic Management
RA5	How do institutional context and informal sector dynamics in	Comparative case studies; cross-national	International Journal of Entrepreneurial

	Key Research Question(s)	Recommended Methods	Target Journals
	developing economies shape MSME innovation ambidexterity, and do effects vary across national and regional environments?	quantitative surveys; institutional analysis	Behaviour & Research; Entrepreneurship & Regional Development; Journal of International Entrepreneurship
RA6	How can established ambidexterity scales be validated and adapted for use in informal MSME settings in developing economies where respondents have limited exposure to formal innovation management terminology?	Scale development (EFA, CFA); cognitive interviewing; mixed-methods instrument validation	Journal of Product Innovation Management; International Business Review; Organizational Research Methods

Note: RA = Research Agenda priority; PLS-SEM = Partial Least Squares Structural Equation Modelling; EFA = Exploratory Factor Analysis; CFA = Confirmatory Factor Analysis.

**VII. CONCLUSION**

This paper has presented a systematic literature review of innovation ambidexterity in resource-constrained MSMEs, drawing on a rigorously screened corpus of 78 peer-reviewed publications spanning two decades of scholarly work. Six thematic clusters were identified — antecedents, enabling mechanisms (bricolage and dynamic capabilities), social capital, digital technology, gender, and developing economy context — and synthesised into an integrative conceptual framework positioning resource constraints as antecedents, bricolage and social capital as mediating mechanisms, digital technology as a moderating amplifier, and gender as a systematic boundary condition shaping the entire ambidexterity process.

The review makes three principal contributions to the literature. First, it demonstrates that innovation ambidexterity is theoretically applicable and empirically meaningful in informal, resource-constrained MSME contexts, but that the enabling mechanisms operative in these settings differ qualitatively from those identified in the large-firm literature — a finding with direct implications for theory extension and contextual boundary specification. Second, it establishes that gender represents a near-total blind spot in the ambidexterity literature and provides a theoretically grounded argument for why a gendered model would diverge from existing gender-neutral accounts in predictable and researchable ways. Third, it proposes a structured, six-item research agenda — including specific research questions, methodological recommendations, and target journal venues — that identifies tractable empirical priorities for advancing understanding of ambidexterity in informal developing-economy MSME contexts.

The review carries several limitations that should be acknowledged. The restriction to English-language publications introduces a language bias that may underrepresent indigenous scholarly contributions from non-Anglophone research communities, including the substantial body of Indonesian, Chinese, and Spanish-language

management research. The restriction to journal articles excludes book chapters and working papers that may contain important theoretical advances not yet peer-reviewed. Future reviews might address these limitations through multilingual searches and expanded source typologies.

In conclusion, the ambidexterity imperative facing resource-constrained, women-led MSMEs in developing economies is both theoretically compelling and practically urgent. As the informal MSME sector continues to evolve under the dual pressures of digitalisation and market volatility, understanding how these enterprises achieve the simultaneous renewal and operational efficiency that innovation ambidexterity promises will be essential for both scholarly progress and the design of effective, gender-sensitive MSME development policy.

### CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

### REFERENCES

- [1] J. G. March, "Exploration and exploitation in organizational learning," *Organization Science*, vol. 2, no. 1, pp. 71–87, 1991. Available from: <https://doi.org/10.1287/orsc.2.1.71>
- [2] M. L. Tushman and C. A. O'Reilly, "Ambidextrous organizations: Managing evolutionary and revolutionary change," *California Management Review*, vol. 38, no. 4, pp. 8–30, 1996. Available from: <https://doi.org/10.2307/41165852>
- [3] C. B. Gibson and J. Birkinshaw, "The antecedents, consequences, and mediating role of organizational ambidexterity," *Academy of Management Journal*, vol. 47, no. 2, pp. 209–226, 2004. Available from: <https://doi.org/10.5465/20159573>
- [4] Z.-L. He and P.-K. Wong, "Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis," *Organization Science*, vol. 15, no. 4, pp. 481–494, 2004. Available from: <https://doi.org/10.1287/orsc.1040.0078>
- [5] R. H. Saleh, C. M. Durugbo, and S. M. Almahamid, "What makes innovation ambidexterity manageable: A systematic review, multi-level model and future challenges," *Review of Managerial Science*, vol. 17, no. 8, pp. 3013–3056, 2023. Available from: <https://doi.org/10.1007/s11846-023-00659-4>
- [6] S. Raisch and J. Birkinshaw, "Organizational ambidexterity: Antecedents, outcomes, and moderators," *Journal of Management*, vol. 34, no. 3, pp. 375–409, 2008. Available from: <https://doi.org/10.1177/0149206308316058>
- [7] M. H. Lubatkin, Z. Simsek, Y. Ling, and J. F. Veiga, "Ambidexterity and performance in small-to medium-sized firms: The pivotal role of top management team behavioral integration," *Journal of Management*, vol. 32, no. 5, pp. 646–672, 2006. Available from: <https://doi.org/10.1177/0149206306290712>
- [8] Q. Cao, E. Gedajlovic, and H. Zhang, "Unpacking organizational ambidexterity: Dimensions, contingencies, and synergistic effects," *Organization Science*, vol. 20, no. 4, pp. 781–796, 2009. Available from: <https://doi.org/10.1287/orsc.1080.0426>
- [9] G. B. Voss and Z. G. Voss, "Strategic ambidexterity in small and medium-sized enterprises: Implementing exploration and exploitation in product and market domains," *Organization Science*, vol. 24, no. 5, pp. 1459–1477, 2013. Available from: <https://doi.org/10.1287/orsc.1120.0790>
- [10] J. P. C. Flaminiano, "Entrepreneurial bricolage: A key to innovation for SMEs in a developing economy," *Small Business International Review*, vol. 8, no. 1, p. e645, 2024. Available from: <https://doi.org/10.26784/sbir.v8i1.645>
- [11] A. Simba, M. Tajeddin, P. Rambe, and F. A. Baah, "Ambidexterity–resilience nexus and innovation: A focus on SMEs in a developing world setting," *Journal of Innovation and Knowledge*, vol. 10, no. 6, p. 100856, 2025. Available from: <https://doi.org/10.1016/j.jik.2025.100856>
- [12] J. E. Jennings and C. G. Brush, "Research on women entrepreneurs: Challenges to (and from) the broader entrepreneurship literature?," *Academy of Management Annals*, vol. 7, no. 1, pp. 663–715, 2013. Available from: <https://doi.org/10.5465/19416520.2013.782190>
- [13] M. Mari, S. Poggesi, G. Abatecola, and C. Essers, "Women entrepreneurs and innovation: Retrospect and prospect," *Journal of Innovation & Knowledge*, vol. 9, no. 3, p. 100519, 2024. Available from: <https://doi.org/10.1016/j.jik.2024.100519>
- [14] S. Nambisan, M. Wright, and M. Feldman, "The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes," *Research Policy*, vol. 48, no. 8, p. 103773, 2019. Available from: <https://doi.org/10.1016/j.respol.2019.03.018>
- [15] R. Hammad, "The role of digital platforms in women's entrepreneurial opportunity process: Does online social capital matter?," *Human Behavior and Emerging Technologies*, vol. 2023, Art. no. 5357335, 2023. Available from: <https://doi.org/10.1155/2023/5357335>
- [16] C. A. O'Reilly and M. L. Tushman, "Organizational ambidexterity: Past, present, and future," *Academy of Management Perspectives*, vol. 27, no. 4, pp. 324–338, 2013. Available from: <https://doi.org/10.5465/amp.2013.0025>
- [17] T. Baker and R. E. Nelson, "Creating something from nothing: Resource construction through entrepreneurial bricolage," *Administrative Science Quarterly*, vol. 50, no. 3, pp. 329–366, 2005. Available from: <https://doi.org/10.2189/asqu.2005.50.3.329>
- [18] G. Desa and S. Basu, "Optimization or bricolage? Overcoming resource constraints in global social entrepreneurship," *Strategic Entrepreneurship Journal*, vol. 7, no. 1, pp. 26–49, 2013. Available from: <https://doi.org/10.1002/sej.1150>
- [19] J. Senyard, T. Baker, P. Steffens, and P. Davidsson, "Bricolage as a path to innovativeness for resource-constrained new firms," *Journal of Product Innovation Management*, vol. 31, no. 2, pp. 211–230, 2014. Available from: <https://doi.org/10.1111/jpim.12091>
- [20] S. Tehseen et al., "Unpacking the mechanisms of entrepreneurial bricolage for new venture growth: The mediating roles of new venture adaptiveness and innovative ambidexterity," *Cogent Business & Management*, vol. 11, no. 1, Art. no. 2316357, 2024. Available from: <https://doi.org/10.1080/23311975.2024.2316357>
- [21] C. Li and M. Shafait, "Assessing the impact of network embeddedness on SMEs innovation performance through resource bricolage: A mediated-moderated model," *Operations Management Research*, vol. 18, no. 1, pp. 72–88, 2025. Available from: <https://doi.org/10.1007/s12063-024-00538-5>
- [22] I. Barreto, "Dynamic capabilities: A review of past research and an agenda for the future," *Journal of Management*, vol. 36, no. 1, pp. 256–280, 2010. Available from: <https://doi.org/10.1177/0149206309350776>
- [23] M. J. Page et al., "The PRISMA 2020 statement: An updated guideline for reporting systematic reviews," *BMJ*, vol. 372, p. n71, 2021. Available from: <https://doi.org/10.1136/bmj.n71>
- [24] W. T. Chigori, W. T. Chinyamurindi, and E. C. Rungani, "Dynamic innovation model for ambidextrous SMEs: Insights from a bibliometrics analysis," *South African Journal of Business Management*, vol. 55, no. 1, 2024. Available from: <https://doi.org/10.4102/sajbm.v55i1.4282>
- [25] L. Ruano-Arcos, D. Escandón-Barbosa, and J. Rialp-Criado, "International ambidexterity future research based on bibliometric analysis," *Cogent Business & Management*, vol.

- 11, no. 1, Art. no. 2364374, 2024. Available from: <https://doi.org/10.1080/23311975.2024.2364374>
- [26] J. Thomas and A. Harden, "Methods for the thematic synthesis of qualitative research in systematic reviews," *BMC Medical Research Methodology*, vol. 8, no. 1, p. 45, 2008. Available from: <https://doi.org/10.1186/1471-2288-8-45>
- [27] X. He and X. Wu, "Social networks and ambidextrous innovation in SMEs: The mediating role of dynamic capabilities and the moderating role of technological turbulence," *Technology Analysis & Strategic Management*, vol. 36, no. 10, 2022. Available from: <https://doi.org/10.1080/09537325.2022.2157710>
- [28] D. J. Teece, G. Pisano, and A. Shuen, "Dynamic capabilities and strategic management," *Strategic Management Journal*, vol. 18, no. 7, pp. 509–533, 1997. Available from: [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SMJ882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z)
- [29] J. Nahapiet and S. Ghoshal, "Social capital, intellectual capital, and the organizational advantage," *Academy of Management Review*, vol. 23, no. 2, pp. 242–266, 1998. Available from: <https://doi.org/10.5465/amr.1998.533225>
- [30] P. S. Adler and S.-W. Kwon, "Social capital: Prospects for a new concept," *Academy of Management Review*, vol. 27, no. 1, pp. 17–40, 2002. Available from: <https://doi.org/10.5465/amr.2002.5922314>
- [31] W. Stam, S. Arzlanian, and T. Elfring, "Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators," *Journal of Business Venturing*, vol. 29, no. 1, pp. 152–173, 2014. Available from: <https://doi.org/10.1016/j.jbusvent.2013.01.002>
- [32] K. D. Hughes, J. E. Jennings, C. Brush, S. Carter, and F. Welter, "Extending women's entrepreneurship research in new directions," *Entrepreneurship Theory and Practice*, vol. 36, no. 3, pp. 429–442, 2012. Available from: <https://doi.org/10.1111/j.1540-6520.2012.00504.x>
- [33] L. Foss, C. Henry, H. Ahl, and G. H. Mikalsen, "Women's entrepreneurship policy research: A 30-year review of the evidence," *Small Business Economics*, vol. 53, no. 2, pp. 409–429, 2019. Available from: <https://doi.org/10.1007/s11187-018-9993-8>
- [34] A. L. Kadiyono and R. A. Sulistiobudi, "Linking psychological capital, technology readiness and entrepreneurial orientation to entrepreneurs' financial performance: A study of women MSMEs in Indonesia," *Cogent Business & Management*, vol. 11, no. 1, Art. no. 2413380, 2024. Available from: <https://doi.org/10.1080/23311975.2024.2413380>
- [35] C. G. Brush, A. de Bruin, and F. Welter, "A gender-aware framework for women's entrepreneurship," *International Journal of Gender and Entrepreneurship*, vol. 1, no. 1, pp. 8–24, 2009. Available from: <https://doi.org/10.1108/17566260910942318>