Entrepreneurial Capital and Sustainable Value Creation: Advancing an Eight-Capital Model, Definitions, and an Empirical Validation Agenda

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ABSTRACT

The resources underpinning entrepreneurship continue to be theorised in largely separate disciplinary traditions. Sociological accounts emphasise processes of cultural and social reproduction, strategic management focuses on valuable, rare, and inimitable resources, while development studies frame livelihoods as portfolios of capital assets. In parallel, sustainability practice has increasingly operationalised value creation through multi-capital lenses embedded within ESG governance and disclosure regimes. Taken together, these perspectives offer partial insights, but their fragmentation limits theoretical integration and slows the accumulation of comparable empirical evidence.

This paper brings these strands together through the development of an Eight-Capital Entrepreneurial Capital Model (ECM), incorporating cultural, experiential (human), financial, intellectual, manufactured, natural, social, and spiritual capital within a single framework. Entrepreneurial capital is conceptualised as a multidimensional and dynamic resource system, consistent with work on sustainable livelihoods and capital portfolios. Within this framework, entrepreneurial outcomes—including opportunity recognition, resource mobilisation, innovation, resilience, and sustainability performance—are understood to depend both on the configuration of capital endowments and on the capacity to orchestrate, reconfigure, and legitimise these resources over time.

The paper proceeds by developing theory-informed propositions that link individual and interacting forms of capital to key outcomes, alongside an integrative mechanism in which resource orchestration and dynamic capabilities mediate the translation of capital into performance. To support empirical application, operational definitions are provided, together with indicative measurement constructs and survey items. A staged research agenda is also outlined, combining qualitative exploration, scale development, cross-sectional and longitudinal designs, and mixed-method approaches.

The ECM can be theoretically aligned with multi-capital approaches embedded within ESG and integrated reporting frameworks, particularly those advanced by the International Integrated Reporting Council. These frameworks conceptualise value creation as a function of multiple interacting capital stocks, including financial, manufactured, intellectual, human, social, and natural capital.

The ECM extends this perspective by incorporating cultural and spiritual capital, thereby addressing behavioural, normative, and ethical dimensions of entrepreneurial activity that are not fully captured in existing ESG models. In doing so, it provides a more comprehensive account of how entrepreneurial ventures create, sustain, and legitimate value within increasingly regulated and sustainability-oriented environments.

Keywords: entrepreneurial capital; multi-capital model; resource orchestration; sustainable entrepreneurship; ESG performance

INTRODUCTION

Entrepreneurship is still, almost by academic habit, described as the act of spotting and exploiting opportunities under uncertainty. This is limiting our discipline in both research and entrepreneurship education. What actually enables that process is the resources behind it, is far less settled than researchers sometimes suggest [5].

Strategic management scholars tend to anchor the discussion in resources: not just any resources, but those that are unevenly distributed, difficult to copy, and, crucially, embedded in routines that firms build over time [1,2]. It's a persuasive argument. Yet it leans heavily toward the firm, and perhaps a little too neatly assumes that access to those resources is straightforward. It rarely is.

Sociological accounts push back on this. From their perspective, opportunity isn't simply "out there" waiting to be discovered. It's structured. Filtered through cultural and social capital that individuals accumulate (or don't) across different contexts [9]. And this matters. Because what looks like meritocracy on the surface often masks deeply uneven starting points. Some entrepreneurs inherit networks, norms, confidence—others don't. The playing field isn't level, even when it appears to be.

Then there's the development and sustainability literature, which complicates things further. Here, entrepreneurship is less about isolated actors and more about portfolios, bundles of assets that stretch well beyond income or finance [42]. These capitals interact, overlap, sometimes constrain one another, and are always situated within institutional and ecological limits. It's messier. But arguably closer to reality.

More recently, these theoretical differences haven't stayed theoretical. They've become visible in practice, especially as sustainability expectations tighten. ESG, for instance, has shifted rather quickly from a largely voluntary exercise into a more formalised system of standards, reporting rules, and governance pressures, therefore changing behaviour and also demonstrating these capitals.

A good example is the work of the IFRS Foundation, which introduced IFRS S1 and IFRS S2 to standardise sustainability and climate-related disclosures across adopting jurisdictions [23,24,25]. That move signals something important: sustainability is no longer peripheral. It's becoming embedded in the core reporting architecture of firms.

The Task Force on Climate-related Financial Disclosures handed the regulatory monitoring role to the IFRS Foundation. A small detail, perhaps, but it signals something bigger: a gradual consolidation of authority in how climate reporting is governed [57].

At roughly the same time, the Global Reporting Initiative updated its Universal Standards, first published in 2021 and then made mandatory for reporting from January 2023. That revision tightened expectations around impact reporting, while also sitting alongside more investor-focused disclosure frameworks [7,19], which are becoming more interconnected.

These shifts in reporting were not just abstract regulatory changes affecting large, listed firms. They trickle down through supply chains, through financing requirements, through procurement standards. An SME might not fall directly within the legal scope of these frameworks, but that doesn't mean it escapes their influence.

In practice, entrepreneurs often find themselves responding to reporting expectations they were never formally subject to in the first place. Because a client demands it. Or an investor hints at it. Or a lender quietly builds it into their criteria. Indirect pressure, but real enough to shape behaviour.

Within this context, scholars increasingly call for integrative frameworks capable of linking entrepreneurship to sustainable development in multi-level terms, bridging social, environmental and economic dimensions [28]. Yet existing capital-based frameworks remain fragmented: many cover only subsets of relevant capitals (e.g., financial/human/social/natural) or omit cultural and spiritual dimensions that shape legitimacy, meaning, and resilience [9]. This paper addresses that gap by developing an eight-capital Entrepreneurial Capital Model (ECM) that consolidates insights across entrepreneurship, sociology, resource based view (RBV), sustainable livelihoods, and ESG/accountability scholarship, and by specifying an empirical agenda for validation.

The paper's research questions are:

RQ1: How can eight capitals: cultural, experiential/human, financial, intellectual, manufactured, natural, social, and spiritual; be theorised as an integrated system of entrepreneurial capital that explains entrepreneurial outcomes?
RQ2: Through which mechanisms (e.g., resource orchestration and dynamic capabilities) do capital stocks translate into opportunity recognition, resource mobilisation, innovation, resilience, and sustainability performance?
RQ3: How can the eight capitals be operationalised and measured to support robust cross-context empirical testing?

This paper proceeds as follows. Section 2 reviews the theoretical foundations of capital in entrepreneurship. Section 3 introduces the Entrepreneurial Capital Model (ECM). Section 4 develops testable hypotheses. Section 5 outlines the methodological approach for empirical validation. Section 6 discusses implications, limitations, and future research.

LITERATURE REVIEW AND CONCEPTUAL FOUNDATIONS

Historically, capital has been understood as an accumulation of resources that enable future production. More recent scholarship, however, has moved beyond singular definitions, recognising the existence of multiple forms of capital and the possibility of their conversion across contexts. Within sociology, Pierre Bourdieu's formulation of economic, cultural, and social capital foregrounds the role of embodied dispositions and networked relationships as enduring resources, whose value is realised through their deployment within specific social fields [9].

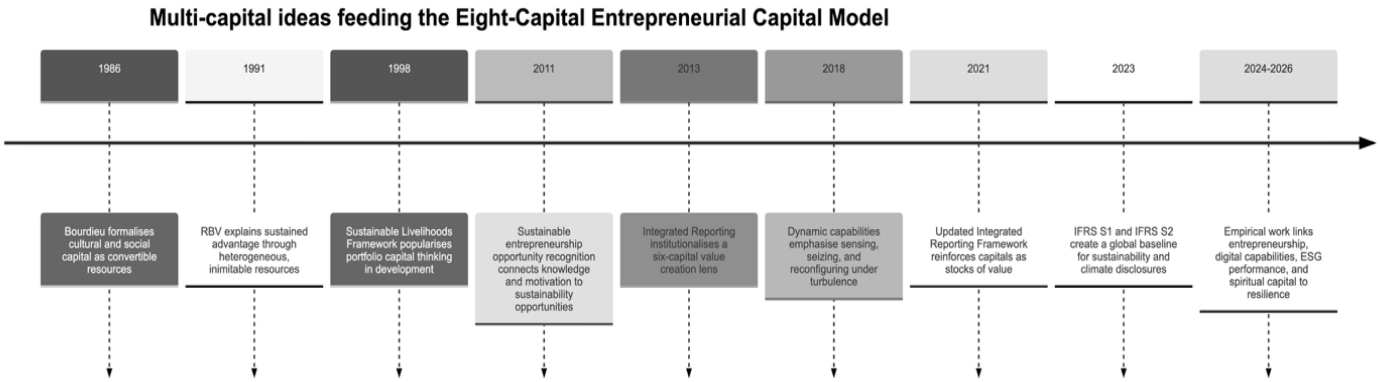

Figure 1: Timeline of research development.

In parallel, economic and human capital theory, most notably associated with Gary S. Becker who reframed education and training as forms of investment that generate returns in the form of productivity and earnings, thereby positioning skills and experience as accumulable assets rather than static attributes [6]. A related shift is evident in strategic management. The resource-based view, synthesised by Jay Barney, links resource endowments to competitive performance, suggesting that advantage depends on resources that are valuable, rare, difficult to imitate, and not easily substituted [5].

Development studies have approached the concept from a different, though complementary, angle. The Sustainable Livelihoods Framework (SLF) conceptualises livelihoods as configurations of capital assets (typically human, social, natural, physical, and financial) is shaped by institutional structures and vulnerability contexts. More recent critiques have questioned the static nature of early formulations, arguing for approaches that better account for structural dynamics and ecological constraints, particularly in the context of climate change and globalisation [35]. This line of thinking has increasingly informed entrepreneurship research, where scholars have drawn on SLF principles to examine rural enterprise and livelihood sustainability, reinforcing the relevance of multi-capital perspectives for understanding entrepreneurial activity [48].

In corporate reporting and sustainability practice, multi-capital frameworks have been institutionalised through Integrated Reporting's "six capitals" (financial, manufactured, intellectual, human, social and relationship, natural). The International <IR> Framework positions capitals as "stocks of value" that increase, decrease or transform through organisational activities, linking resource inputs to value creation over time [15]. Empirical research further suggests that quality of multiple-capital disclosure can be associated with firm value, implying that multi-capital framings shape investor interpretation and organisational accountability mechanisms [47].

Entrepreneurship, however, does not map neatly onto the assumptions embedded within corporate reporting frameworks. Several distinctions are particularly relevant. Resource mobilisation in entrepreneurial settings tends to be highly personal, relational, and often informal, which places greater emphasis on cultural legitimacy and trust embedded within communities than is typically observed in established firms [3,10]. In addition, entrepreneurial resilience and the commitments that underpin it may be shaped by systems of meaning, including spirituality, dimensions that remain only partially addressed within conventional multi-capital models despite growing empirical attention [30]. A further distinction lies in the way sustainability pressures are experienced. Rather than operating solely through formal reporting requirements, they are frequently mediated through financing structures and institutional relationships, where investors and supply chains transmit ESG expectations to entrepreneurial ventures [14].

Recent research lends weight to these observations. Integrative reviews, for instance, demonstrate how social class origins shape entrepreneurial trajectories through mechanisms closely linked to economic, cultural, and social capital, thereby challenging more universalistic accounts of entrepreneurial mobility [11]. Studies of entrepreneurial ecosystems drawing on Bourdieu's framework point to shifts in the relative value of different forms of capital over time, such as movement from economic to cultural capital, highlighting how these dynamics influence patterns of innovation and imitation [22]. Within sustainability-oriented entrepreneurship, emerging evidence suggests that entrepreneurial practices and orientations are associated with ESG outcomes, although these relationships appear contingent on capabilities such as innovation and digital adoption [22]. There is also a growing recognition of spiritual capital as a distinct, though less tangible, resource that may strengthen resilience and mediate the effects of social capital, particularly under conditions of uncertainty [38].

As shown in Table 1, each form of entrepreneurial capital contributes to distinct mechanisms and outcomes, while also interacting within a broader system of resource integration. Taken together, these strands of work point towards the need for a more integrative model, one that remains consistent with established multi-capital traditions such as the Sustainable Livelihoods Framework and integrated reporting, while also incorporating insights from sociological and strategic management perspectives, including capital conversion and the resource-based view. At the same time, it necessitates greater attention to forms of capital that have been comparatively under-theorised but are increasingly evident in empirical studies of entrepreneurship, particularly cultural and spiritual capital [9].

Framework	**Capitals emphasised**	**Primary contribution**	**Limitation for entrepreneurship**	**How the eight-capital model extends it**
Bourdieu's forms of capital	Economic, cultural, social (and symbolic)	Explains structured advantage, conversion, legitimacy in fields	Under-specifies ecological/operational (natural/manufactured) and entrepreneurship-specific capability mechanisms	Adds natural and manufactured capitals; specifies orchestration/dynamic capability mechanisms; formalises spiritual capital for resilience and ethics
Human capital theory	Education, training, experience	Treats skills/experience as investments yielding productivity	Often treats opportunity/legitimacy as individualistic; limited on culture/spiritual meaning	Retains experiential/human capital but embeds it within portfolio and legitimacy structures
RBV / dynamic capabilities	Strategic resources and reconfiguration	Links resources to competitive	May underplay cultural reproduction and moral legitimacy	Integrates cultural/social/spiritual capitals and adds

		advantage via capabilities		sustainability-anchored capitals to explain ESG outcomes
Sustainable Livelihoods Framework	Human, social, natural, physical, financial (typical SLF assets)	Portfolio view of assets under vulnerability and institutions	Often applied at household/community level; less explicit on innovation and IP	Adds intellectual capital and cultural/spiritual dimensions; strengthens innovation/orchestration linkage
Integrated Reporting six capitals	Financial, manufactured, intellectual, human, social & relationship, natural	Multi-capital value creation and accountability	Developed for organisational reporting; omits cultural and spiritual capitals central to entrepreneurial legitimacy and resilience	Extends to eight capitals and adapts from firm reporting to entrepreneurial mobilisation and growth

Table 1. Comparison of prior frameworks and how the eight-capital model extends them

CONCEPTUAL FRAMEWORK: THE EIGHT-CAPITAL ENTREPRENEURIAL CAPITAL MODEL

In this paper, entrepreneurial capital is conceptualised as a configurable portfolio of eight interrelated capital stocks that are held by, accessible to, or mobilised through the entrepreneur and the venture. These capitals can be combined and reconfigured to support opportunity recognition, resource mobilisation, innovation, and the capacity to absorb shocks, ultimately contributing to the creation of sustainable value over time. Figure 2 illustrates the Entrepreneurial Capital Model, showing how different forms of capital interact and are transformed through resource orchestration into entrepreneurial outcomes. The model highlights three structural layers: (1) foundational capitals (natural, spiritual), (2) enabling capitals (cultural, social, human), and (3) operational capitals (financial, manufactured, intellectual). These are integrated through resource orchestration capability, which acts as a central mediating mechanism.

The definition draws together the "capital as stock" perspective found in multi-capital reporting and livelihoods frameworks with insights from the resource-based view and dynamic capability theory, where emphasis is placed on the orchestration and reconfiguration of resources.

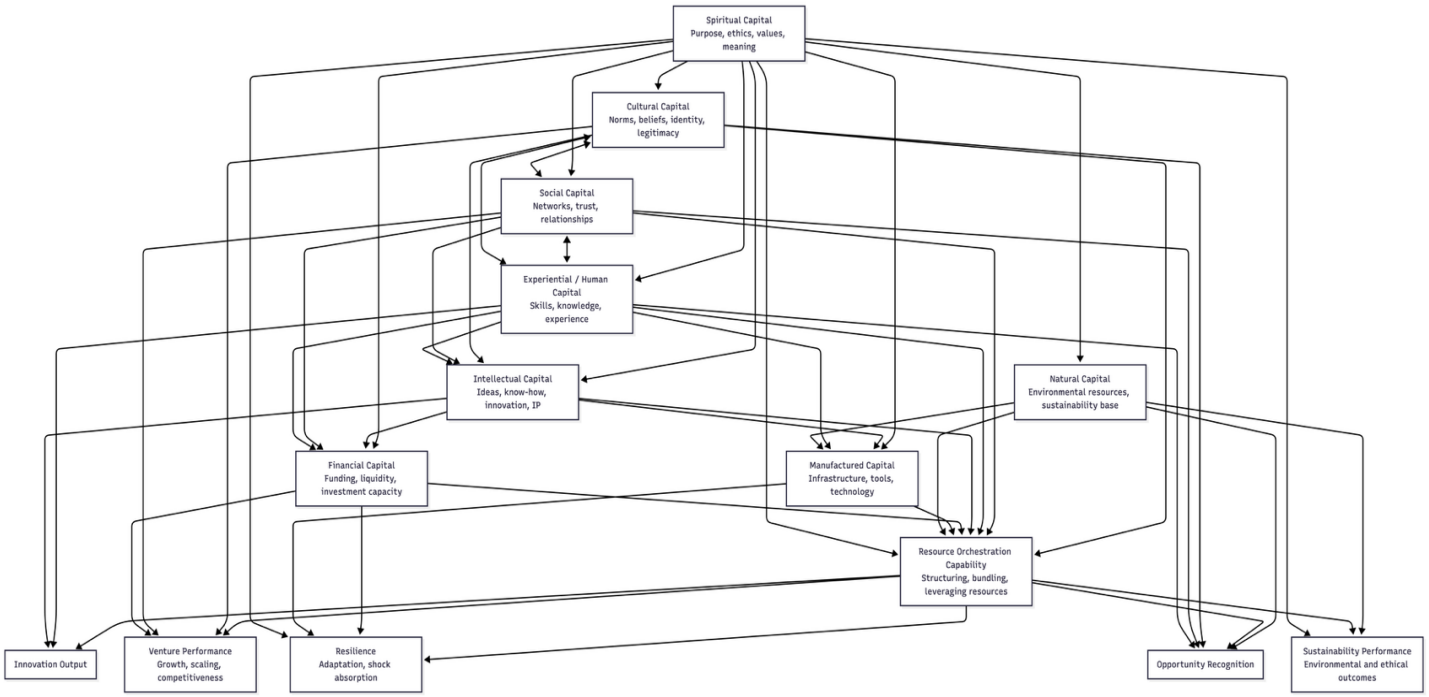

Figure 2. Entrepreneurial Capital Model.

The model further proposes that the influence of these capitals on entrepreneurial outcomes is mediated through resource orchestration. This refers to the processes through which resources are structured, bundled, and leveraged, alongside the development of dynamic capabilities that enable adaptation under conditions of uncertainty. Evidence from MSME contexts suggests that such forms of resource management are closely associated with post-crisis innovation and diversification, with innovation pathways often playing a central role in performance outcomes [56]. Related work also indicates that resilience is not simply a matter of recovery, but is embedded in processes of learning, innovation, and resource reconfiguration. In this sense, resilience aligns more closely with resource-based and dynamic capability perspectives than with narrower interpretations centred on psychological "bouncing back" [43].

To enhance conceptual clarity, the ECM specifies three primary mechanisms through which entrepreneurial capital is translated into outcomes.

First, an access mechanism, whereby capital enables access to resources, opportunities, and stakeholders. For example, social capital facilitates access to finance and partnerships, while cultural capital enables entry into specific institutional or market contexts.

Second, a capability development mechanism, whereby capital contributes to the formation of entrepreneurial capabilities. Experiential (human) capital and intellectual capital, in particular, underpin the development of resource orchestration capability, enabling entrepreneurs to structure, bundle, and leverage resources effectively.

Third, a legitimacy mechanism, whereby certain forms of capital enhance credibility and acceptance among stakeholders. Cultural and social capital are especially important in establishing legitimacy, while spiritual capital may reinforce ethical positioning and long-term trust.

Taken together, these mechanisms clarify how capital stocks are transformed into entrepreneurial outcomes, providing a causal structure linking resources to performance.

Operational definitions of the eight capitals. Each capital is defined as a distinct but interdependent stock:

Cultural capital (CC) refers to the dispositions, competencies, credentials, and cultural repertoires that shape how entrepreneurs establish legitimacy, frame narratives, and perceive opportunities within particular fields, including the capacity to operate across cultural contexts where relevant. Drawing on Bourdieu's formulation, it can be understood as embodied (skills and modes of interaction), objectified (cultural artefacts and signals), and institutionalised (formal qualifications and credentials) [9,16,27].

Experiential, or human, capital (HC) encompasses the accumulated knowledge, skills, health, and experience that underpin entrepreneurial judgement and execution. It is developed through formal education, industry exposure, prior venture activity, and learning-by-doing, all of which contribute to an entrepreneur's capacity to act effectively under uncertainty [6,53].

Financial capital (FC) includes both liquid and committed monetary resources, as well as access to funding channels such as personal savings, credit, grants, and external investment. Beyond enabling experimentation, scaling, and buffering against shocks, financing relationships may also shape strategic direction, including sustainability investment decisions, as investor expectations can influence ESG outcomes in SMEs [14].

Intellectual capital (IC) comprises both codified and tacit knowledge assets embedded within the entrepreneur and the venture. This includes intellectual property, data, organisational routines, and accumulated know-how, alongside the broader capability for innovation. Increasingly, research highlights how intellectual capital interacts with ESG considerations and innovation capabilities within SME contexts [39,32].

Manufactured capital (MC) refers to the physical and digital infrastructure that supports productive activity, including equipment, facilities, digital tools, platforms, and operational systems. Its effective deployment underpins reliability and scalability, while digital orientation and adoption play a growing role in shaping innovation pathways and performance outcomes [49].

Natural capital (NC) captures the stocks of natural resources and ecosystem services upon which entrepreneurial activity depends or which it affects, including energy, water, land, and biodiversity. It also encompasses capabilities related to environmental stewardship and exposure to ecological and climate-related risks. Recent developments in livelihoods and sustainability research emphasise the increasing importance of ecological constraints and climate dynamics as both limitations and opportunity spaces for entrepreneurship [21,35].

Social capital (SC) reflects the networked relationships, trust, reciprocity, and embeddedness that facilitate access to information, resources, and legitimacy. Often distinguished into bonding and bridging forms, social capital has been shown to influence entrepreneurial performance in ways that are highly context-dependent, particularly in resource-constrained environments [29,54].

Spiritual capital (SpC), while less frequently examined in entrepreneurship research, has gained increasing attention in leadership and organizational studies. Fry [17] conceptualises spiritual leadership as a source of intrinsic motivation, purpose, and ethical behaviour. In entrepreneurial contexts, spiritual capital may influence long-term orientation, resilience, and stakeholder trust, particularly in mission-driven or sustainability-oriented ventures. Emerging empirical research suggests that spiritual capital can strengthen resilience and mediate the effects of social capital, particularly under conditions of uncertainty [30,31]. While still an emerging construct, its inclusion is theoretically justified in contexts where entrepreneurial action is closely linked to identity, purpose, and ethical commitment.

THEORETICAL PROPOSITIONS AND TESTABLE HYPOTHESES

Building on the conceptual framework and underlying mechanisms, this section develops a set of theoretically grounded and empirically testable hypotheses. These hypotheses specify both the direct effects of individual capital forms and the system-level dynamics through which combinations of capital influence entrepreneurial outcomes.

The Entrepreneurial Capital Model (ECM) frames entrepreneurship as a multidimensional resource system in which value is generated not only through the effects of individual forms of capital, but also through the ways these forms interact and combine. In this sense, entrepreneurial outcomes are shaped as much by configuration as by accumulation. Drawing on the resource-based view [4], social capital theory [12], and resource orchestration theory [44], the ECM develops a two-level explanation of how these dynamics operate:

1. **Direct effects** of individual capital forms on entrepreneurial outcomes
2. **System-level effects**, capturing complementarities, bottlenecks, and resource orchestration dynamics

Entrepreneurial outcomes are conceptualised as a multidimensional construct comprising:

- Opportunity recognition quality
- Innovation output
- Venture performance (growth and scaling)
- Resilience (shock absorption and adaptability)
- Sustainability (environmental and ethical performance)

In line with resource orchestration theory, the ECM proposes the following causal structure:

Entrepreneurial Capital → Resource Orchestration Capability → Entrepreneurial Outcomes

This structure highlights the role of resource orchestration as a central mediating mechanism through which capital stocks are transformed into performance outcomes.

Core Propositions

Entrepreneurial capital is conceptualised here as a multidimensional and evolving construct. The following propositions outline its underlying theoretical logic.

Proposition 1 (Multidimensionality).

Entrepreneurial performance is shaped by the configuration of multiple forms of capital, rather than by any single resource. This extends the resource-based view by emphasising the role of heterogeneous resource bundles, rather than isolated assets, in generating entrepreneurial advantage.

Proposition 2 (Interdependence).

The eight forms of entrepreneurial capital are interdependent and mutually reinforcing. Their effects are not additive in a simple sense; rather, they reflect complementarity, where the marginal value of one form of capital increases in the presence of others [34].

Proposition 3 (Dynamic Accumulation).

Entrepreneurial capital develops over time through processes of learning, experience, and interaction. This aligns with dynamic capability theory, which emphasises the continuous development and reconfiguration of resources in response to changing conditions [50].

Proposition 4 (Contextual Variation).

The relative effectiveness of each form of capital varies across institutional, sectoral, and lifecycle contexts. This is consistent with insights from institutional theory [37] and entrepreneurial ecosystem research [46], which highlight the importance of context in shaping entrepreneurial outcomes.

Direct-Effects Hypotheses

The following hypotheses specify the expected relationships between individual forms of entrepreneurial capital and key entrepreneurial outcomes.

Cultural Capital

H1. Cultural capital is positively associated with (a) opportunity recognition quality and (b) perceived legitimacy among stakeholders.

Cultural capital provides access to field-specific norms, symbolic resources, and legitimacy signals [9], which support both the identification of opportunities and their acceptance within relevant stakeholder groups.

Experiential (Human) Capital

H2. Experiential (human) capital is positively associated with resource orchestration capability, which in turn enhances (a) innovation output and (b) venture performance.

Human capital contributes to cognitive capability and decision-making effectiveness [6], enabling the structuring, bundling, and leveraging of resources in line with resource orchestration theory [44].

Financial Capital

H3. Financial capital is positively associated with (a) scaling speed and (b) resilience, with stronger effects under conditions of environmental uncertainty.

Financial slack provides flexibility and buffering capacity [18], particularly in volatile or resource-constrained environments.

Intellectual Capital

H4. Intellectual capital is positively associated with innovation output, including sustainability-oriented innovation.

Knowledge-based assets enable recombination and the development of novel solutions [36], particularly within knowledge-intensive ventures.

Manufactured Capital

H5. Manufactured capital is positively associated with (a) operational reliability and (b) adaptive capacity, particularly through digital and technological infrastructure.

Physical and digital systems support efficiency and responsiveness (Porter, 1985), especially under conditions of disruption.

Natural Capital

H6. Natural capital stewardship capability is positively associated with (a) sustainable opportunity recognition and (b) sustainability performance.

Awareness and management of environmental resources enable the identification of sustainability-driven opportunities [13].

Social Capital

H7. Social capital is positively associated with resource mobilisation. This relationship is moderated by (a) network diversity (bridging ties) and (b) trust.

Social networks facilitate access to information and resources [12,20], while bridging ties expand opportunity scope and enhance access to novel knowledge.

Spiritual Capital

H8. Spiritual capital is positively associated with (a) entrepreneurial resilience and (b) ethical decision-making, and partially mediates the relationship between social capital and resilience.

Values and purpose support persistence and moral reasoning [17], reinforcing a longer-term orientation in entrepreneurial activity.

System-Level Hypotheses

Beyond the effects of individual capital forms, the Entrepreneurial Capital Model (ECM) also considers system-level dynamics, particularly the configuration and deployment of capital.

Balanced Capital Configuration

H9. Entrepreneurs who maintain a relatively balanced portfolio of entrepreneurial capital, characterised by low variance across capital forms, are expected to demonstrate higher overall performance than those with more uneven distributions.

This proposition draws on configuration theory [33], which suggests that alignment and internal consistency across system elements enhance overall performance outcomes.

Resource Orchestration as a Mediator

H10. Resource orchestration capability mediates the relationship between aggregate entrepreneurial capital and

entrepreneurial outcomes.

While entrepreneurial capital provides the underlying resource base, it is the effective structuring, bundling, and leveraging of these resources that enables value creation [44].

Model Summary

Taken together, the ECM advances a multi-level perspective on entrepreneurial performance. Individual forms of capital are associated with specific outcomes, but their effects are not independent. Instead, interactions among capitals generate complementarities that can amplify (or, in some cases, constrain) performance.

At the same time, resource orchestration capability plays a central role in translating capital into tangible outcomes. Capital alone is insufficient; its value depends on how it is deployed. Finally, these relationships are conditioned by context, with institutional, sectoral, and lifecycle factors shaping both the availability of capital and its effectiveness.

METHODOLOGY

This study adopts a conceptual research design oriented towards theory development rather than the empirical testing of predefined hypotheses. Such an approach is particularly suited to domains that remain fragmented or under-integrated, where existing theoretical perspectives do not yet form a coherent whole [27]. Entrepreneurship represents one such context, characterised by the coexistence of multiple disciplinary perspectives. A conceptual orientation therefore provides scope to bring these strands together into a more unified and explanatory framework.

Methodologically, the study is grounded in an integrative literature review combined with a theory-building process. In contrast to systematic reviews, which typically aggregate empirical findings, integrative reviews seek to generate new conceptual insights through the critical synthesis of knowledge across fields [45]. This is especially pertinent here, as the notion of entrepreneurial capital draws on insights from sociology, economics, strategic management, and development studies, each offering partial but complementary perspectives.

The research process unfolded in three interrelated stages, each contributing to the development of the final conceptual framework.

The first stage involved the identification and selection of relevant literature. An intentionally broad and interdisciplinary evidence base was assembled to reflect the multiple dimensions of capital within entrepreneurial contexts. This included work on human capital and entrepreneurship, social capital and network theory, cultural capital within sociological traditions, as well as resource-based and knowledge-based perspectives of the firm. In addition, literature on sustainable livelihoods, multi-capital frameworks, and sustainability-oriented entrepreneurship was incorporated. Foundational contributions were prioritised to establish theoretical depth [4,6,9,12,42], while more recent studies ensured the framework remained aligned with contemporary developments. Selection was guided by conceptual relevance, contribution to theory, and influence within the field.

The second stage centred on thematic analysis and synthesis. The literature was examined to identify recurring constructs, points of convergence, and areas of conceptual overlap across disciplinary boundaries. Particular attention was paid to how different forms of capital were defined and mobilised, and how they related to entrepreneurial outcomes. Through this process, eight distinct, though closely connected, forms of capital were identified. These were iteratively refined to ensure conceptual clarity and to minimise redundancy. The synthesis prioritised three considerations: the distinctiveness of each capital as a conceptual category, its grounding in established theory, and its relevance to entrepreneurial practice. This stage culminated in the development of the Eight-Capital Framework, which brings together previously fragmented strands into a more coherent structure.

The final stage involved the construction and theoretical integration of the Entrepreneurial Capital framework. Here, relationships between the identified capitals were specified through an iterative process informed by systems thinking and the resource-based view. The resulting framework captures the interdependence of different

capital forms, the dynamic processes through which they accumulate and transform, and the ways in which their relative importance varies across contexts and stages of the entrepreneurial lifecycle. A visual representation of the model (Figure 2: Entrepreneurial Capital Model) is included to support clarity and facilitate its application in both research and practice. The model illustrates a layered structure in which foundational capitals (natural and spiritual) provide underlying constraints and direction, enabling capitals (cultural, social, and human) shape entrepreneurial behaviour and opportunity recognition, and operational capitals (financial, manufactured, and intellectual) support execution and scaling. Resource orchestration capability operates across these layers, integrating and transforming capital into measurable entrepreneurial outcomes.

Empirical Validation Strategy

To support empirical testing of the ECM, future research may adopt a quantitative design based on survey data collected from entrepreneurs and small and medium-sized enterprises (SMEs). A cross-sectional approach would allow for initial validation of constructs, while longitudinal designs could capture the dynamic accumulation and transformation of capital over time.

Constructs may be operationalised using multi-item Likert scales derived from prior literature and adapted to the entrepreneurial context. Data analysis could employ structural equation modelling (SEM), which is well-suited to testing complex relationships involving latent constructs and mediating effects. Partial least squares SEM (PLS-SEM) may be particularly appropriate in early-stage validation due to its flexibility and suitability for exploratory models.

In addition, configurational approaches such as fuzzy-set qualitative comparative analysis (fsQCA) could be used to examine how different combinations of capital lead to entrepreneurial outcomes, aligning with the ECM's emphasis on capital configurations rather than isolated effects.

DISCUSSION: LINKING CAPITALS TO ENTREPRENEURIAL OUTCOMES

This section interprets the ECM in relation to key entrepreneurial outcomes, illustrating how different forms of capital, both individually and in combination, contribute to opportunity recognition, resource mobilisation, innovation, resilience, and sustainability performance. Opportunity recognition is shaped by access to information, the framing of problems, and the cognitive schemas through which entrepreneurs interpret their environment. Cultural capital plays a central role in this process, influencing what is perceived as feasible or legitimate, particularly in contexts where field norms structure evaluation and access to networks. Evidence from research on entrepreneurial ecosystems and class origins suggests that both cultural and social capital shape entrepreneurial trajectories and judgements, indicating that opportunity recognition is not purely individual but socially embedded [22]. When viewed through a sustainability lens, this process is further conditioned by values and temporal orientation. Empirical work using structural equation modelling shows that self-transcending values and future orientation are associated with sustainable entrepreneurial intentions, pointing to the relevance of value-based forms of capital, including spiritual capital, in shaping opportunity pathways [52].

Resource mobilisation reflects a similarly relational dynamic. Financial and social capital operate in tandem to determine an entrepreneur's capacity to secure and deploy resources. Research in entrepreneurial finance indicates that investor backing can have causal effects on SME ESG performance, suggesting that finance functions not only as a stock of resources but also as a governance mechanism capable of shaping strategic direction and sustainability investment [14]. At the same time, social capital enhances access to funding and partnerships, particularly where trust reduces information asymmetries. Distinctions between bonding and bridging ties further indicate that network effects are heterogeneous rather than uniform, reinforcing the need to treat social capital as differentiated rather than singular [54].

Innovation outcomes are closely linked to the interaction between intellectual and manufactured capital, though their effects are mediated by how resources are orchestrated. Knowledge assets, in themselves, do not guarantee innovation; their translation into performance depends on the processes through which they are combined and deployed. Empirical studies in entrepreneurship and management show that sustainable entrepreneurial orientation is associated with ESG performance through innovation capability and sustainable innovation, with

digital culture and adoption shaping these relationships as boundary conditions [32]. Evidence from crisis contexts among MSMEs further demonstrates that effective resource orchestration can stimulate innovation, which in turn supports performance and diversification, reinforcing its central mediating role [56].

Resilience within entrepreneurship is increasingly understood not simply as recovery from disruption, but as a form of dynamic capability characterised by adaptability and strategic flexibility. Review-based evidence highlights the influence of factors such as self-efficacy, emotional regulation, and digitalisation, while qualitative studies emphasise mechanisms such as resource reconfiguration and innovation-led adaptation [40]. Extending this perspective, the ECM positions spiritual capital as a meaning-based resource that sustains perseverance and supports adaptive capacity. Emerging evidence suggests that spiritual capital can enhance resilience directly and shape how social capital translates into effective responses under conditions of turbulence [30].

Sustainability and ESG performance introduce an additional layer of complexity, requiring the integration of environmental and social value creation with economic viability. Recent reviews frame entrepreneurship as a multi-level process linking micro-level practices with broader systemic change [28]. Within SMEs, ESG outcomes are increasingly associated with capability-based mechanisms, including innovation and digital adoption, as well as with financing structures, particularly the influence of institutional investors [32]. At the same time, evolving disclosure regimes and standards—such as IFRS sustainability standards and the Global Reporting Initiative—are reshaping expectations around transparency and accountability. These shifts extend beyond formally regulated firms, influencing entrepreneurial ventures indirectly through investors, partners, and supply chains, and heightening the importance of legitimacy in strategic positioning [19,51].

Taken together, these dynamics suggest that entrepreneurial value creation can be understood as a process of multi-capital transformation. Entrepreneurs draw upon, combine, and reshape different capital stocks over time, often enhancing certain forms—such as social trust or intellectual assets—while potentially depleting others, including natural capital, in the absence of deliberate stewardship. This perspective aligns with the “stocks of value” logic found in integrated reporting, while extending it to entrepreneurial contexts through the explicit inclusion of cultural and spiritual capital as both enabling resources and potential constraints.

POLICY AND PRACTICE IMPLICATIONS

For entrepreneurship support ecosystems, such as incubators, accelerators, and local development agencies, the ECM suggests a shift away from finance-dominated models towards a more explicitly multi-capital approach. Support mechanisms such as mentoring and training contribute not only to skill development but also to the formation of cultural capital, including legitimacy and narrative capability, alongside intellectual and manufactured capital through innovation processes and operational systems. At the same time, network facilitation strengthens social capital and enhances resilience by embedding entrepreneurs within trust-based relationships. This aligns with evidence indicating that ecosystem effectiveness is shaped by shifts in the relative value of different forms of capital and by the quality of peer-based interactions [22].

From an inclusive entrepreneurship perspective, the model draws attention to uneven starting conditions, particularly in relation to cultural and social capital. These disparities can limit both access to opportunities and how entrepreneurial potential is evaluated. Addressing inclusion, therefore, requires more than financial support; it involves tackling less visible barriers such as legitimacy deficits, gatekeeping practices, and class-based mechanisms that shape entry and progression within entrepreneurial fields [10].

In terms of sustainable entrepreneurship strategy, the ECM functions as a diagnostic tool. Entrepreneurs are encouraged to identify imbalances across different forms of capital—for example, a strong sense of purpose or spiritual orientation alongside limited operational capacity, or effective environmental stewardship without sufficient financial backing—and to design resource orchestration strategies in response. Evidence suggesting that sustainable entrepreneurial orientation, combined with digital adoption, can enhance ESG performance reinforces the importance of integrating investments in digital and manufactured capital with sustainability objectives. This perspective moves beyond viewing sustainability as solely value-driven, instead situating it within broader capability development and resource configuration processes [32].

LIMITATIONS

This study is conceptual in nature and does not include original empirical testing; as such, the proposed relationships require validation through future research [8]. In addition, the integration of multiple capital constructs introduces the potential for conceptual overlap, particularly between human and intellectual capital, and between cultural and social capital. Careful construct development and discriminant validity testing will therefore be essential in empirical applications.

A further limitation concerns contextual variation. The relative importance and accessibility of different forms of capital are likely to vary across institutional, cultural, and sectoral environments. The model does not assume universal applicability, and future research should examine boundary conditions and moderating effects across contexts.

Finally, while the inclusion of spiritual capital enhances the model's theoretical breadth, it also introduces measurement challenges due to its intangible nature. Further work is required to refine its operationalisation and ensure empirical robustness [35].

CONCLUSION AND FUTURE RESEARCH AGENDA

This paper develops an Eight-Capital Entrepreneurial Capital Model that brings together cultural, experiential (human), financial, intellectual, manufactured, natural, social, and spiritual capital within a unified theoretical framework for understanding entrepreneurial outcomes. Drawing on insights from sociology, the resource-based view and dynamic capability perspectives, sustainable livelihoods research, and multi-capital approaches to ESG and value creation, the model highlights how entrepreneurial performance and sustainability are shaped not only by the composition of capital portfolios but also by the capacity to orchestrate them effectively [9].

Building on this foundation, several avenues for future research emerge. Empirical work is needed to validate the eight-capital measurement model, including testing for invariance across different contexts. There is also scope to examine how specific configurations of capital relate to outcomes, combining configurational approaches with techniques such as structural equation modelling. Longitudinal studies would further strengthen understanding by tracing processes of capital accumulation, depletion, and conversion over time. Finally, the model could be extended by exploring its interaction with evolving ESG governance and disclosure environments, particularly in relation to how these developments reshape entrepreneurial legitimacy and access to finance [8].

In doing so, the ECM contributes to the development of a more integrative and system-oriented theory of entrepreneurship, capable of capturing the complexity of value creation in contemporary economic, social, and environmental contexts.

ETHICAL STATEMENT

No human participants or primary data were used in this conceptual paper; ethics approval is not applicable. For future empirical studies, ethics approval and informed consent should be obtained and reported where required.

DATA AVAILABILITY STATEMENT

No new data were generated. Future empirical studies should include a data availability statement and, where feasible, provide access to anonymised datasets or justify restrictions.

CONFLICT OF INTEREST STATEMENT

Unspecified by author (must be completed prior to submission).

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