Integrating Four Capitals of Success for Sustainable Micro-Entrepreneurship in Terengganu: A Values-Based Adaptive Capability Framework

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ABSTRACT

The sustainability of urban microenterprises depends not only on productive resources but also on how entrepreneurs deploy them under uncertainty. This conceptual article extends the published four-capital framework for Terengganu by distinguishing financial, human and social capital, values-guided spiritual capital, entrepreneurial adaptive capability and subsequent economic viability. Using a purposive integrative synthesis of foundational theory and relevant entrepreneurship research, rather than a new systematic review, it develops six falsifiable propositions. The model differentiates direct resource–sustainability relationships, an adaptive-only indirect route and a conditional sequential route through spiritual capital and adaptive capability. Spiritual capital may also operate as an independent antecedent of adaptation or sustainability rather than as a universal mediator. The resource-to-spiritual pathway is framed cautiously as a possible enabling influence on the enactment of ethical purpose, reflection and perseverance; rival directions and null effects remain plausible. Figure 1 is retained to illustrate the primary sequence and selected direct alternatives, while the text identifies additional unpictured competing pathways. Construct boundaries, illustrative indicators and a prospective three-wave testing design are specified to reduce overlap between values, enacted behaviour and outcomes. No new primary data were collected, and no proposition is claimed as empirically confirmed. The contribution is a testable explanation of resource mobilisation that should be assessed for incremental predictive value over direct four-capital accounts, not a claim that spiritual commitment replaces finance, skills or market access.

Keywords: micro-entrepreneurship; four capitals of success; spiritual capital; adaptive capability; sustainability

INTRODUCTION

Microenterprises support livelihoods, local markets and economic participation, yet many remain exposed to changes in demand, cash-flow interruptions and uneven digital capabilities. A narrow emphasis on how much capital entrepreneurs possess does not adequately explain why some enterprises repeatedly adapt while otherwise similar ventures stagnate. The central question is therefore not merely which resources matter, but how entrepreneurs mobilise them into routines that preserve viability over time. Recent evidence from Malaysian microentrepreneurs indicates that financial knowledge, behaviour and attitudes are relevant to financial sustainability (see the 2025 study in Journal of Islamic Accounting and Business Research).

Awang et al. (2025) establish a four-capital model for urban micro-entrepreneurs in Terengganu, treating financial, human, social and spiritual resources as parallel determinants of sustainability. The companion manuscript, Integrating Human, Social, Financial, and Spiritual Capital as Critical Success Factors for

Sustainable Microentrepreneurship, highlights interaction and a resilience–innovation mechanism. This article advances beyond those accounts by specifying a differentiated sequence of resource mobilisation, ethical-motivational translation and adaptive capability formation. This sequence is advanced as a set of testable propositions, not an empirical finding. Related Terengganu research further identifies synergies between human and social resources (Awang et al., 2026).

Problem Statement and Research Contribution

A critical theoretical weakness in additive capital frameworks is the assumption that resources produce sustainability automatically. Finance can become unproductive debt; formal training can remain unused; close-knit relationships can restrict market learning; and personal conviction can coexist with poor planning. The value of a resource therefore depends on whether the entrepreneur can recognise a change, decide responsibly and reconfigure scarce assets in time. Resource quantity and resource deployment must be separated analytically (Barney, 1991; Teece et al., 1997).

A second limitation concerns conceptual overlap. Creativity belongs primarily to the entrepreneur's knowledge and problem-solving repertoire, whereas innovation refers to the enactment of changes in products, services or processes. Spiritual commitment can guide choices, but it should not be presumed equivalent to psychosocial wellbeing or commercial resilience. Business continuity, not general life satisfaction, is the principal outcome in this article. By defining each construct separately, the proposed framework reduces double-counting and creates clearer empirical pathways.

A third limitation is the tendency to universalise a local cultural setting. Urban Terengganu provides a meaningful context in which family networks, customer relationships, values and enterprise decisions may intersect, but the strength and meaning of spiritual capital can vary by individual. The present framework therefore treats spirituality as a potentially relevant, voluntarily expressed value resource rather than as a normative requirement or a proxy for religiosity.

2.1 Research objectives

The paper aims to (i) integrate established capital-based explanations of microenterprise sustainability; (ii) distinguish spiritual capital from resource inputs and identify its hypothesised mediating role; (iii) conceptualise entrepreneurial adaptive capability as a mechanism linking resources to sustainability; and (iv) outline discriminating empirical tests and policy applications appropriate to Malaysian microenterprise contexts.

2.2 Original contribution

The contribution is a bounded extension of existing capital-based accounts, not the discovery of a fifth resource or the first recognition of four capitals. Awang et al. (2025) already integrate financial, human, social and spiritual capital; Awang et al. (2026) discuss the contributions of human and social capital. The present model adds distinctions among initial resource endowments, value-guided judgment, enacted adaptation and subsequent economic continuity. It specifies testable direct, adaptive-only indirect, and conditional sequential indirect routes, and compares them with independent spiritual-capital effects. Whether this extra mechanism improves explanation is an empirical question, not an established advantage.

The contribution is a mechanism-centred model, not a renamed four-capital inventory. The article advances two connected translations: resources to value-guided strategic action, and value-guided action to adaptive capability. It further predicts that institutional access and market turbulence affect whether resources can be converted into observable sustainability. This offers both a falsifiable explanation and a practical diagnosis of why conventional input-centred interventions may disappoint.

A further contribution concerns explanatory precision. Capital categories often mix resource availability with the behaviours that make resources useful. For example, owning a smartphone is not equivalent to using

customer information to redesign a sales process, and participating in an association is not equivalent to receiving commercially valuable referrals. The model treats these distinctions as testable rather than semantic. It further recognises that entrepreneurial orientation, including innovativeness and proactiveness, may act as a rival explanation of adaptability (Lumpkin & Dess, 1996). Future studies must therefore show whether values-guided adaptive capability explains enterprise continuity beyond established behavioural constructs. This incremental-validity requirement reduces the risk of presenting familiar entrepreneurial practices under new labels.

Integrative Conceptual Review Approach

The paper follows an integrative, theory-building conceptual review rather than a systematic review or meta-analysis (Snyder, 2019). Its evidence base comprises the published four-capital study (Awang et al., 2025), the accompanying author-supplied conceptual manuscript, selected research on Malaysian microenterprises, and established theory on resources, social relationships, spirituality, resilience and adaptive capabilities. Sources were selected purposively for theoretical relevance, construct clarity, contextual relevance and ability to challenge as well as support the proposed paths; no exhaustive database search or formal risk-of-bias appraisal was undertaken.

The accompanying manuscript reports 81 identified records and 26 included studies under a PRISMA-labelled procedure. The full search histories, eligibility decisions and appraisal records were not available for independent verification; these figures therefore describe the companion work only and are not claimed as the selection results of the present article. In this paper, foundational works provide mechanism definitions, empirical studies provide context-specific plausibility checks, and competing explanations are retained instead of being screened out merely because they challenge positive expectations (Snyder, 2019).

Analytical integration followed three principles. First, findings were interpreted at their original level of analysis: results for SMEs or women-owned businesses were not presumed to generalise automatically to all urban microenterprises. Second, statistically significant associations were separated from conceptual claims, avoiding an inference that cross-sectional evidence demonstrates temporal mediation. Third, established theories were used to identify rival causal directions and construct boundaries, rather than simply accumulating positive citations. Such transparency is particularly important for conceptual reviews, where purposive source selection can privilege supportive studies. The resulting propositions should be read as disciplined expectations that may be rejected through empirical testing, not as a summary of established causal effects (Snyder, 2019).

For transparency, the synthesis proceeded in four stages: (1) extract from the source frameworks the definitions of financial, human, social and spiritual capital and their specified outcome paths; (2) map each claimed mechanism to RBV, social capital, spiritual motivation and dynamic-capability literature; (3) identify construct overlap, reverse causality, and evidence from dissimilar SME populations; and (4) translate the resulting distinctions into Figure 1, six propositions and prospective measurement domains. This is an account of analytical steps, not a reproducible systematic screening log. Search strings, databases and study-level exclusion counts are not retrospectively invented.

Evidence is weighted by relevance rather than recency alone: classic theoretical contributions establish definitions, whereas contextual research may motivate hypotheses but does not validate the new model. The selection is necessarily incomplete and subject to purposive-selection bias. Future systematic reviews should publish complete searches and exclusion reasons; the current article does not claim comprehensive coverage.

Theoretical Foundations

4.1 Resource-based view and resource deployment

The Resource-Based View (RBV) explains differences in enterprise performance through the strategic utilisation of valuable, rare, inimitable and non-substitutable resources (Barney, 1991). For microentrepreneurs, financial capital, entrepreneurial knowledge and managerial competencies represent

essential resources that support business operations and competitiveness. However, resource availability alone does not guarantee sustainability. Entrepreneurs must effectively mobilise and combine their limited resources to create distinctive capabilities, improve operational efficiency and respond to market challenges. Consequently, resource deployment is crucial for achieving sustainable competitive advantage in resource-constrained microenterprises.

4.2 Social capital theory and relational ambivalence

Social capital theory emphasises how relationships, trust and networks give entrepreneurs access to information, assistance and market opportunities (Adler & Kwon, 2002). Bonding ties may offer timely practical support, whereas bridging ties may expose owners to new customers, suppliers and ideas. However, strong obligations within close relationships can sometimes discourage experimentation or restrict access to alternatives (Portes, 1998). The usefulness of social capital therefore depends on its quality, diversity and mobilisation rather than contact numbers alone.

4.3 Dynamic capabilities and resilience

Dynamic capabilities research centres on sensing opportunities, seizing options and transforming resource configurations (Teece et al., 1997). Duchek (2020) interprets organisational resilience through anticipation, coping and adaptation. At microenterprise level these insights suggest a parsimonious adaptive capability that allows an owner to detect weak signals, run low-cost adjustments and revise operations after feedback. Adaptive capability is thus not synonymous with survival: it is an action mechanism expected to precede sustainable outcomes. Together, these capabilities strengthen entrepreneurial resilience, business continuity and long-term microenterprise sustainability.

Entrepreneurial Resource Capital

5.0 Contemporary evidence and the case for conditional effects

Recent evidence cautions against assuming that all resources generate positive and uniform effects. A Malaysian study of 259 women-owned micro-businesses found significant contributions from financial assistance, supply-chain management, entrepreneurial skills and technology access, but no significant direct effect for social capital (Shaffee et al., 2026). Such results do not negate relational resources; rather, they make network quality, information value and the capacity to mobilise ties crucial boundary conditions. Similarly, research involving 508 Malaysian women micro-entrepreneurs found benefits from financial-management and savings literacy as well as selected network characteristics, while other financial or networking dimensions showed different associations (Rambely et al., 2025). The four-capital model therefore predicts differentiated rather than universally positive relationships.

The distinction between possessing a resource and putting it to productive use is especially important in digital markets. Research in Malaysia and Indonesia suggests that technology adoption may be more consistently associated with enterprise sustainability than financial literacy in isolation (Edward et al., 2024). A Malaysian threshold-regression study additionally foregrounds the relationships among digital financial literacy, financial inclusion and small-business performance (Nizam et al., 2025). This evidence supports a conversion argument: owners must translate cash, knowledge and relationships into repeatable routines, informed choices and customer-responsive action. It does not establish causality for the present conceptual model, and the reported outcomes should not be conflated with long-run sustainability.

5.1 Financial capital: deployable liquidity and discipline

Financial capital is conceptualised as usable financial capacity rather than the mere receipt of a loan. It comprises access to affordable funds, liquidity adequacy and financial management routines. The distinction is consequential: borrowing expands liquidity but can weaken cash-flow resilience when repayment terms mismatch operating cycles. Budgeting, record keeping and working-capital control translate access into

managerial discretion. The model therefore permits direct effects on sustainability but does not assume that access necessarily yields sustained performance.

Resource-based arguments also raise an appropriation question: who captures the value created by a scarce resource? In very small enterprises, the owner may generate a valuable idea yet lack bargaining power with suppliers, landlords or digital intermediaries. Consequently, operational improvement need not translate into durable profitability. Financial resources should be assessed alongside repayment burden and the stability of the enterprise's trading terms. Research designs should distinguish improvements in sales volume from improvements in net operating cash flow, because expanding sales through costly borrowing or discounting may reduce rather than strengthen continuity. This distinction provides a practical test of the proposed difference between access to finance and the disciplined deployment of financial capital (Barney, 1991).

Financial capacity may instead help an owner take a calculated risk, such as testing a new sales channel, carrying essential inventory or sustaining a transition when demand drops. This mechanism remains conditional on market opportunity and decision quality. An enterprise with adequate cash yet poor customer intelligence may still fail to adapt; conversely, capable owners may achieve modest resilience using savings and disciplined inventory control. Accordingly, financing indicators should distinguish access, cost, cash availability and management practice rather than collapse all into a generic capital index. An IJRISS study by Amirul et al. (2025) likewise situates financial literacy within a broader human-capital intervention for microenterprise sustainability.

5.2 Human capital: task-related knowledge, skills and creativity

Human capital comprises usable entrepreneurial knowledge, operational and managerial skills, and the capacity for creative problem solving. Meta-analytic evidence indicates that the relationship between human capital and entrepreneurial success is positive but modest, and stronger for task-related knowledge and skills than for qualifications alone (Unger et al., 2011). This strengthens the rationale for measuring demonstrated routines rather than education years as a sole proxy.

Creativity should be distinguished from realised innovation. The former reflects idea generation and recombination within human capital; the latter reflects implementation and belongs within entrepreneurial adaptive action. This separation allows researchers to ask why two owners with similar creative skills differ in their willingness or capacity to test and scale new offerings. Training initiatives should therefore pair content knowledge with practice, mentorship and opportunities for iterative experimentation.

5.3 Boundary conditions

The conversion of financial and human resources is shaped by trading conditions, digital infrastructure, family demands and regulatory access. These constraints should be measured as contextual conditions, not silently folded into resource indicators. Inference must also distinguish owner-level capabilities from firm-level outcomes in single-person enterprises.

Social And Spiritual Capital As Distinctive Mechanisms

6.1 Social capital: support, networks and customer orientation

Social capital is structured into three non-identical dimensions: support from family and peers, bridging connections with organisations and commercial partners, and customer relationships that enable feedback and repeated exchange. Social capital supplies resources externally, while human capital concerns what the entrepreneur knows and can do. Trust may enable informal credit or referral activity, but poorly diversified networks can restrict exposure to new opportunities (Adler & Kwon, 2002; Portes, 1998). Customer orientation is included only insofar as it measures ongoing relational learning, not customer satisfaction itself.

Digital community networks may broaden market reach; nevertheless, platform participation alone does not demonstrate effective social capital. Measures should capture the usefulness and reliability of information, reciprocal assistance and relationship diversity. The predicted outcome is therefore stronger when support relationships are capable of generating timely advice and commercially actionable opportunities.

Relational value also varies with the structure of the network. Dense bonding ties may improve emergency assistance, whereas bridging ties can expose entrepreneurs to different suppliers, customer segments and business practices. Neither arrangement is intrinsically superior: bridging connections may be expensive to cultivate, and trusted close ties can supply information quickly during disruption. The potential disadvantages of social capital include excessive obligations, pressure to favour insiders and restricted access for outsiders (Portes, 1998). Measurement should consequently record reciprocity, diversity and the relevance of information received, not just the number of contacts. Observed network benefits might also reflect prior business success that attracts partners, making temporal ordering essential.

6.2 Spiritual capital: ethical commitment, reflective practice and perseverance

Spiritual capital is operationally defined as an owner's relatively durable capacity to apply personally meaningful ethical commitments, reflective judgment and constructive perseverance to business decisions. Proposed domains are integrity in dealing with customers and suppliers; reflection on the long-term consequences of decisions; purpose that sustains responsible effort; and perseverance that remains open to corrective information. These are provisional domains, not an already validated universal scale (Fry, 2003; Kolade et al., 2026). Religious affiliation and ritual observance should not be assumed equivalent to spiritual capital; faith-specific practices may be studied separately and voluntarily.

Spiritual capital is defined here as an entrepreneur's internally held, values-guided capacity for ethical judgment, meaningful commitment and constructive perseverance. In Terengganu it may find expression in faith-informed practices and moral commitments, but an inclusive measurement strategy must permit analogous expressions among people with different religious or non-religious backgrounds. This construct is separate from financial resources, social status, generic optimism and the business outcome itself.

The resource-to-spiritual pathway (P3) is best understood as an enabling or enactment hypothesis, not a claim that money, skills or social contacts create values from nothing. Adequate liquidity can reduce immediate scarcity pressure and give room for principled choices; task-specific knowledge can make ethical and long-term consequences more intelligible; trusted, reciprocally accountable relationships can reinforce commitments. Yet scarcity may also deepen purpose, and commitment may precede and help attract resources. Resource effects on spiritual capital may therefore be weak, null, negative or reversed. The temporal ordering and alternative explanations must be tested, especially because spiritual capital may be an independently held antecedent rather than an outcome of external resources (Barney, 1991; Adler & Kwon, 2002; Portes, 1998; Fry, 2003).

The distinction between spiritual capital and entrepreneurial adaptive capability is essential. Values explain why particular choices are considered acceptable or worthwhile. Adaptive capability explains whether the entrepreneur can operationalise a choice through sensing, experimentation and resource reconfiguration. One may possess deeply held values without a reliable commercial adaptation process.

Two roles are deliberately distinguished. First, spiritual capital may function independently: pre-existing ethical purpose and perseverance may predict adaptive behaviour or business continuity even after accounting for financial, human and social capital. Second, it may act as a partial mediator where resources enable the enactment of values-guided choices, which in turn support adaptation. Neither role is universal; spiritual capital is not itself a direct financial input, and there is no theoretical necessity for full mediation. Kolade et al. (2026) offers context-specific evidence linking spiritual capital and entrepreneurial resilience, but they do not validate the proposed resource-to-spiritual-capital path among Terengganu microentrepreneurs.

The Values-Based Adaptive Capability Mechanism

7.0 Why spiritual orientation and adaptive capability must be separated

A 2026 study of 622 entrepreneurs in Lagos reported an association between spiritual capital and resilience, including a mediating role for spirituality in the relationship between bonding social capital and resilience (Kolade et al., 2026). That cross-context evidence strengthens the plausibility of a mechanism connecting social support, meaningful coping and adaptive action, but does not establish that the same mediation holds for Terengganu. The proposed model consequently treats spiritual capital as an orientation towards integrity, purpose and perseverance, whereas adaptive capability denotes observable business behaviours: detecting changes, testing responses, learning from outcomes and reorganising scarce inputs. Keeping these constructs separate reduces tautology and permits discriminant-validity tests.

Spiritual conviction should not be operationalised as a proxy for religiosity, moral superiority or business success. Entrepreneurs can display ethical perseverance in diverse belief systems, while strong convictions may sometimes coexist with poor planning or resistance to feedback. The framework therefore anticipates positive but conditional pathways, with sensitivity analyses for sector, business age, education and market turbulence. This careful specification extends the four-capital discussion without assuming that spirituality substitutes for affordable finance, infrastructure or access to customers.

7.1 First translation: resources into values-guided action

Financial capacity, entrepreneurial competencies and relational support create a set of feasible responses to uncertainty. Their presence does not prescribe which response should be selected. Spiritual capital is proposed to contribute an ethical-motivational screen: attention to integrity, long-term responsibility, meaning and constructive persistence. Under this interpretation, it affects the quality and consistency of resource mobilisation rather than adding another stock of funds or technical skills.

Because these claims are theoretical, the model retains potentially direct resource–sustainability relationships alongside indirect ones. A well-capitalised firm can stay open without distinctive spiritual routines, and strong customer relationships can sustain demand independently. The purpose of mediation testing is to determine whether value-guided mobilisation explains additional outcome variation, not to presuppose full mediation.

7.2 Second translation: action into adaptive capability

Entrepreneurial adaptive capability is defined as a repeatable, owner-enacted ability to recognise relevant changes, trial feasible responses, and redeploy resources based on feedback. Its three proposed behavioural domains are sensing (monitoring customer, cost and competitor changes), experimentation/seizing (conducting affordable tests and choosing workable responses), and reconfiguration (adjusting supply, inventory, channels or routines after learning). This microenterprise translation of dynamic capabilities follows Teece et al. (1997), Teece (2007) and Duchek (2020); it should be assessed through dated behaviour rather than confidence, personality or survival itself.

Adaptation differs from short-lived improvisation: the owner learns from feedback, preserves viable practices and revises routines. It also differs from innovation output: an enterprise can adapt through process simplification, supplier changes or payment adjustments without launching a new product. Such practices plausibly support continuity and recovery; the claim must nonetheless be evaluated with time-separated data. The mediation logic remains a proposition: longitudinal evidence is needed before claiming that values-based decisions cause improved adaptation (Duchek, 2020; Awang et al., 2025).

An additional theoretical distinction is between planned prediction and action under uncertain conditions. Effectuation theory emphasises starting with available means, limiting affordable loss and learning from stakeholder commitments instead of assuming that an accurate forecast is always feasible (Sarasvathy, 2001). This reasoning is especially relevant to entrepreneurs who cannot finance expensive market research. It does

not imply that planning is unnecessary; the choice between forecasting and small reversible trials depends on the decision context. A useful empirical indicator is whether an owner sets an affordable experimental budget, records customer responses and changes the next decision accordingly. Such observations distinguish enacted adaptability from self-reported confidence or optimism.

7.3 Sustainability as an outcome

Microenterprise sustainability is defined here as continued economically viable operation across time, including the ability to absorb and recover from a material disruption without persistent financial distress. Its outcome domains are observed operating continuity (e.g., trading status across waves), financial viability (operating cash-flow coverage or ability to meet due obligations), revenue/customer retention stability, and disruption recovery (time to resume viable trading after a documented shock). An enterprise need not grow rapidly to be sustainable. Social and environmental performance are important but distinct dimensions and must not be claimed as captured by these economic indicators.

Proposed Conceptual Framework

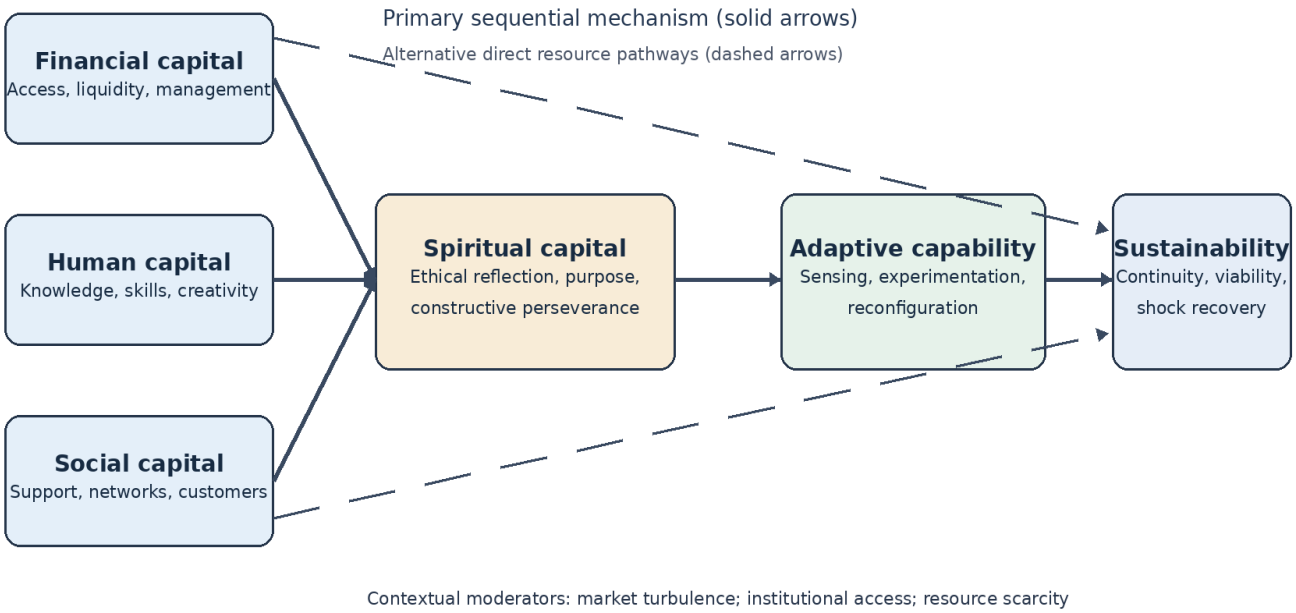


Figure 1. Proposed values-based adaptive capability framework (author-developed conceptual model).

Figure 1 is retained as the conceptual illustration, not an estimated path diagram. The three resource boxes (financial, human and social) feed the solid route into spiritual capital, then entrepreneurial adaptive capability, then sustainability: resources → spiritual capital → adaptive capability → sustainability. This is the conditional sequential mechanism in P3, P4 and P6. Dashed arrows represent selected alternative direct resource → sustainability paths covered by P1 and P2; they do not enumerate every estimable coefficient. An adaptive-only path (resources → adaptive capability → sustainability, P5) and a potential independent spiritual → sustainability effect are theoretically admissible rival paths, even though no separate arrows for these are drawn in the retained illustration. The absence of drawn arrows must not be interpreted as zero effects. Contextual moderators appear as annotations, not tested relationships. All paths are propositions requiring empirical comparison.

For interpretation, “independent spiritual effect” means a spiritual-capital association with adaptive capability and/or sustainability conditional on initial resource capital, not a proof that spiritual capital originates without social learning. Partial mediation is possible when a direct resource–sustainability association remains after the

mediators are included. Figure 1 prioritises readability; the full structural equations must estimate the relevant omitted rival paths as described in Sections 8.1, 9 and 10.

8.1 Model specification

For empirical testing, four capital categories must not be collapsed into an interchangeable reflective scale. The depicted sequential model must be compared with (i) an additive direct-effects model that includes spiritual capital as a distinct predictor; (ii) an adaptive-only indirect model with resources → adaptive capability → sustainability; (iii) a parallel or partial mediation model allowing spiritual and adaptive routes and the resource direct paths; and (iv) the sequential model resources → spiritual capital → adaptive capability → sustainability. A direct spiritual → sustainability path can be added in a rival specification to test independent influence. Model comparison and temporal evidence, not the diagram alone, determine which specification is supported.

The framework also creates specific discriminating tests. If spiritual capital predicts self-described adaptability but not independently observed operational changes, shared reporting tendencies are a credible explanation. If resource measures predict continuity equally well without the sequential pathways, the more complex model lacks demonstrated incremental value. Alternatively, an interaction model may fit better if spiritual commitment strengthens the effectiveness of human or social resources without mediating their effects. Comparing these alternatives is central to theoretical progress. The mediators should not be combined merely because they correlate, and researchers should report both null and contrary results. A conceptual extension is useful only to the extent that it generates predictions meaningfully distinct from its predecessor.

A consequential distinction from Awang et al. (2025) is that spiritual capital is not presumed to be a fourth interchangeable input with an unconditional direct effect. Instead, it is theorised as a possible motivational and evaluative route through which capital is used. The original direct-effects specification remains a legitimate rival model; the proposed sequence earns explanatory value only if it improves longitudinal prediction and withstands discriminant-validity and reverse-causation tests. The present paper therefore offers a falsifiable mechanism extension, not a claim that the earlier framework has already been refuted.

Proposition Development

P1 (direct resource relationships). Greater task-relevant human capital and access to useful social relationships are expected to be positively associated with subsequent microenterprise sustainability, net of financial constraints, sector, enterprise age and baseline performance. These relationships may persist independently of the proposed mediators; their sizes need not be equal (Unger et al., 2011; Adler & Kwon, 2002; Awang et al., 2026).

P2 (conditional financial direct relationship). Deployable liquidity and disciplined financial management are expected to be associated with subsequent sustainability, whereas finance access considered alone may show a weak or adverse association when debt service burdens exceed operating capacity. Accordingly, financial capital is not assumed to exert an unconditional positive effect (Barney, 1991; Rambely et al., 2025).

P3 (resource-enabled enactment of spiritual capital). Controlling for baseline spiritual capital, financial slack, relevant human skills and trustworthy social relationships may each enable stronger subsequent enactment of values-guided reflection, ethical commitment and constructive perseverance. The mechanisms differ: slack can enlarge choice under scarcity, skills can improve assessment of consequences, and trusted ties can reinforce accountable conduct. This is a conditional, potentially weak resource → spiritual capital prediction, not a claim that material resources generate faith or intrinsic values. Reverse ordering (spiritual capital → resource accumulation) and stable pre-existing orientation are explicit rival explanations (Adler & Kwon, 2002; Fry, 2003; Portes, 1998).

P4 (spiritual-capital pathway). Spiritual capital is expected to predict later adaptive capability by supporting reflective choice, sustained but revisable effort, and relational integrity. It can operate as an independent

antecedent conditional on financial, human and social resources, regardless of whether P3 holds. An additional spiritual capital → sustainability direct effect is plausible but is not assumed to be present or absent; its incremental value should be tested against the mediated account (Fry, 2003; Kolade et al., 2026; Duchek, 2020).

P5 (adaptive-only indirect pathway). Entrepreneurial adaptive capability is expected to mediate some associations between financial, human and social resources and later sustainability, even where spiritual capital is statistically controlled or does not mediate. Sensing, affordable experimentation and resource reconfiguration are the proposed behavioural links, with remaining direct effects permitted (Teece et al., 1997; Teece, 2007; Duchek, 2020).

P6 (conditional sequential indirect pathway). For at least some resource dimensions and settings, spiritual capital and adaptive capability are expected to transmit a sequential association—resources → spiritual capital → adaptive capability → sustainability—above any resource direct or adaptive-only routes. This prediction depends on P3 and P4 and may fail under severe structural constraints, rigid value interpretation or weak feedback. A statistically significant sequential indirect effect would support but not by itself prove causality (Kolade et al., 2026; Teece, 2007).

9.1 Alternative explanations

Reverse causality is credible: success can improve financing, network status, confidence and perceptions of meaning. Common dispositions, such as conscientiousness or proactive personality, may generate both reported spirituality and adaptation. Selection processes can also mean that established entrepreneurs have had more time to acquire networks. Prospective testing should address these explanations rather than infer causation from cross-sectional associations.

Operationalisation And Empirical Research Agenda

The proposed constructs require measures that distinguish resource availability, value-guided decision criteria, enacted adaptation and subsequent enterprise outcomes. Table 1 specifies domains but does not present validated scales. Prefer multi-item indicators with non-overlapping referents and time anchors; triangulate self-reports with dated records where feasible. Cognitive interviewing, expert content review and pilot testing in Bahasa Melayu (with translation/back-translation where needed) are necessary before formal model estimation.

Table 1: Proposed construct domains for future instrument development; not validated scales.

Construct	Indicative domains	Avoid conflating with
Financial	Financing access; cash buffer; budgeting and records	Revenue or enterprise success
Human	Market knowledge; management skills; idea generation	Innovation implementation
Social	Peer support; bridging ties; customer feedback	Customer satisfaction
Spiritual capital (illustrative)	Ethical consistency under pressure; purposeful reflection; constructive perseverance with willingness to revise	Faith identity; optimism; adaptation frequency; business success
Adaptive capability (illustrative)	Dated market monitoring; affordable response trials; documented reallocation after feedback	Generic proactivity; intention to innovate; continuity
Sustainability (illustrative)	Continued trading across waves; operating cash-flow sufficiency; repeat customers; shock recovery time	Short-term sales growth; subjective resilience

Illustrative item stems (subject to cognitive testing) are: spiritual capital—"When commercial pressure increases, I consider whether the choice accords with my business principles"; adaptive capability—"During the past three months, I tested a small operational change and revised it using customer or cost feedback"; sustainability—"The business met its operating obligations on time during the last three months." A subjective item should not substitute for corroborating objective data, nor should different time periods be pooled without justification.

10.0 Proposed falsification and robustness tests

A pre-specified analysis should compare at least four models: four-capital direct effects (Awang et al., 2025), adaptive-only resource mediation, parallel/partial mediation including independent spiritual paths, and sequential spiritual → adaptive mediation. Retain direct resource → sustainability paths to avoid forcing full mediation; test a separate spiritual → sustainability path and reverse-direction specifications as sensitivity analyses. Report effect sizes, bootstrap confidence intervals for each specific indirect path, model fit and out-of-sample prediction. Added complexity warrants adoption only where it improves discriminant and predictive performance.

Temporal ordering is a central limitation of any single-wave survey. A stronger design would measure resource availability and management routines at baseline, spiritual and adaptive constructs at an intermediate wave, and business continuity or recovery at follow-up. Objective corroboration could include business registration persistence, transaction records and customer retention where consent and data availability allow. Short qualitative interviews about a specific shock or failed decision could check whether purported values-guided adaptation reflects actual routines rather than aspirational survey responses.

10.1 Sampling and design

A prospective study could recruit owners of formal and informal urban microenterprises across Terengganu districts, stratifying by sector and locality where feasible. Prefer at least three waves: baseline resources, spiritual orientation, adaptive routines and prior performance (T1); values-guided enactment and observable adaptation (T2); and continuity, operating viability and disruption recovery (T3). Measuring both spiritual capital and adaptation at T1 and T2 permits baseline adjustment and stronger tests of reciprocal ordering. Time separation alone is insufficient for causal identification, and selection, attrition and unmeasured confounding remain concerns.

10.2 Measurement assessment and path estimation

Where survey-based structural equation modelling is used, item content should be screened for redundancy, then assessed for indicator reliability, composite reliability, convergent validity and discriminant validity. Structural evaluation should report confidence intervals for direct, indirect and sequential effects, predictive checks, collinearity and robustness to alternative specifications. Spirituality-specific questions should be optional, respectful and formulated without assuming that every owner shares the same belief tradition.

A defensible quantitative protocol would begin with cognitive interviews, expert review and pilot testing to establish whether items are understood consistently. If partial least squares structural equation modelling is justified by the model's prediction-oriented purpose, reporting should cover reliability, convergent validity, collinearity, path uncertainty and out-of-sample performance (Hair et al., 2019). The heterotrait–monotrait criterion can help examine whether spiritual capital and adaptive capability are empirically distinguishable (Henseler et al., 2015). Researchers should assess power before recruitment, preregister main comparisons where feasible and avoid interpreting a statistically significant indirect association as causal proof. Longitudinal attrition should be described and tested for systematic bias.

Spiritual-capital items should ask whether entrepreneurs apply ethical principles when under commercial pressure, evaluate long-term consequences before acting and remain purposeful while revising ineffective decisions; they should not reference religiosity by default, innovation frequency or survival. Adaptive-

capability items should ask how often the enterprise documented demand changes, conducted low-cost trials, modified a supplier/channel and used feedback to revise routines during a specified period. Sustainability indicators should use recorded months trading, operating cash-flow sufficiency, retained sales/customer ratios and recovery duration after an actual shock, with "not applicable" for firms experiencing no shock. Multisource measurement helps reduce common-method bias; spiritual, adaptive and sustainability indicators must not be recycled across constructs.

11. Interpretation, Policy Design and Practical Application

11.0 Policy relevance and limits of capital-only programmes

Implementation must differentiate between constraints that training can address and structural constraints that it cannot. A micro-entrepreneur may possess strong purpose, skill and social relationships yet still fail when rent, input prices or credit terms make operations unviable. Practical support should therefore combine basic cash-flow records, accessible digital tools, buyer connections, supplier diversification and mentoring, while tracking whether support improves continuity rather than merely course attendance. Evidence from a recent cross-country integrated capability model highlights technology adoption and financial literacy as elements worth testing jointly with organisational resources (Karsam et al., 2026). Such findings are informative rather than directly transferable to very small owner-managed businesses.

An ethical delivery model should invite reflection on fairness, trustworthiness and resilience without requiring or scoring religious participation. Agencies could offer optional culturally responsive reflection and mentoring alongside secular equivalents, protect sensitive beliefs from disclosure, and evaluate outcomes using equitable and independently relevant business indicators. The implication is not to rebrand religious practice as a government performance metric, but to recognise the role of meaning, ethics and coping while preserving inclusiveness and entrepreneurial autonomy.

11.1 Diagnosing intervention failure

The model proposes a staged diagnosis instead of prescribing the same bundle of support to every entrepreneur. First, establish whether the business lacks essential resources: liquidity, relevant knowledge or dependable networks. Second, examine whether choices are ethically and strategically considered. Third, test whether the owner can sense changes, experiment and redirect scarce resources. A programme addressing only the first stage may improve inputs without producing sustainable behaviour.

For financial interventions, appropriate performance measures include allocation quality, use of records, debt service capacity and the ability to maintain operating buffers. For training, measures should examine practice uptake rather than attendance or certificate counts. For networking, useful outcomes include referrals, access to diverse information and durable customer feedback channels. Each intervention should be evaluated against business continuity and adaptive responses, not only short-term sales. Programmes integrating financial literacy and human capability have also been discussed in IJRISS (Amirul et al., 2025).

11.2 Culturally responsive, voluntary values-based support

The Terengganu context motivates attention to moral commitment, trust and perseverance. However, public entrepreneurship support should not condition participation or eligibility on religious observance. Inclusive activities—ethical decision-making cases, reflective planning, customer fairness and responsibility under stress—can be framed as optional and relevant to owners with different worldviews. Such an approach respects context without asserting that spiritual capital is exclusive to one religious community.

11.3 Contribution to entrepreneurial theory

RBV explains what resource heterogeneity may enable; social capital theory explains how relational access operates; and dynamic capabilities explain how owners alter practices as environments shift. Spiritual capital

in this integration is neither an additional performance guarantee nor an obligatory belief variable. It is a hypothesised decision filter that may shape how resources are mobilised. This framing yields empirically separable pathways and creates an opportunity to distinguish mere resource accumulation from resilience-producing action.

11.4 Limits of generalisation

The model is context-informed rather than geographically exclusive. Its proposed mechanisms may apply beyond Terengganu, but effects may differ by sector, business formalisation, gendered care obligations, platform dependence or exposure to climate-related disruptions. Further work should compare urban and rural settings and assess whether the spiritual-capital mechanism has incremental explanatory value beyond established psychological and ethical constructs.

Policy transfers also requires attention to different starting conditions. An informal street vendor, a home-based service provider and a platform-dependent trader may face unequal access to records, networks and financial products even within the same locality. A standardised training package can therefore overinvest in knowledge where binding constraints are licensing, workspace or supplier dependence. Programme evaluation should document intervention costs and distributional effects alongside business outcomes, rather than declaring success based on average gains alone. Where spirituality or personal beliefs are discussed, participation should remain voluntary and distinct from eligibility decisions. These safeguards make the proposed framework potentially useful without imposing a single cultural interpretation of entrepreneurial success.

LIMITATIONS AND CONCLUSION

This is a conceptual synthesis, not an original field survey. Neither the six propositions nor the arrows in Figure 1 should be interpreted as statistically verified relationships. The source review's reported selection counts were not independently audited, and the argument relies on a purposive set of foundational and applied literature rather than an exhaustive 2026 search. Claims about spiritual capital require special care because constructs such as meaning, perseverance, ethical identity and religiosity can be correlated yet distinct. In addition, enterprise continuity may reflect favourable markets rather than superior capabilities. Recent studies are cited for conceptual grounding, not as direct statistical validation of this new framework (Amirul et al., 2025; Zahri et al., 2026).

Despite these limitations, the integrated model advances a precise research agenda: identify which resource classes matter, evaluate the ethical-motivational decision process, observe actual adaptation and measure sustainability at a later time. Competing models should be estimated, including direct-only paths and reverse-direction possibilities. Qualitative interviews may help clarify how decisions are narrated and enacted before a larger confirmatory study.

The article concludes that sustainable microenterprise development is best understood as a resource-to-action process. Finance, skills and social connections expand the range of choices; values-guided decision-making may shape how those choices are evaluated; and entrepreneurial adaptive capability translates feasible action into continuity under uncertainty. The distinctive contribution is therefore an empirically testable mechanism, rather than another assertion that four categories of capital are universally beneficial. For policy, this implies combining resource provision with applied learning, reliable market connections and inclusive ethical decision support while measuring long-run outcomes.

Declarations

This study is a conceptual review based on existing published literature and did not involve primary data collection or human participants; therefore, ethical approval and informed consent were not required. The authors declare no conflicts of interest, and the research received no external funding. All authors contributed to the manuscript and approved the final version for publication.

Prior-Work Transparency

This article draws conceptually on Awang et al. (2025), an already published four-capital framework, and a second supplied draft manuscript. The published article is cited explicitly. The new contribution lies in revised construct boundaries, adaptive-capability mediation, competing pathways, falsifiable propositions and a prospective testing protocol.

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