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Digital Innovation as A Strategic Capability for Transforming Social and Intellectual Capital into Sustainable Performance: Evidence From Indonesian Ultra-Micro (Umi)

Ahmad Yani¹, Ella Padillah², Ferial Fahmi Kadir³, Putri Julianti⁴

¹Sekolah Tinggi Manajemen Labora, Jakarta, ahmad_yani@labora.ac.id

²Sekolah Tinggi Manajemen Labora, Jakarta, nengdilla80@gmail.com

³Sekolah Tinggi Manajemen Labora, Jakarta, ferial13460@yahoo.com

⁴Sekolah Tinggi Manajemen Labora, Jakarta, putrijulianti25@gmail.com

Corresponding Author: ahmad_yani@labora.ac.id¹

Abstract: Ultra-micro enterprises represent the backbone of Indonesia's entrepreneurial ecosystem by generating employment opportunities, stimulating local economic activities, and supporting inclusive economic development. Despite their considerable contribution to national growth, many of these enterprises continue to struggle with organizational sustainability because of limited managerial capability, inadequate knowledge resources, weak collaborative networks, and uneven adoption of digital technologies. While previous studies have separately examined the influence of social capital, intellectual capital, or innovation on business outcomes, limited empirical attention has been devoted to understanding how these strategic resources interact through digital innovation to enhance sustainable performance among ultra-micro enterprises. This study develops an integrated structural model explaining the mechanism through which social and intellectual capital contribute to sustainable business performance by strengthening digital innovation capability. The proposed framework combines the Resource-Based View, Knowledge-Based View, and Dynamic Capability Theory to explain how internal organizational resources and external relational assets jointly generate long-term competitive advantage. Empirical evidence was obtained from 204 owners of ultra-micro culinary enterprises in Bekasi City, Indonesia. Respondents were selected using purposive sampling based on predetermined operational criteria. The proposed hypotheses were examined using Partial Least Squares Structural Equation Modeling (PLS-SEM) implemented in Smart PLS 4. The analysis demonstrates that both social capital and intellectual capital positively influence digital innovation while simultaneously exerting significant direct effects on sustainable performance. Digital innovation also contributes positively to organizational sustainability and partially mediates the relationships between organizational resources and business performance. Among all explanatory variables, intellectual capital exhibits the strongest influence on sustainable performance, highlighting the strategic importance of entrepreneurial knowledge, managerial competence, and organizational learning. These findings suggest that sustainable competitiveness among ultra-micro enterprises depends not only on access to strategic resources but also on the capability to transform those resources into continuous digital innovation. The study extends contemporary strategic management literature by integrating three complementary theoretical perspectives

into a unified explanatory framework and provides practical guidance for policymakers and entrepreneurship development institutions seeking to strengthen digital transformation within the ultra-micro sector.

Keywords: Ultra-Micro, Digital Innovation, Social Capital, Intellectual Capital; Sustainable Performance; Dynamic Capability.

INTRODUCTION

Micro-scale entrepreneurship has increasingly become a fundamental pillar of economic resilience in developing countries, particularly in economies where employment generation relies heavily on self-employment and informal business activities. Within this entrepreneurial landscape, Ultra-Micro (UMi) occupy a distinctive position because they absorb a substantial proportion of the labor force while simultaneously creating income opportunities for low- and middle-income households. Although these enterprises operate with limited financial and technological resources, their collective contribution to national economic development is considerable, making them an essential component of inclusive and sustainable growth strategies.

Indonesia represents one of the world's largest ecosystems of ultra-micro entrepreneurship. Millions of business owners operate in sectors such as culinary services, retail trade, agriculture, handicrafts, and household manufacturing, contributing significantly to employment creation and regional economic development. Government initiatives promoting financial inclusion, digital transformation, and entrepreneurship have accelerated the expansion of this sector during the last decade. Nevertheless, rapid growth has not always been accompanied by improvements in organizational capability, resulting in substantial differences in business sustainability among enterprises operating under similar market conditions.

The business environment surrounding ultra-micro has changed dramatically as digital technologies have become deeply embedded in commercial activities. Electronic commerce, mobile payment systems, cloud-based applications, artificial intelligence, and social networking platforms have transformed traditional business practices by enabling firms to interact with customers more efficiently, optimize operational processes, and expand market coverage beyond geographical boundaries. These technological developments have altered the sources of competitive advantage, shifting the emphasis from ownership of physical assets toward organizational capability, knowledge utilization, and innovation.

Although digital transformation creates significant opportunities, many ultra-micro enterprises experience considerable difficulty in translating technological opportunities into sustainable business performance. Limited managerial expertise, insufficient technological literacy, fragmented business networks, and restricted access to knowledge frequently reduce the effectiveness of digital adoption. Consequently, the success of digital transformation depends not only on technology availability but also on the organizational resources that enable entrepreneurs to recognize, adopt, and exploit technological opportunities.

Contemporary strategic management literature increasingly emphasizes the importance of intangible organizational resources in explaining differences in firm performance. Compared with physical assets, intangible resources are more difficult for competitors to imitate and therefore provide stronger foundations for sustainable competitive advantage. Two resources receiving particular scholarly attention are Social Capital and Intellectual Capital. These resources influence organizational learning, knowledge acquisition, innovation capability, and strategic decision-making, all of which become increasingly important in digitally competitive business environments.

Social Capital reflects the quality of interactions established among entrepreneurs and various external stakeholders, including customers, suppliers, financial institutions, government agencies, universities, and business communities. Trust-based relationships facilitate information exchange, collaborative problem solving, and access to external knowledge that would otherwise remain unavailable to resource-constrained enterprises. For ultra-micro businesses, social networks often compensate for financial limitations by providing opportunities to obtain market information, business partnerships, technological assistance, and entrepreneurial learning.

Meanwhile, Intellectual Capital represents the internal knowledge resources accumulated through managerial competence, employee capability, organizational routines, accumulated experience, and stakeholder relationships. Entrepreneurs possessing stronger intellectual capital are generally more capable of identifying market opportunities, adapting business models, integrating technological developments, and maintaining long-term organizational competitiveness. Consequently, intellectual capital is increasingly recognized as a strategic asset supporting business sustainability in knowledge-driven economies.

Despite the recognized importance of these resources, previous empirical studies provide inconsistent explanations regarding the mechanisms through which they influence organizational performance. Some studies report direct positive effects of social capital and intellectual capital on business performance, whereas others suggest that their influence becomes meaningful only when transformed into innovation capability. These inconsistencies indicate that additional explanatory mechanisms remain insufficiently explored, particularly within the context of ultra-micro enterprises operating in emerging economies.

Digital Innovation offers a promising explanation for this unresolved issue. Rather than being viewed simply as technological adoption, digital innovation represents an organizational capability through which firms redesign products, improve operational processes, strengthen customer relationships, and develop new business models using digital technologies. From this perspective, innovation functions as a strategic transformation process that converts organizational resources into sustainable business value. Therefore, digital innovation may explain why enterprises possessing comparable resources often exhibit substantially different levels of organizational performance.

The present research addresses this theoretical issue by proposing an integrated framework linking Social Capital, Intellectual Capital, Digital Innovation, and Sustainable Performance. The conceptual model combines three complementary theoretical perspectives. The Resource-Based View explains the strategic importance of valuable organizational resources. The Knowledge-Based View emphasizes knowledge as the primary source of organizational competitiveness. Dynamic Capability Theory explains how organizations continuously renew and reconfigure their resources to respond effectively to environmental change. Integrating these perspectives enables a more comprehensive explanation of sustainable competitiveness among ultra-micro.

This study also responds to several important gaps in existing literature. First, empirical investigations concerning ultra-micro enterprises remain considerably fewer than studies focusing on small and medium-sized enterprises, despite the former representing the largest entrepreneurial segment in many developing countries. Second, previous research frequently examines social capital, intellectual capital, and innovation independently, resulting in fragmented explanations regarding their collective contribution to business sustainability. Third, relatively limited attention has been devoted to understanding digital innovation as a mediating organizational capability that connects intangible resources with sustainable performance, particularly in the context of emerging economies undergoing rapid digital transformation.

To address these issues, empirical evidence was collected from 204 owners of culinary ultra-micro enterprises located in Bekasi City, Indonesia. The culinary sector provides an

appropriate research setting because it has experienced substantial digital transformation through online food delivery services, digital payment systems, social media marketing, and platform-based commerce. These characteristics allow a comprehensive examination of how entrepreneurs utilize organizational resources to strengthen digital innovation and sustain competitive performance.

The findings are expected to contribute to both academic development and managerial practice. Theoretically, this research advances strategic management literature by integrating the Resource-Based View, Knowledge-Based View, and Dynamic Capability Theory into a unified explanatory model applicable to ultra-micro. Practically, the results offer evidence-based recommendations for policymakers, entrepreneurship support institutions, financial organizations, and business practitioners seeking to strengthen digital capability, organizational learning, and collaborative business ecosystems as foundations for sustainable entrepreneurial development.

The sustainability of business organizations has increasingly been interpreted through the perspective of strategic resource management rather than through ownership of physical assets alone. As competitive environments become more dynamic and technology-driven, organizations derive long-term advantage from resources that are difficult to imitate, accumulate gradually through organizational experience, and continuously generate value. Such resources enable firms to respond to environmental uncertainty while simultaneously improving innovation capability and organizational resilience.

The Resource-Based View (RBV) provides the principal theoretical explanation for this perspective by arguing that organizational performance depends on the effective deployment of valuable, rare, inimitable, and non-substitutable resources (Barney, 1991). Within ultra-micro enterprises, these resources rarely consist of sophisticated technology or financial capital. Instead, they are embedded in entrepreneurial knowledge, interpersonal relationships, accumulated experience, organizational routines, and learning capability.

However, the possession of strategic resources alone does not necessarily guarantee sustainable performance. Their contribution depends on how effectively entrepreneurs mobilize and transform these resources into activities that create value under rapidly changing market conditions. This argument provides the foundation for examining the complementary roles of Social Capital, Intellectual Capital, and Digital Innovation within the proposed conceptual framework.

The growing importance of knowledge-intensive competition has encouraged researchers to extend the Resource-Based View through the Knowledge-Based View (KBV). This perspective considers knowledge to be the most critical organizational asset because it supports learning, innovation, strategic decision-making, and organizational adaptation. Unlike tangible resources, knowledge expands through utilization and collaboration, allowing organizations to create new value continuously.

Within entrepreneurial organizations, knowledge is reflected in managerial competence, business experience, technological understanding, organizational procedures, and accumulated learning obtained through interaction with customers and external stakeholders. Entrepreneurs capable of integrating these knowledge resources generally demonstrate stronger innovation capability and greater adaptability to environmental change.

For ultra-micro enterprises, intellectual resources become particularly important because financial limitations often prevent extensive investment in technology or infrastructure. Consequently, business sustainability depends largely on the entrepreneur's capability to acquire, integrate, and apply knowledge effectively. This theoretical perspective therefore supports the proposition that Intellectual Capital contributes both directly and indirectly to Sustainable Performance.

While RBV and KBV explain the strategic importance of organizational resources, they provide limited explanation regarding how these resources are continuously renewed to

maintain competitiveness within rapidly changing environments. This limitation is addressed by Dynamic Capability Theory (DCT), which emphasizes organizational capability to sense environmental changes, seize emerging opportunities, and reconfigure existing resources into new sources of competitive advantage.

Digital transformation represents one of the most significant organizational changes confronting contemporary enterprises. Technological development continuously alters customer expectations, competitive structures, and operational processes, requiring organizations to adapt more rapidly than ever before. Under these conditions, digital innovation becomes an expression of dynamic capability because it reflects the organization's capacity to redesign products, processes, services, and business models using digital technologies.

Within ultra-micro enterprises, digital innovation extends beyond the adoption of electronic payment systems or online marketing platforms. It encompasses the entrepreneur's ability to integrate digital technologies into strategic decision-making, customer relationship management, operational efficiency, and value creation. Consequently, digital innovation provides the organizational mechanism through which strategic resources are translated into sustainable business outcomes.

Social Capital represents the collective value generated through trust, collaboration, reciprocal relationships, and network participation among organizational actors. Rather than functioning merely as interpersonal interaction, social capital creates channels through which information, knowledge, and business opportunities circulate more efficiently. Entrepreneurs embedded within stronger collaborative networks gain broader access to technological information, market intelligence, financial resources, and institutional support.

These relational advantages become particularly important for ultra-micro enterprises because resource limitations frequently restrict independent technological development. Collaborative interaction enables entrepreneurs to compensate for these constraints by obtaining external knowledge that stimulates innovation and organizational learning.

Digital innovation is therefore expected to emerge more rapidly among enterprises possessing stronger social relationships because collaborative networks facilitate continuous knowledge exchange and reduce uncertainty associated with technological adoption.

H1: Social Capital positively influences Digital Innovation.

Intellectual Capital comprises the collective knowledge embedded within individuals, organizational systems, and external stakeholder relationships. Human competence, organizational routines, managerial expertise, and accumulated business experience collectively determine an organization's capability to recognize opportunities and implement innovation successfully.

Entrepreneurs possessing higher levels of intellectual capital generally demonstrate superior capability in evaluating market opportunities, integrating technological developments, and redesigning business processes. Consequently, organizations with stronger intellectual resources are expected to exhibit greater digital innovation capability than organizations relying primarily on physical resources.

H2: Intellectual Capital positively influences Digital Innovation.

Collaborative relationships influence organizational sustainability by facilitating access to external knowledge, business partnerships, and market opportunities. Strong business networks also improve organizational flexibility because entrepreneurs can respond more effectively to environmental uncertainty through collective learning and mutual support.

Within ultra-micro enterprises, where access to formal institutional support remains limited, social capital frequently substitutes for financial resources by enabling entrepreneurs to acquire valuable information and develop strategic cooperation. Therefore, stronger social capital is expected to improve long-term organizational performance.

H3: Social Capital positively influences Sustainable Performance.

Business sustainability increasingly depends on organizational learning rather than on physical resource accumulation. Entrepreneurs possessing stronger managerial competence, greater technological understanding, and more effective organizational systems are generally capable of improving productivity, customer satisfaction, and competitive positioning.

Intellectual Capital therefore represents a strategic resource supporting continuous organizational improvement and sustainable growth.

H4: Intellectual Capital positively influences Sustainable Performance.

Digital Innovation enables organizations to improve operational efficiency, expand market access, strengthen customer engagement, and increase organizational adaptability. Rather than producing isolated technological improvements, digital innovation transforms organizational processes into more flexible and customer-oriented systems capable of responding rapidly to environmental change.

Consequently, enterprises demonstrating stronger digital innovation capability are expected to achieve higher levels of sustainable organizational performance.

H5: Digital Innovation positively influences Sustainable Performance.

The proposed conceptual framework assumes that organizational resources generate their greatest strategic value after being transformed into innovative organizational capability. Social relationships provide access to external knowledge, while intellectual resources strengthen organizational learning. Digital Innovation subsequently converts these resources into measurable business outcomes through technological integration and organizational transformation.

Accordingly, Digital Innovation is expected to function as the strategic mechanism linking Social Capital and Intellectual Capital with Sustainable Performance.

H6: Digital Innovation mediates the relationship between Social Capital and Sustainable Performance.**H7: Digital Innovation mediates the relationship between Intellectual Capital and Sustainable Performance.****METHOD**

Based on the integration of the Resource-Based View, Knowledge-Based View, and Dynamic Capability Theory, the conceptual model proposes that Social Capital and Intellectual Capital represent foundational strategic resources. Their influence on Sustainable Performance occurs through both direct pathways and indirect pathways operating via Digital Innovation, which functions as the organizational capability responsible for converting intangible resources into sustainable competitive advantage.

This study adopted a theory-testing quantitative design to evaluate the structural relationships proposed in the conceptual framework. The research was intended to explain how intangible organizational resources contribute to sustainable business performance through digital innovation capability. Rather than describing business conditions, the study sought to verify theoretically derived causal relationships among latent constructs by applying multivariate statistical analysis.

Because the proposed framework simultaneously involved multiple direct and indirect relationships, a cross-sectional explanatory survey was considered the most appropriate research strategy. Data were collected at a single period from business owners actively

operating ultra-micro enterprises, allowing the structural model to capture organizational capability under existing market conditions.

The empirical investigation was conducted in Bekasi City, West Java, Indonesia, where the culinary industry represents one of the fastest-growing ultra-micro business sectors. The rapid expansion of online food delivery services, electronic payment systems, digital promotion through social media, and platform-based commerce has significantly transformed business practices within this sector. Consequently, culinary entrepreneurs provide an appropriate setting for examining organizational capability in an increasingly digital business environment.

The target population consisted of 209,714 registered ultra-micro culinary, based on official regional government statistics.

The number of respondents required for statistical estimation was determined using the Taro Yamane sampling approach with a 7% sampling error. The calculation indicated that 204 business owners were sufficient to represent the target population while providing adequate statistical power for structural equation modeling.

Rather than selecting respondents randomly, the study implemented purposive sampling to ensure that participants possessed practical experience relevant to the research objectives. Only entrepreneurs satisfying predefined operational criteria were included in the analysis.

The eligibility requirements were established as follows: • the enterprise fulfilled the Indonesian government's classification of an Ultra-Micro Enterprise, • business operations had been maintained for a minimum of two consecutive years, • daily managerial decisions were made directly by the owner, • digital technology had already been incorporated into at least one business function, including marketing, sales transactions, customer communication, or payment activities.

These selection criteria ensured that respondents possessed sufficient knowledge to evaluate the organizational capabilities investigated in this study.

The empirical model comprised four latent constructs measured using reflective indicators.

Social Capital represents entrepreneurs' collaborative relationships with customers, suppliers, business communities, government institutions, and other external stakeholders. The construct captures networking intensity, mutual trust, reciprocal cooperation, and knowledge-sharing practices that facilitate organizational learning.

Intellectual Capital reflects organizational knowledge resources embedded in entrepreneurial competence, accumulated experience, organizational systems, managerial capability, and external relationships. These resources provide the cognitive foundation supporting organizational adaptability and innovation.

Digital Innovation refers to the capability to integrate digital technologies into products, operational activities, customer engagement, and managerial processes to improve organizational effectiveness and competitiveness.

Sustainable Performance describes long-term organizational achievement measured through business continuity, customer satisfaction, competitive positioning, organizational resilience, adaptability, and sustainable growth.

Each construct was operationalized using multiple indicators adapted from internationally established measurement instruments and refined to reflect the characteristics of Indonesian ultra-micro enterprises.

Responses were recorded using a five-point Likert measurement scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree").

A Likert scale was selected because it enables respondents to express their perceptions consistently while facilitating the estimation of latent variables through structural equation modeling.

Before large-scale data collection, the questionnaire underwent several refinement stages to improve conceptual clarity, linguistic consistency, and measurement accuracy.

Primary information was obtained through structured questionnaires distributed directly to business owners between January and March 2025.

Prior to the main survey, the instrument was evaluated through expert assessment involving specialists in strategic management, entrepreneurship, and quantitative research methodology. Recommendations obtained during this process were incorporated to strengthen content validity and improve item wording.

A pilot survey involving a limited number of entrepreneurs was subsequently conducted to examine instrument reliability, readability, and respondent understanding before full implementation.

Participation was voluntary, and respondents were informed that all information would remain confidential and would be used exclusively for academic research.

The proposed structural model was estimated using Partial Least Squares Structural Equation Modeling (PLS-SEM) implemented in SmartPLS Version 4.

PLS-SEM was selected because the analytical objective emphasized prediction and theory development rather than covariance reproduction. In addition, the technique performs well when evaluating complex structural relationships involving multiple latent variables measured through reflective indicators.

Following current methodological recommendations, the analysis proceeded through two consecutive stages.

Measurement Model Assessment

The first stage evaluated the psychometric quality of the measurement model.

The following criteria were examined: • standardized indicator loadings, • Composite Reliability, • Cronbach's Alpha, • Average Variance Extracted (AVE), • Fornell-Larcker Criterion, • Heterotrait-Monotrait Ratio (HTMT), • Variance Inflation Factor (VIF).

Only constructs satisfying internationally accepted threshold values were retained for structural estimation.

After confirming measurement quality, the structural relationships proposed in the conceptual framework were estimated.

Model evaluation included: • coefficient of determination (R^2), • predictive relevance (Q^2), • effect size (f^2), • Standardized Root Mean Square Residual (SRMR), • hypothesis testing using the bootstrapping technique with 5,000 resampling iterations.

The statistical significance of each hypothesis was determined using a 95% confidence level, where path coefficients were considered significant when t-values exceeded 1.96 and probability values were below 0.05.

RESULTS AND DISCUSSION

The empirical investigation involved 204 owners of ultra-micro culinary enterprises operating in Bekasi City. Every participant fulfilled the eligibility requirements established during the sampling process, including active business operation for at least two years and the utilization of digital technology in one or more business activities. The completed questionnaires were screened before analysis, and all observations met the requirements for inclusion in the structural model.

The respondent profile illustrates the characteristics of Indonesian ultra-micro entrepreneurs operating within an increasingly digital business environment. Most respondents were in the economically productive age group and possessed several years of entrepreneurial

experience. Although educational attainment varied, the majority had accumulated practical knowledge through continuous business operation. These characteristics indicate that respondents were capable of providing reliable assessments of organizational resources, innovation practices, and business performance.

The enterprises included in this study primarily relied on owner-managed decision-making and relatively limited organizational resources. Nevertheless, almost all respondents had introduced digital practices into daily operations, including online promotion, electronic payment systems, social media marketing, and digital communication with customers. These conditions provide an appropriate empirical context for evaluating the strategic role of digital innovation.

Before examining the proposed structural relationships, the quality of the measurement instruments was assessed to ensure that every construct accurately represented the intended theoretical concepts.

Indicator reliability was examined through standardized factor loadings. All observed indicators demonstrated loading values exceeding the commonly accepted threshold, indicating that each indicator adequately reflected its respective latent construct. Consequently, none of the measurement items required elimination during model refinement.

The reliability of each construct was subsequently assessed using Cronbach's Alpha and Composite Reliability. The statistical results confirmed satisfactory internal consistency because every construct exceeded the recommended minimum values. Likewise, convergent validity was supported through Average Variance Extracted (AVE), demonstrating that each construct explained more than half of the variance represented by its indicators.

Discriminant validity was evaluated using both the Fornell-Larcker Criterion and the Heterotrait-Monotrait Ratio (HTMT). The findings indicate that every construct remained empirically distinguishable from the others, confirming that the measurement model possessed satisfactory psychometric properties. Overall, the measurement assessment demonstrates that the research instrument provides an appropriate basis for testing the structural relationships proposed in the conceptual framework.

After establishing measurement quality, the structural model was estimated to evaluate the explanatory capability of the proposed framework.

The model exhibited substantial predictive power. The coefficient of determination indicates that Social Capital and Intellectual Capital jointly account for 91.6% of the variance in Digital Innovation. Furthermore, the combined influence of Social Capital, Intellectual Capital, and Digital Innovation explains 96.9% of the variation in Sustainable Performance.

These results suggest that the proposed conceptual framework captures the dominant organizational factors influencing sustainable business performance among ultra-micro enterprises. The high explanatory power further indicates that the integration of organizational resources with digital capability provides a robust explanation of business sustainability within the research context.

Additional evaluation of predictive relevance and model fit also demonstrated that the estimated structural model adequately represented the observed data. Collectively, these findings support the suitability of the proposed framework for hypothesis testing.

The significance of the proposed relationships was evaluated using the bootstrapping procedure with 5,000 resampling iterations.

The empirical estimates demonstrate that every hypothesized direct relationship is statistically supported. The analysis confirms that Social Capital exerts a positive influence on Digital Innovation, indicating that entrepreneurs possessing broader collaborative networks are more capable of implementing digital business practices. Similarly, Intellectual Capital significantly strengthens Digital Innovation, suggesting that managerial knowledge and organizational learning facilitate technological transformation.

The direct relationships with Sustainable Performance also proved statistically significant. Both Social Capital and Intellectual Capital contributed positively to organizational sustainability, while Digital Innovation independently enhanced long-term business performance. These findings indicate that sustainable competitiveness originates from the combined influence of collaborative relationships, organizational knowledge, and digital capability rather than from any single organizational resource.

Beyond the direct effects, the proposed mediating relationships were also evaluated.

The statistical estimates demonstrate that Digital Innovation partially mediates the influence of Social Capital on Sustainable Performance. A comparable mediation pattern was identified for the relationship between Intellectual Capital and Sustainable Performance. These findings indicate that organizational resources influence business sustainability through two complementary pathways. First, they directly strengthen organizational performance. Second, they indirectly improve performance by enhancing digital innovation capability. Consequently, Digital Innovation operates as the organizational mechanism through which intangible resources generate greater strategic value.

The empirical evidence suggests that sustainable competitiveness among ultra-micro enterprises cannot be explained solely by technological adoption or by the possession of organizational resources independently. Instead, competitive advantage emerges through the interaction between collaborative relationships, knowledge resources, and the organization's ability to transform these resources into digital innovation.

The positive relationship between Social Capital and Digital Innovation indicates that business networks function as channels through which entrepreneurs gain access to external knowledge, technological information, and collaborative learning opportunities. Trust-based interaction therefore facilitates organizational adaptation by reducing uncertainty associated with digital transformation.

The findings also demonstrate that Intellectual Capital represents the most influential determinant of Sustainable Performance. This result emphasizes the importance of entrepreneurial competence, accumulated knowledge, and organizational learning as strategic resources supporting long-term competitiveness. In resource-constrained enterprises, intellectual capability appears to compensate for limited financial and technological assets by improving decision quality and innovation capacity.

The mediating role of Digital Innovation provides additional insight into how organizational resources generate business value. Rather than producing superior performance automatically, Social Capital and Intellectual Capital first strengthen innovation capability, which subsequently enhances organizational sustainability. This finding highlights the strategic importance of continuously integrating digital technology into business processes, customer interaction, and operational management.

From a theoretical perspective, the empirical model demonstrates that the Resource-Based View, Knowledge-Based View, and Dynamic Capability Theory complement one another in explaining organizational sustainability. Resource-Based View explains the strategic significance of intangible assets; Knowledge-Based View emphasizes knowledge creation and utilization; while Dynamic Capability Theory clarifies the organizational processes through which these resources are continuously reconfigured to respond to environmental change. Together, these perspectives provide a comprehensive explanation of sustainable competitiveness among Indonesian ultra-micro enterprises.

The empirical evidence demonstrates that organizational sustainability within ultra-micro enterprises is more accurately explained by the interaction of intangible resources than by the availability of financial or physical assets. Although resource constraints characterize most ultra-micro businesses, the findings suggest that enterprises possessing stronger relational and knowledge-based capabilities consistently achieve superior long-term performance.

This observation reinforces the argument that competitive advantage in small-scale entrepreneurship increasingly originates from organizational quality rather than organizational size. Business sustainability therefore depends on the entrepreneur's capability to mobilize existing resources, develop collaborative relationships, and continuously acquire knowledge capable of supporting innovation.

Rather than functioning independently, Social Capital and Intellectual Capital complement one another by creating conditions that encourage organizational adaptation. External relationships expand access to information, whereas internal knowledge enables entrepreneurs to interpret and apply that information strategically. The interaction between these resources explains why enterprises operating within similar economic environments frequently demonstrate different levels of competitiveness.

One of the most important findings concerns the strategic meaning of Digital Innovation. The empirical model indicates that digital innovation should not be interpreted simply as the implementation of technological tools. Instead, it represents an organizational capability through which business owners redesign operational activities, improve customer interaction, strengthen marketing effectiveness, and develop new approaches to value creation.

This interpretation broadens conventional perspectives that frequently associate digital innovation with technology investment alone. Within ultra-micro enterprises, technological devices provide limited strategic benefit unless accompanied by managerial capability, organizational learning, and effective knowledge utilization.

Accordingly, digital innovation emerges as a continuous organizational process rather than as an isolated technological event. Entrepreneurs demonstrating stronger innovation capability are therefore better prepared to respond to changing customer preferences, market uncertainty, and technological disruption.

The significant influence of Social Capital on Digital Innovation highlights the importance of collaborative ecosystems in supporting entrepreneurial development. Business networks provide entrepreneurs with opportunities to exchange practical experience, access new market information, identify technological opportunities, and obtain institutional support unavailable through internal resources alone.

For ultra-micro, where financial limitations often restrict investment in research and development, collaborative relationships become an alternative mechanism for acquiring strategic knowledge. Trust-based interaction encourages entrepreneurs to share practical solutions, reduce uncertainty associated with technological adoption, and accelerate organizational learning.

These findings suggest that strengthening entrepreneurial ecosystems may produce greater long-term impact than isolated financial assistance because collaborative environments simultaneously stimulate innovation capability and organizational resilience.

Among the explanatory variables incorporated into the conceptual framework, Intellectual Capital exhibits the strongest contribution to Sustainable Performance. This result demonstrates that entrepreneurial competence remains the principal determinant of organizational success within resource-constrained enterprises.

Knowledge accumulated through managerial experience, continuous learning, and organizational routines enables entrepreneurs to recognize emerging opportunities while responding effectively to competitive pressure. Such capability becomes increasingly important as business environments grow more dynamic and technologically intensive.

From a strategic perspective, Intellectual Capital performs two complementary functions. First, it directly strengthens organizational performance through improved managerial decision-making. Second, it enhances Digital Innovation by facilitating the integration of technological knowledge into operational activities. Consequently, investments in entrepreneurial capability produce long-term benefits extending beyond immediate productivity improvements.

The mediation analysis offers a more comprehensive explanation of organizational sustainability by demonstrating that Digital Innovation functions as the mechanism linking organizational resources with business performance.

This finding indicates that neither Social Capital nor Intellectual Capital independently generates maximum organizational value. Their contribution becomes substantially greater after being translated into innovative organizational capability capable of improving operational efficiency, customer engagement, and business adaptability.

The proposed framework therefore shifts attention from resource possession toward resource transformation. Sustainable competitiveness depends less on what organizations own than on how effectively they convert existing resources into innovation-driven organizational capability.

CONCLUSION

The present study demonstrates that sustainable competitiveness among ultra-micro enterprises is fundamentally influenced by the effective utilization of intangible organizational resources rather than by financial capacity or ownership of physical assets. The empirical evidence confirms that both Social Capital and Intellectual Capital constitute strategic resources capable of enhancing organizational sustainability through complementary pathways. Their influence is manifested directly in business performance while simultaneously strengthening Digital Innovation, which serves as the organizational capability transforming strategic resources into sustainable value creation.

The results further reveal that Intellectual Capital represents the strongest determinant of Sustainable Performance. Entrepreneurial competence, accumulated knowledge, organizational learning, and managerial capability collectively provide the foundation for continuous adaptation within increasingly dynamic and technology-oriented business environments. Meanwhile, Social Capital expands organizational access to external knowledge, collaborative opportunities, and institutional support that stimulate innovation and strengthen business resilience.

An equally important finding concerns the mediating function of Digital Innovation. Rather than operating solely as an outcome of organizational capability, digital innovation functions as the strategic mechanism through which knowledge resources and collaborative relationships are translated into improved organizational performance. This perspective positions digital innovation as an organizational transformation capability rather than merely as technological adoption.

Collectively, these findings suggest that sustainable business development within ultra-micro enterprises requires an integrated approach combining knowledge development, collaborative networking, and continuous digital transformation. Competitive advantage therefore emerges from the organization's capability to convert intangible resources into innovative organizational practices that remain responsive to changing market conditions.

This research advances strategic management literature by integrating the Resource-Based View (RBV), Knowledge-Based View (KBV), and Dynamic Capability Theory (DCT) into a unified explanatory framework describing sustainable competitiveness within ultra-micro.

Unlike previous studies that frequently examine organizational resources independently, the present framework demonstrates that Digital Innovation functions as the organizational capability connecting strategic resources with sustainable organizational outcomes. Consequently, competitive advantage is interpreted as a dynamic transformation process rather than a static consequence of resource ownership.

Furthermore, the research expands empirical understanding of ultra-micro enterprises, a business segment that has received considerably less scholarly attention than small and

medium-sized enterprises despite its substantial contribution to employment generation and inclusive economic development.

The empirical findings provide several practical implications for entrepreneurs operating ultra-micro enterprises.

Business owners should prioritize continuous capability development alongside technology adoption. Investments in entrepreneurial learning, managerial competence, digital literacy, and organizational knowledge create stronger foundations for sustainable competitiveness than technology acquisition alone.

Developing collaborative relationships with suppliers, customers, business associations, universities, financial institutions, and government agencies should also become an integral component of business strategy because these networks facilitate knowledge exchange, innovation, and market expansion.

Digital transformation initiatives should therefore be approached as organizational development programs rather than isolated technological investments. Organizations capable of integrating technology into strategic decision-making are more likely to achieve sustainable long-term performance.

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