



Sustainable Entrepreneurship Learning for Culinary MSMEs: Exploratory and Exploitative Learning Perspectives in Indonesia

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Abstract. Micro, Small, and Medium Enterprises (MSMEs) are the backbone of the Indonesian economy; however, they face complex challenges in sustainability. This research examines the role of entrepreneurship education, focusing on the exploratory and exploitative dimensions, in driving the sustainable performance of culinary MSMEs in Indonesia. By integrating Dynamic Capabilities theory, Organizational Learning, and the Resource-Based View, we developed a conceptual model that positions learning as the primary foundation for resilience and competitiveness. Exploratory learning, which focuses on innovation and the search for new opportunities, is considered essential for adaptation. Meanwhile, exploitative learning, which emphasizes efficiency and incremental improvement, is crucial for operational stability. This study argues that ambidexterity, the ability to balance both types of learning, can be a core factor for the sustainability of MSMEs. These conceptual findings contribute theoretically by bridging the literature from developed markets to developing country contexts and offer practical implications for entrepreneurs and policymakers in designing more holistic growth strategies. This research calls for empirical validation to strengthen the understanding of learning dynamics within the MSME ecosystem in Indonesia.

Keywords: Entrepreneurship Learning, Exploratory Learning, Exploitative Learning, Sustainable Performance, MSMEs, Indonesia

1 Introduction

Micro, Small, and Medium Enterprises (MSMEs) are the main pillar of the Indonesian economy, contributing 61.07% to the Gross Domestic Product (GDP) and employing 97% of the national workforce [1]. In the culinary sector, MSMEs are not only drivers of the local economy but also guardians of the region's culinary cultural heritage. The city of Semarang, with its diverse culinary ecosystem, serves as an important representation of the dynamics of culinary MSMEs in Indonesia.

However, the sustainability of culinary MSMEs faces complex challenges. Increasingly fierce competition, the penetration of digital platforms, and changing consumer behavior demand rapid adaptation [2]. Other barriers include limited access to models, technology, and managerial knowledge, which restricts innovation capacity [3]; [4]. The COVID-19 pandemic has widened the digital divide, highlighting the differences between SMEs that successfully adapt to technology and those that remain behind.

In addition, MSMEs are also required to respond to global demands for sustainable business practices that encompass economic, social, and environmental dimensions in accordance with the triple bottom line [5]; [6]; [7]. This requires a transformation toward more holistic and adaptive businesses. In this context, entrepreneurial learning is considered a critical determinant that enables MSMEs to develop dynamic capabilities for sensing and navigating

uncertainty [8].

Despite its potential, the literature still indicates a research gap. Most studies on entrepreneurial learning focus on large companies in developed countries, while exploration of SMEs in emerging economies is relatively limited [9]; [10]. More specifically, understanding the role of explorative and exploitative learning with a sustainability performance perspective. By focusing on the context of MSMEs in Semarang, this study aims to make a theoretical contribution to the entrepreneurship literature while offering practical insights for entrepreneurs, policymakers, and support institutions.

The paper's structure is systematically organized: the literature review section presents a synthesis of theories related to entrepreneurial learning and sustainability performance, followed by the development of a conceptual model and the formulation of research propositions. Subsequently, the paper explores the theoretical and practical implications of the developed framework, concluding with a future research agenda for empirical validation and further development.

2 Literature Review and Theoretical Foundation

2.1 Entrepreneurial Learning

Entrepreneurial learning is understood as a process of developing knowledge, skills, and competencies that enable business owners to respond to the complexities of the business environment. This process encompasses both individual and organizational capabilities. Individual capabilities refer to the integration of knowledge, skills, experience, and competencies that enable entrepreneurs to face unexpected challenges, including sense-making and adaptive learning abilities [11]; [12]. Meanwhile, organizational capabilities emphasize the collective ability to integrate member knowledge and build a culture of collaboration and innovation in a dynamic market environment [13]; [14]. Thus, individual and organizational capabilities are complementary foundations in supporting sustainable transformation [15].

The two main forms of learning in the context of entrepreneurship are explorative learning and exploitative learning. Exploratory learning encompasses activities such as searching, experimenting, and innovating to discover new opportunities. This process involves experiential learning and inference, which has been shown to enhance creativity and innovation [16]; [17]. However, excessive exploration can lead to *local optima* traps, necessitating appropriate time management strategies [18]; [19].

Conversely, exploitative learning focuses on refining and improving efficiency, making incremental enhancements to existing processes. This strategy emphasizes incremental learning to improve performance and minimize complexity [20]; [21]. In the context of innovation, exploitation helps organizations maintain a competitive edge through efficiency and process optimization [22]; [23]. Therefore, the balance between exploration and exploitation is key to the success of entrepreneurial learning.

2.2 Sustainability of MSMEs Performance

The sustainability performance of Micro, Small, and Medium Enterprises (MSMEs) can be reviewed through the Triple Bottom Line (TBL) perspective, which includes economic viability, social responsibility, and environmental resilience. Research highlights that MSMEs play a crucial role in advancing sustainable product innovation, where social and environmental considerations are equally important alongside economic performance [24]. Lean management practices have also been proven to strengthen social and environmental performance while improving the effectiveness of sustainable management [25].

Additionally, the circular economy framework emphasizes the social role in achieving sustainability goals, particularly for MSMEs in developing countries [26]. The application of Industry 4.0 technology in the MSME supply chain also strengthens sustainability integration through human, process, and technology aspects [27]. Nevertheless, a critical analysis reveals persistent disparities in research focus, particularly the lack of attention to the social dimension [28]. In the context of Indonesian cuisine, MSMEs not only support the local economy by creating jobs but also play a role in preserving culinary cultural heritage and building social resilience within the community.

2.3 Entrepreneurial Learning and MSMEs Performance

The relationship between entrepreneurial learning and the sustainable performance of MSMEs can be explained through three main theoretical foundations: Dynamic Capabilities Theory, Organizational Learning Theory (OLT), and the Resource-Based View (RBV). First, Dynamic Capabilities Theory highlights that entrepreneurial learning ability represents an organization’s capacity to integrate, build, and reconfigure internal and external competencies to adapt to rapid environmental changes [8]; [29]. For culinary MSMEs with limited resources, this capability becomes crucial for adapting to market demands and creating innovation in relatively constrained conditions. Information can be found in the Table 1.

TABLE 1. Theoretical Relevance to Culinary MSMEs (Food & Beverage)

Theory	Core Concept	Relevance to Culinary MSMEs	References
<i>Dynamic Capability Theory</i>	The capacity to integrate, build, and reconfigure internal and external competencies to remain responsive to environmental changes.	Supports culinary MSEM in adapting to shifts in consumer trends, product innovation, and the competitive dynamics of local markets.	Teecce [8]; Teece et al. [29]
<i>Organizational Learning Theory</i>	The process of acquiring, distributing, interpreting, and storing knowledge within an organization.	Enables culinary MSMEs to enhance knowledge through explorative learning (e.g., menu innovation, digital marketing) and explorative learning (e.g., operational efficiency, cost control).	Huber [30]; Argyris & Schön [31]
<i>Resource-Based View (RBV)</i>	Competitive advantage arises from resources that are valuable, rare, inimitable, and non-substitutable (VRIN resources).	Entrepreneurial learning is viewed as a strategic resource that contributes to differentiation, preserves the uniqueness of culinary flavours, and fosters consumer loyalty.	Barney [32]

Second, Organizational Learning Theory explains that organizational learning encompasses the process of knowledge acquisition, information distribution, interpretation, and storage in organizational memory [30] ; [31]. In practice, culinary MSMEs leverage both exploratory and exploitative behaviors to strengthen their knowledge base while simultaneously improving operational effectiveness. Third, the Resource-Based View (RBV) asserts that sustainable competitive advantage arises from resources that are valuable, rare, inimitable, and non-substitutable [32]. In this context, entrepreneurial learning can be viewed as a strategic resource that enables MSMEs to build unique capabilities to survive and thrive in the competitive culinary market. Some of this literature suggests that entrepreneurial learning through a combination of exploration and exploitation, when integrated with sustainability principles, will strengthen competitiveness while ensuring the sustainability of culinary MSME performance in Semarang and other developing regions.

3 Research Methodology

This research develops a conceptual framework linking entrepreneurship education to sustainable performance in culinary MSMEs by integrating Dynamic Capabilities Theory, Organizational learning Theory, and Resource-based View. The methodology involves four phases: systematic literature review of 32 academic sources (2010-2025). Theoretical framework development, conceptual model construction with two independent variables (exploratory and exploitative learning) and one dependent variable (sustainable performance measured via triple bottom line), and proposition development for future testing. The study recommends empirical validation through Structural Equation modeling with 200-300 culinary MSMEs in Semarang, acknowledging limitations including lack of empirical validation, context-specific focus, and inability to capture temporal dynamics, while suggesting future research should include rigorous testing, comparative studies, and longitudinal designs.

3.1 Conceptual Model And Propositions

Conceptual Research Framework. Based on the literature review conducted, this research presents a conceptual model that links entrepreneurship education with the sustainability of culinary MSME performance. This conceptual model is built upon the integration of three main theories. Dynamic Capabilities Theory, Organizational Learning Theory, and the Resource-Based View (RBV). The conceptual framework of the research can be seen in Figure 1 below:

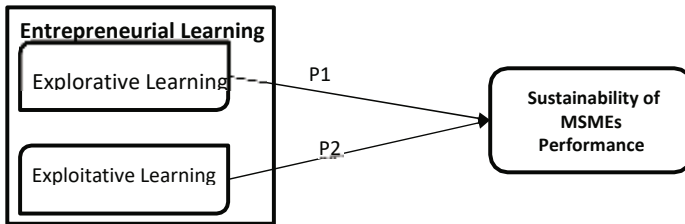


FIGURE 1. Conceptual Model of Entrepreneurship Learning and MSMEs Performance Sustainability

This conceptual model highlights the relationship between exploratory and exploitative learning as dimensions of learning of entrepreneurs and the sustainability of MSME performance, viewed through the triple bottom line perspective (economic, social, and environmental). Exploratory learning entails activities such as searching, experimenting, and innovating, enabling MSMEs to discover new opportunities and develop innovative capabilities.

Development of Research Propositions. Based on the developed conceptual framework and relevant literature support, this study proposes two main propositions:

1. *Proposition 1 (P1): Exploratory learning influences the sustainability of MSME performance*

Exploratory learning enables culinary MSMEs to identify new market opportunities, develop innovative products, and create creative solutions for operational challenges. Through search and experimentation activities, MSMEs can develop dynamic capabilities that enable them to adapt to changes in the business environment [16]. In the context of sustainability, exploratory learning facilitates the development of more environmentally friendly business practices, sustainable product innovation, and business models that are responsive to societal needs [17].

2. *Proposition 2 (P2): Exploitative learning influences the sustainability of MSME performance*

Exploitative learning enables culinary MSMEs to optimize the use of limited resources by improving operational processes and increasing efficiency. Focusing on incremental improvements helps MSMEs achieve economic performance stability, which is the foundation of business sustainability [22]. Additionally, exploitative learning also contributes to waste reduction, energy consumption optimization, and product quality improvement, ultimately supporting the environmental and social aspects of sustainability [23].

Ambidexterity in Entrepreneurship Learning. The balance between exploratory and exploitative learning, known as organizational ambidexterity, is a crucial key to the long-term resilience of MSMEs. Research shows that organizations capable of simultaneously managing both types of learning will have a sustainable competitive advantage [8]. In the context of culinary MSMEs, ambidexterity allows them to remain innovative in the face of rapidly changing market dynamics, while maintaining the operational efficiency necessary to survive in limited resource conditions.

The main challenge for MSMEs is the optimal allocation of resources between exploratory and exploitative activities. Limited resources require MSMEs to make the right strategic choices in determining their learning focus. Therefore, the ability to achieve a dynamic balance between exploration and exploitation becomes a critical determinant for the long-term sustainability of MSME performance.

The conceptual model developed in this study provides a theoretical contribution by integrating learning, entrepreneurship, and performance sustainability perspectives within the context of MSMEs. Practically, this model can serve as a guide for culinary MSME actors in developing learning strategies that support their business sustainability amidst complex and uncertain environmental dynamics.

3.2 IMPLICATIONS OF THE STUDY

Theoretical Contributions. This study contributes by offering a fresh perspective on entrepreneurial learning in emerging markets, particularly Indonesia. Unlike previous research that has largely focused on large enterprises in developed economies, it examines the dynamics of learning within micro, small, and medium-sized enterprises (MSMEs). These enterprises operate under unique conditions, including limited resources, restricted access to technology, and distinct structural challenges.

The primary contribution of this study lies in advancing the understanding of exploratory and exploitative learning operations within a context that differs from the prevailing mainstream literature. In emerging markets, small and medium-sized enterprises (MSMEs) often confront high levels of environmental uncertainty, inadequate infrastructure, and limited access to financial and technological resources. These conditions create distinctive learning dynamics in which adaptability and the ability to learn from constraints become essential for both survival and growth.

This research further integrates the triple bottom line perspective (economic, social, and environmental) dimensions with the operational realities of culinary MSMEs, which exhibit unique characteristics such as strong ties with local communities, reliance on locally sourced ingredients, and a direct contribution to preserving culinary heritage. The sustainability model for culinary MSMEs underscores process innovation, the strategic utilization of local resources, and the active empowerment of communities.

Practical Implications. This research provides actionable insights for MSME entrepreneurs, policymakers, and business support institutions by translating the theoretical framework into concrete implementation strategies for real-world settings.

Guidelines for MSMEs Entrepreneurs. The framework guides entrepreneurs in developing balanced learning strategies through strategic learning allocation (adjusting the exploratory-exploitative balance based on market conditions), practical learning mechanisms (implementing monthly customer feedback sessions, quarterly menu innovations, weekly operational reviews, and standardized procedures), building dynamic capabilities (sensing market changes, seizing opportunities quickly, and maintaining organizational flexibility), and integrating sustainability through the triple bottom line approach covering economic management, social responsibility, and environmental practices.

Real-World Application Example. A small traditional Indonesian restaurant in Semarang can apply this framework by combining exploitative learning (standardizing signature dish recipes, implementing inventory management to reduce 20% waste, training staff for consistent service) with exploratory learning (modernizing traditional dish presentations for social media appeal, testing online ordering systems, developing fusion menu items for younger customers) while maintaining ambidexterity by preserving core traditional offerings alongside innovative elements that balance cultural heritage with market relevance.

Insight for Policymaker and Business Incubator. This research highlights the importance of creating an ecosystem supporting both exploratory and exploitative learning dimensions through differentiated support programs tailored to MSME development stages (early-stage requiring seed grants and mentorship, growth-stage needing technology subsidies and certifications, mature-stage focusing on expansion), infrastructure development including culinary innovation centers and digital learning platforms, financial incentive structures offering innovation vouchers and efficiency improvement grants, supportive regulatory environments with simplified licensing and flexible zoning, and comprehensive monitoring systems tracking business survival rates and sustainability adoption.

Real-World Policy Example. The Semarang City Government could implement a “Culinary MSME Sustainability Initiative” with a 3-year timeline and Rp 10 billion budget, establishing a Culinary Innovation Center and digital learning platform with 100 innovation vouchers in Year 1, scaling to 200 MSMEs with efficiency improvement grants and sustainability certification support in Year 2, and evaluating outcomes to expand successful programs and develop a regional replication model in Year 3.

Insights for Business Incubators, accelerators, and Support Institutions. Business incubators should develop comprehensive training curricula balancing exploratory capabilities (operational excellence, financial management, quality control totaling 40 hours) with sustainability integration (20 hours), implement contextual mentoring programs

combining one-on-one mentoring, peer learning circles, and expert master classes, provide practical tools including learning assessment questionnaires and performance dashboards, facilitate ecosystems building through supplier partnerships and investor pitch sessions, and establish rigorous monitoring systems measuring input, output, outcome, and impact metrics.

Real-World Incubator Example. A Semarang-based business incubator could launch a “Culinary MSME Accelerator Program” serving 30 MSMEs per cohort over 6 months with Rp 500 million investment, providing 100 hours of training across exploratory, exploitative, and sustainability modules, individual mentoring and peer learning circles, innovation grants of Rp 5 million per MSME plus matching funds up to Rp 10 million, access to shared commercial kitchen space and digital toolkits, and 12-month post-program support, targeting outcomes of 80% business survival after 2 years, 40% revenue growth, 100% new product launches, and balanced learning orientation achieved by 80% of participants.

3.3 Future Research Agenda

The proposed future research agenda aims to strengthen theoretical validity while expanding contextual understanding of the role of entrepreneurship education in the sustainability of MSME performance. The three main research directions can be outlined as follows:

1. Empirical Testing on Culinary MSMEs in Semarang

The research priority is directed toward validating the conceptual model through a quantitative survey approach based on structured questionnaires. The main constructs include exploratory learning (opportunity seeking, product experimentation, innovation) and exploitative learning (process improvement, operational efficiency, quality enhancement). The sustainability of MSME performance is operationalized using the triple bottom line framework, which includes economic, social, and environmental dimensions. Data analysis using Structural Equation Modeling (SEM) is recommended for testing causal relationships between latent variables. The research is recommended to involve 200-300 culinary MSMEs in Semarang, using stratified random sampling techniques to ensure representativeness.

2. Cross-Regional and Cross-Industry Comparative Analysis

Developing a medium-term agenda includes comparative studies aimed at testing the generalizability of the conceptual model. Geographically, the research can be expanded to other regions such as Yogyakarta, Bandung, and Surabaya, each of which has a different business ecosystem, culture, and policy support. Additionally, cross-sector testing (e.g., fashion, crafts, and information technology) will test the model’s robustness and transferability. Inter-industry variations are expected to give rise to contextual factors that moderate the effectiveness of entrepreneurship learning. A mixed-methods approach combining quantitative surveys with qualitative case studies and multi-group SEM analysis is recommended for analyzing cross-context model invariance.

3. Longitudinal Study for Learning Dynamics

The long-term agenda emphasizes longitudinal studies with a time horizon of 3-5 years to capture the temporal dynamics of entrepreneurial learning and the evolution of sustainable performance in MSMEs. A panel data design with periodic measurements will provide a deeper understanding of learning curves, adaptation patterns, and the development of dynamic capabilities. This study is also important in analyzing the impact of critical events such as economic crises, regulatory changes, pandemics, and technological developments on learning patterns and the resilience of MSMEs. Recommended analysis methods include growth curve modeling, dynamic panel data analysis, and survival analysis, supplemented by in-depth longitudinal interviews to capture the cognitive and decision-making dimensions of business owners.

4. Integration of the Three Agendas

The integration of three research directions – empirical validation, cross-context comparison, and longitudinal studies will result in a more comprehensive and robust understanding of the role of entrepreneurship education in supporting the sustainability of MSME performance. This integration is expected to strengthen the theoretical foundation while also providing practical contributions to the development of sustainable growth strategies for MSMEs in Indonesia and other developing countries.

4 Conclusion

This conceptual study confirms the importance of entrepreneurship education as a key determinant of sustainable performance for MSMEs, particularly in the culinary sector, which operates in a dynamic and competitive business

environment. By integrating Dynamic Capabilities Theory, Organizational Learning Theory, and Resource-Based View, this research outlines a conceptual framework that positions learning capabilities for the resilience and competitive advantage of MSMEs.

The main theoretical contribution lies in explaining the dual role of exploratory and exploitative learning. Exploratory learning, which emphasizes opportunity seeking, experimentation, and innovation, is prioritized as a key driver in developing dynamic capabilities and creating competitive differentiation. Conversely, exploitative learning, which is oriented toward efficiency, incremental improvement, and resource optimization, is considered essential for maintaining operational stability and strengthening economic foundations. This research emphasizes that the long-term sustainability of MSMEs depends on their ability to manage organizational ambidexterity, which is the dynamic balance between exploration and exploitation, becoming increasingly crucial in conditions of limited resources.

From a practical perspective, this research offers a strategic framework that can serve as a reference for culinary MSME actors in determining when to focus on innovation and new product creation, and when to prioritize operational efficiency. Furthermore, these conceptual findings are relevant for policymakers and business support institutions in designing more targeted training and mentoring programs tailored to local context needs.

Nevertheless, this study remains conceptual in nature and therefore requires rigorous empirical validation. The context of culinary MSMEs in Indonesia, particularly in Semarang, with its diverse and culturally embedded business ecosystem, represents an ideal setting for such empirical testing. Conducting validation will not only strengthen the robustness of the proposed model but also enrich indigenous knowledge in entrepreneurship studies, thereby providing insights that are more contextual and applicable for developing countries. In conclusion, this research establishes a solid theoretical foundation by emphasizing the urgency of developing ambidextrous learning strategies as a pathway toward the sustainable performance of MSMEs. By highlighting the necessity of empirical validation, the study opens new avenues for broader academic discourse and practical applications in the fields of entrepreneurship and sustainability studies, particularly within the context of emerging economies such as Indonesia.

5 Acknowledgments

The authors sincerely thank Universitas Semarang and Fakultas Ekonomi Manajemen for institutional support and resources provided during preparation of this manuscript. Special thanks are also extended to the LPPM USM (Lembaga Penelitian dan Pengabdian Masyarakat – Research Community Service Institute) for their invaluable guidance, administrative facilitation, and ongoing commitment to fostering academic excellence. This research significantly benefited from the supportive academic environment and the institutional commitment to knowledge development.

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