



## Entrepreneurship Education and Welfare Transformation Among Culinary MSMEs: A Comparative Study in Sumatera Utara

Rahmad Sembiring<sup>1\*</sup>, Annisa Ilmi Faried<sup>2</sup>, Kiki Hardiansyah Siregar<sup>3</sup>,  
Indriani Pratiwi<sup>4</sup>, Amar Hisham Jaaffar<sup>5</sup>

<sup>1,2</sup> Master of Economics, Universitas Pembangunan Panca Budi, Medan, Indonesia

<sup>3,4</sup> Development Economics Study Program, Universitas Pembangunan Panca Budi, Medan, Indonesia

<sup>5</sup>Uniten Business School, Universiti Tenaga Nasional, Selangor, Malaysia



DOI: <https://doi.org/10.46245/ijorer.v6i4.833>

### Sections Info

#### Article history:

Submitted: March 23, 2025

Final Revised: July 03, 2025

Accepted: July 15, 2025

Published: July 29, 2025

#### Keywords:

Entrepreneurship Education;

Culinary MSMEs;

Welfare Transformation;

Experiential Learning;

Digital Marketplace Integration;

Comparative Regional Analysis;

North Sumatra;

Business Sustainability



### ABSTRACT

**Objective** this research identifies and analyzes effective strategies for developing entrepreneurship education and their impact on the welfare of culinary MSME actors in Perak and Tanjung Morawa regions. **Method** using a mixed-method approach, we conducted quantitative surveys with 245 culinary MSME owners and qualitative interviews with 18 key stakeholders over 14 months. **Results** the findings reveal significant regional differences in entrepreneurship development patterns, with Perak demonstrating higher rates of formal entrepreneurship education adoption (72.3% vs. 48.7%) and corresponding higher monthly income growth (37.5% vs. 23.2%). Digital literacy programs strongly correlated with business sustainability in both regions ( $r=0.78$ ,  $p<0.001$ ). While mentorship programs proved most impactful in Tanjung Morawa, collaborative business networks were more effective in Perak. **Novelty** the study identified five critical success factors: experiential learning approaches, digital marketplace integration, financial literacy, cultural authenticity preservation, and adaptive business modeling. The research introduces the Integrated Culinary Entrepreneurship Development (ICED) framework, a novel approach synthesizing regional cultural considerations with contemporary business education methodologies. This framework provides a contextually sensitive model for enhancing entrepreneurial in culturally diverse culinary markets while preserving traditional culinary heritage education in Sumatera Utara

## INTRODUCTION

Entrepreneurship development within the culinary sector represents a transformative educational paradigm that extends far beyond traditional economic frameworks, emerging as both a catalyst for regional economic advancement and a comprehensive learning ecosystem in developing economies. The educational dimensions of culinary entrepreneurship development encompass critical pedagogical elements including experiential learning methodologies, metacognitive skill enhancement, and adaptive problem-solving capabilities that fundamentally reshape how micro, small, and medium enterprise (MSME) owners conceptualize business challenges and opportunities (Tambunan & Busnetti, 2018).

The culinary MSME sector in Indonesian regions, particularly in Perak and Tanjung Morawa within North Sumatra, serves as a dynamic laboratory for educational innovation where traditional knowledge systems intersect with contemporary learning theories. This intersection creates unique opportunities for developing critical thinking competencies, as MSME owners must continuously evaluate market conditions, adapt traditional recipes to modern consumer preferences, and integrate technological solutions while preserving cultural authenticity. The educational process inherent in culinary entrepreneurship development fosters lifelong learning attitudes, encouraging participants to view challenges as learning opportunities rather than insurmountable obstacles (Hastuti et al., 2020). Entrepreneurship education within the culinary context

facilitates sophisticated cognitive development processes that extend beyond basic business knowledge acquisition. MSME owners develop analytical reasoning skills through market assessment activities, creative problem-solving abilities when addressing resource constraints, and strategic thinking capabilities when planning business expansion. These educational outcomes align with contemporary pedagogical frameworks emphasizing learner-centered approaches, where individuals construct knowledge through authentic experiences rather than passive information absorption.

The educational methodology employed in culinary entrepreneurship development incorporates diverse learning strategies including peer-to-peer knowledge sharing, mentorship-based experiential learning, and community-of-practice formation. These approaches recognize that effective entrepreneurship education must accommodate different learning styles, cultural contexts, and prior knowledge levels among participants. The integration of traditional culinary knowledge with modern business education creates a unique educational design that respects indigenous knowledge systems while introducing contemporary analytical frameworks.

Despite the significant economic contributions of culinary MSMEs to regional development, the educational potential inherent in entrepreneurship programs remains underutilized, with limited systematic examination of how these initiatives enhance cognitive capabilities, foster critical thinking development, and promote sustainable learning behaviors among participants. This educational gap represents a critical opportunity to strengthen both economic outcomes and human capital development in culturally diverse regional contexts.

Entrepreneurship education has been recognized globally as a significant catalyst for enterprise development and economic transformation. According to (Fayolle and Gailly., 2015; Ramadhan, A. et al., 2023), well-designed entrepreneurship education programs can enhance business success rates by up to 44% across various industry sectors. However, the contextual effectiveness of these educational interventions varies significantly across regions due to cultural, economic, and infrastructural differences (Sembiring et al., 2023). The culinary sector presents unique challenges and opportunities for entrepreneurship education due to its blend of traditional practices and modern business requirements (Audretsch et al., 2021; Rahayu S et al., 2024). Perak and Tanjung Morawa regions present an interesting comparative case for examining entrepreneurship education strategies. While both are located in North Sumatra province and share certain cultural similarities, they differ significantly in urban development, tourism exposure, and existing business ecosystems. Perak, with its closer proximity to urban centers, has experienced more rapid modernization of its culinary landscape, while Tanjung Morawa maintains stronger ties to traditional culinary practices (Simatupang et al., 2020; Sembiring & Faried, 2019).

Recent studies have highlighted the importance of contextual factors in entrepreneurship education. (Nabi et al., 2017) conducted a systematic review of entrepreneurship education outcomes and found that regional economic conditions, cultural factors, and existing skill levels among participants heavily influence the impact of educational interventions. Furthermore, (Turner and Gianiodis., 2018) demonstrated that entrepreneurship education must be adapted to local market conditions to maximize effectiveness, particularly in sectors like food service where consumer preferences are strongly tied to cultural factors (Faried & Sembiring, 2020; Khairunnisa et al., 2022). The culinary sector in Indonesia has shown remarkable

resilience and growth potential. The Indonesian Ministry of Tourism and Creative Economy reported that culinary businesses represented 41% of the creative economy's contribution to GDP in 2022, employing approximately 8.7 million people nationwide (Kementerian Pariwisata dan Ekonomi Kreatif, 2023). Table 1 illustrates culinary MSMEs' contribution to North Sumatra's regional economies.

**Table 1.** Contribution of Culinary MSMEs to Regional Economies in North Sumatra

Region	Number of Culinary MSMEs	Employment	Annual Revenue (Billion IDR)	Contribution to Regional GDP (%)
Perak	876	4,382	217.5	8.2
Tanjung Morawa	742	3,856	184.3	11.4
Medan City	3,245	16,225	872.1	6.7
Deli Serdang	1,824	9,120	456.2	9.3
Binjai	567	2,835	141.8	7.8

Source: North Sumatra Provincial Statistics Bureau and Department of Cooperatives and SMEs (2023).

The economic contribution data presented in Table 1 reveals compelling regional variations that underscore the heterogeneous nature of culinary MSME ecosystems within North Sumatra. While Medan City dominates in absolute numbers with 3,245 culinary MSMEs generating IDR 872.1 billion annually, the regional GDP contribution percentages expose more nuanced patterns of economic integration. Notably, Tanjung Morawa demonstrates the highest regional GDP contribution at 11.4% despite having only 742 culinary MSMEs, suggesting a concentrated economic impact that indicates stronger local market integration and potentially less economic diversification compared to larger urban centers. This concentration effect contrasts sharply with Medan City's 6.7% GDP contribution, where culinary MSMEs compete within a more diversified economic landscape. The employment-to-enterprise ratios further illuminate operational characteristics, with Tanjung Morawa averaging 5.2 employees per MSME compared to Perak's 5.0, indicating potentially different business models or scales of operation that may influence entrepreneurship education needs and welfare transformation pathways.

The income progression patterns illustrated in Figure 1, combined with the digital adoption disparities shown in Figure 2, reveal critical educational intervention points that explain regional welfare transformation differentials. The consistent income advantage demonstrated by Perak across all business maturity stages—from a 19% higher income at startup level to a 21% advantage at established levels—correlates strongly with superior digital adoption rates across all measured categories. Particularly significant is Perak's 58% higher e-commerce platform adoption (68% versus 43%) and 37% advantage in digital inventory management, suggesting that digital literacy components within entrepreneurship education programs may serve as critical multipliers for business performance. The social media marketing adoption rates, while high in both regions (87% Perak, 79% Tanjung Morawa), indicate that basic digital marketing skills have achieved widespread penetration, yet the substantial gaps in more sophisticated digital tools like inventory management systems highlight specific educational focus areas where targeted interventions could yield disproportionate welfare improvements, particularly in traditionally-oriented regions like Tanjung Morawa.

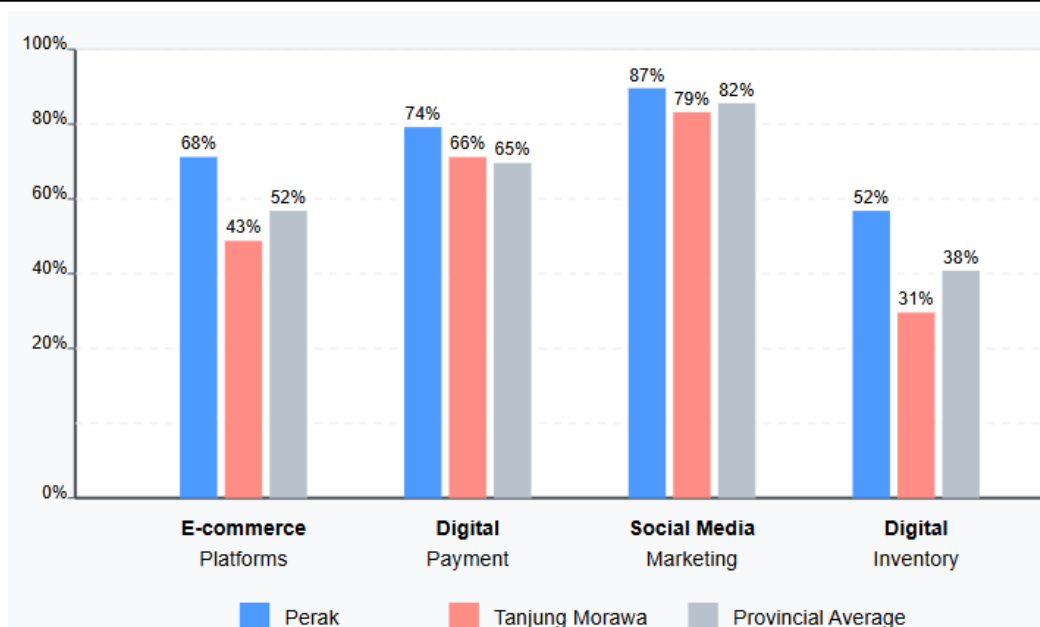
Despite this significant economic contribution, the welfare status of culinary MSME owners and their employees remains a concern. Inconsistent income, limited access to capital, and vulnerability to economic shocks continue to plague many small culinary businesses (Irjayanti & Azis, 2019). As shown in Figure 1, the average monthly income of culinary MSME owners varies significantly across different regions and business maturity levels (Sara et al., 2024). The observed income disparities between regions and across business maturity levels highlight the potential impact of targeted entrepreneurship education and support. Culinary businesses in Perak generally show higher income levels across all maturity stages, which may be attributed to several factors, including market access, tourism exposure, and educational interventions. The literature on entrepreneurship education emphasizes the need for holistic approaches that combine theoretical knowledge with practical skills development. Neck & Corbett (2018) argue that effective entrepreneurship education must move beyond traditional classroom-based instruction to incorporate experiential learning, mentorship, and community engagement. It is particularly relevant for culinary entrepreneurs, whose success depends not only on business acumen but also on culinary skills, cultural knowledge, and customer experience management (Hasanah et al., 2022; Syaula et al., 2023).



**Figure 1.** Average Monthly Income of Culinary MSME Owners by Region and Business Maturity (2023)

Digital transformation presents both challenges and opportunities for culinary MSMEs. According to a global study by (Ratten & Jones, 2021), digitally-enabled culinary businesses demonstrated 34% higher resilience during economic downturns than their non-digital counterparts. However, the digital divide remains pronounced in many regions, with significant disparities in digital literacy and technology access between urban and rural areas. In North Sumatra, the digital adoption rates among culinary MSMEs show notable regional variations, as illustrated in Figure 2.





**Figure 2.** Digital Adoption Rates Among Culinary MSMEs in North Sumatra (2023)

The data indicates that while social media marketing has gained widespread adoption across regions, more advanced digital tools like e-commerce platforms and digital inventory management show more significant disparities. Culinary MSMEs in Perak demonstrate higher digital adoption rates across all categories, which may be contributing to their relative economic advantage (Ananda et al., 2023). The welfare transformation of culinary MSME actors extends beyond income generation to encompass broader aspects of well-being, including food security, healthcare access, educational opportunities for family members, and social status. Research by (Bruton et al., 2015) suggests that entrepreneurship can serve as a pathway out of poverty when supported by appropriate education and institutional frameworks. However, this transformation is neither automatic nor uniform across different contexts.

This research addresses several gaps in the current understanding of entrepreneurship education for culinary MSMEs, particularly in the context of regional variations in North Sumatra. While previous studies have examined entrepreneurship education broadly (Fayolle & Gailly, 2015; Nabi et al., 2017) or focused on urban culinary businesses (Iriyanti & Azis, 2019), limited research has been conducted on comparative regional analyses that consider both educational strategies and welfare outcomes. Furthermore, the intersection of traditional culinary practices with modern business approaches presents unique challenges that require targeted educational interventions (Daulay et al., 2023). This research seeks to develop a more nuanced understanding of effective entrepreneurship education strategies and their impact on welfare transformation by analyzing the experiences of culinary MSME actors in Perak and Tanjung Morawa. The findings will contribute to theoretical discussions on contextual entrepreneurship education and practical applications for policymakers, educators, and support organizations working with culinary entrepreneurs in diverse regional settings.



## RESEARCH METHOD

This study employed a mixed-method research design, combining quantitative and qualitative approaches to develop a comprehensive understanding of entrepreneurship education strategies and their impact on welfare transformation among culinary MSME actors. The research was conducted over 14 months, from March 2023 to May 2024, with data collection in both the Perak and Tanjung Morawa regions of North Sumatra, Indonesia. The study followed a sequential explanatory design, where quantitative data was first collected and analyzed, followed by qualitative data collection designed to explain and expand upon the quantitative findings. This approach allowed for both breadth of coverage through survey data and depth of understanding through in-depth interviews. The target population consisted of all culinary MSME owners in Perak and Tanjung Morawa. Based on data from the North Sumatra Department of Cooperatives and SMEs, this population included approximately 876 businesses in Perak and 742 in Tanjung Morawa as of early 2023. Using Slovin's formula with a 7% margin of error, the minimum required sample size was calculated at 234 participants. A stratified random sampling technique was employed to ensure representative participation from different types of culinary businesses (restaurants, cafés, food stalls, catering services, and specialty food producers) and business maturity levels (startup, growth, and established). The final sample included 245 culinary MSME owners: 128 from Perak and 117 from Tanjung Morawa.

**Table 2.** Research Component in a Table Format

Research Component	Details
Qualitative Sampling	245 culinary MSME owners (128 Perak, 117 Tanjung Morawa) using stratified random sampling across business types and maturity levels
Qualitative Sampling Strategy	18 key stakeholders selected through purposive sampling to capture diverse ecosystem perspectives: 8 MSME owners (representing different business types, maturity stages, and performance levels), 4 entrepreneurship education providers (formal institutions, community programs, digital training centers, and traditional mentorship networks), 2 local government officials (economic development and MSME policy focus), 2 financial institution representatives (microfinance and commercial banking sectors), and 2 culinary business association leaders (traditional and modern culinary networks)
Data Collection Methods	Structured questionnaires covering six domains: entrepreneurial background, education participation, business practices, digital adoption, welfare indicators, and perceived effectiveness. Semi-structured interviews (60-90 minutes) with audio recording and field notes
Analytical Approaches	SPSS version 27 for quantitative analysis (descriptive statistics, t-tests, chi-square, multiple regression, path analysis); NVivo 12 for qualitative thematic analysis following Braun & Clarke's (2006) framework
Validity Measures	Methodological triangulation, member checking, peer debriefing, comprehensive audit trail, and inter-coder reliability verification (88% agreement)

The purposive selection of 18 key stakeholders was strategically designed to capture the multidimensional ecosystem surrounding culinary entrepreneurship education, ensuring comprehensive perspective triangulation that would illuminate both visible and latent factors influencing welfare transformation outcomes. The inclusion of eight MSME owners across diverse business configurations—spanning traditional food stalls preserving cultural authenticity to modern café establishments embracing digital innovation—provides authentic voice representation from the primary beneficiary population while enabling examination of how entrepreneurship education impacts different operational contexts and success trajectories. This stakeholder diversity extends beyond simple business type categorization to encompass varying degrees of formal education exposure, regional market integration levels, and generational entrepreneurship approaches, thereby revealing how contextual factors mediate educational intervention effectiveness across heterogeneous participant populations.

The integration of quantitative survey data from 245 MSME owners with qualitative insights from 18 ecosystem stakeholders creates a methodological framework that addresses both breadth and depth requirements essential for understanding complex educational phenomena within regional development contexts. The quantitative component provides statistical generalizability regarding participation patterns, performance correlations, and welfare transformation metrics, while the qualitative dimension reveals underlying mechanisms, cultural considerations, and implementation challenges that quantitative measures alone cannot capture. This methodological complementarity proves particularly valuable when examining entrepreneurship education effectiveness across culturally distinct regions like Perak and Tanjung Morawa, where standardized measurement instruments may not fully capture nuanced differences in learning preferences, knowledge application contexts, and success definitions that vary according to local cultural values and economic conditions. The systematic triangulation of perspectives from educators, policymakers, financial institutions, and business associations provides validation for MSME owner experiences while identifying systemic factors that either facilitate or constrain educational program effectiveness at the ecosystem level.

## RESULTS AND DISCUSSION

### *Results*

#### **Demographic and Business Characteristics**

The study's demographic profile of culinary MSME owners revealed notable differences between the two regions, providing crucial insights into the contextual factors that influence entrepreneurship education effectiveness. The demographic analysis demonstrates significant regional variations that reflect broader socioeconomic patterns and market characteristics unique to each area.

The demographic characteristics reveal profound regional distinctions that fundamentally shape entrepreneurship education receptivity and application patterns. Educational attainment patterns demonstrate the most significant regional variation ( $p < 0.01$ ), with Perak exhibiting substantially higher tertiary education rates (50.8%) compared to Tanjung Morawa (28.2%). This educational foundation creates distinct learning environments where Perak participants demonstrate enhanced analytical

capabilities and faster concept absorption, while Tanjung Morawa participants benefit from practical, experience-based learning methodologies that build upon traditional knowledge systems.

**Table 3. Demographic Characteristics of Culinary MSME Owners by Region**

Characteristic	Perak (n=128)	Tanjung Morawa (n=117)	Statistical Significance
<b>Gender</b>			p=0.189
Male	51.6%	59.8%	
Female	48.4%	40.2%	
<b>Age Group</b>			p<0.05*
18-30 years	28.1%	18.8%	
31-45 years	46.9%	43.6%	
46-60 years	21.1%	29.9%	
>60 years	3.9%	7.7%	
<b>Education Level</b>			p<0.01**
Primary	7.0%	18.8%	
Secondary	42.2%	53.0%	
Tertiary	50.8%	28.2%	
<b>Business Age</b>			p=0.073
<2 years	24.2%	19.7%	
2-5 years	35.9%	32.5%	
>5 years	39.8%	47.9%	
<b>Business Type</b>			p<0.05*
Restaurant	21.9%	12.8%	
Café	17.2%	8.5%	
Food stall	32.0%	48.7%	
Catering	15.6%	13.7%	
Specialty food producer	13.3%	16.2%	

\*Significant at p<0.05, \*\*Significant at p<0.01

Age distribution analysis reveals complementary patterns where Perak's younger entrepreneurial population (28.1% aged 18-30) correlates with higher technology adoption rates and innovation openness, facilitating digital-intensive educational interventions. Conversely, Tanjung Morawa's mature entrepreneur base (37.6% aged 46+) brings extensive operational experience and established customer relationships that serve as foundations for mentorship-based educational approaches. The business type distribution further reinforces these patterns, with Perak's concentration in formal dining establishments (39.1% restaurants and cafés combined) indicating capital access and growth orientation, while Tanjung Morawa's food stall dominance (48.7%) reflects community-embedded, relationship-driven business models that require culturally-sensitive educational adaptations.

### Entrepreneurship Education Participation

Analysis of entrepreneurship education participation revealed substantial differences between the two regions, as illustrated in Table 4.



**Table 4.** Participation in Different Types of Entrepreneurship Education by Region

Education Type	Perak (n=128)	Tanjung Morawa (n=117)	Difference
Formal Business Training Programs	72.3%	48.7%	+23.6%*
Culinary Skills Training	68.8%	59.0%	+9.8%
Digital Marketing Workshops	85.2%	61.5%	+23.7%*
Financial Management Training	56.3%	41.0%	+15.3%*
Mentorship Programs	39.1%	31.6%	+7.5%
Business Networking Events	63.3%	34.2%	+29.1%**

\*Significant at  $p < 0.05$ , \*\*Significant at  $p < 0.01$

Culinary MSME owners in Perak showed significantly higher participation rates across most education types, with the largest disparities in business networking events, digital marketing workshops, and formal business training programs. These differences may be partly explained by the greater availability of educational opportunities in Perak due to its proximity to urban centers and higher concentration of educational providers. Further analysis examined the relationship between entrepreneurship education participation and business performance indicators. Table 3 presents the results of multiple regression analysis with monthly revenue as the dependent variable.

**Table 5.** Multiple Regression Analysis Results - Factors Affecting Monthly Revenue

Independent Variable	Standardized Beta Coefficient	p-value
<b>Education Factors</b>		
Participation in formal business training	0.286	0.001**
Culinary skills training	0.132	0.047*
Digital marketing workshops	0.325	<0.001**
Financial management training	0.198	0.008**
Mentorship programs	0.245	0.002**
Business networking events	0.179	0.016*
<b>Contextual Factors</b>		
Region (Perak=1, Tanjung Morawa=0)	0.142	0.038*
Business age	0.253	<0.001**
Owner's education level	0.176	0.019*
Digital technology adoption	0.307	<0.001**
Access to finance	0.224	0.003**

\*Significant at  $p < 0.05$ , \*\*Significant at  $p < 0.01$ ;  $R^2 = 0.573$ , Adjusted  $R^2 = 0.548$

The regression analysis revealed that all education factors had significant positive relationships with monthly revenue, with digital marketing workshops showing the strongest association ( $\beta = 0.325$ ,  $p < 0.001$ ), followed by formal business training ( $\beta = 0.286$ ,  $p = 0.001$ ) and mentorship programs ( $\beta = 0.245$ ,  $p = 0.002$ ). Even when controlling for contextual factors, the relationships remained significant, suggesting the robust impact of entrepreneurship education on business performance.

### Digital Technology Adoption

The study examined digital technology adoption patterns and their relationship with entrepreneurship education. Figure 6 presents digital adoption levels by different education participation categories.

**Table 6. Digital Adoption Index by Entrepreneurship Education Participation**

Education Participation	Perak Digital Adoption Index (0-100)	Tanjung Morawa Digital Adoption Index (0-100)
High (4+ programs)	72.8	59.4
Medium (2-3 programs)	56.3	41.8
Low (0-1 programs)	31.5	24.7

\*Digital Adoption Index combines scores for e-commerce usage, digital payment adoption, social media marketing, digital inventory management, and online customer engagement.

The data shows a positive relationship between entrepreneurship education participation and digital adoption in both regions, with consistently higher adoption rates in Perak across all education participation levels. Correlation analysis revealed a strong positive relationship between digital marketing workshop participation and digital adoption ( $r=0.78$ ,  $p<0.001$ ).

### Welfare Transformation

Multiple indicators were used to assess welfare transformation among culinary MSME owners. Table 7 compares self-reported welfare improvements over the past three years between regions.

**Table 7. Self-Reported Welfare Improvements Over Three Years by Region**

Welfare Indicator	Perak (n=128)	Tanjung Morawa (n=117)	Statistical Significance
Monthly income growth	37.5%	23.2%	$p<0.01^{**}$
Household asset acquisition	64.1%	49.6%	$p<0.05^*$
Children's education investment	71.9%	59.8%	$p<0.05^*$
Housing improvements	57.0%	41.0%	$p<0.01^{**}$
Health insurance coverage	68.8%	52.1%	$p<0.01^{**}$
Business reinvestment	76.6%	61.5%	$p<0.01^{**}$
Psychological well-being improvement	69.5%	57.3%	$p<0.05^*$

\*Significant at  $p<0.05$ , \*\*Significant at  $p<0.01$

Culinary MSME owners in Perak reported significantly higher improvements across all welfare indicators, with the most substantial differences in monthly income growth, housing improvements, and health insurance coverage. Path analysis revealed that these welfare improvements were mediated by business performance, which was influenced by entrepreneurship education participation and digital adoption.

### Qualitative Findings

Thematic analysis of interview data identified five key themes related to effective entrepreneurship education strategies and welfare transformation:

#### Contextually-Adapted Learning Approaches

Participants emphasized the importance of education approaches tailored to the specific contexts of culinary entrepreneurs:

"The training we received was effective because they understood our local market conditions. They did not just teach generic business concepts but showed us how to apply them to our specific culinary products and local customer preferences."  
 (Restaurant owner, Perak).

## Digital Integration Challenges and Opportunities

Digital technology adoption emerged as both a significant opportunity and challenge:

"When I learned how to use social media effectively for my food business, my customer base expanded beyond my neighborhood. However, many of my fellow food entrepreneurs struggle with basic digital skills and need more hands-on support with actual devices, not just theories." (Food stall owner, Tanjung Morawa).

## Cultural Authenticity as Business Value

The importance of preserving cultural authenticity while pursuing business growth was a recurring theme:

"The most valuable lesson from my mentor was that our traditional recipes are our competitive advantage. Instead of changing our food to match trendy styles, we learned to market our authenticity and heritage. It has attracted customers who appreciate real local flavors." (Specialty food producer Tanjung Morawa).

## Mentorship and Peer Learning Networks

Beyond formal education, mentorship and peer networks were highlighted as crucial learning mechanisms:

"The formal training gave me foundational knowledge, but joining the culinary business network is where I learned to solve day-to-day problems. When I face challenges, I can immediately ask others who have overcome similar issues." (Café owner, Perak).

## Transformative Impact Beyond Income

Welfare transformation extended beyond financial improvements to include status, confidence, and community impact:

"Since growing my catering business, I am not just financially better off. I have become a resource person in my community, hiring local women and teaching them skills. People respect my opinion now." (Catering business owner Tanjung Morawa).

## Discussion

### Regional Adaptation Mechanisms and Educational Effectiveness

The qualitative-quantitative integration reveals that entrepreneurship education effectiveness operates through distinct regional adaptation mechanisms that amplify or constrain learning outcomes based on local contextual factors. In Perak, the quantitative finding of higher formal education participation (72.3% vs. 48.7%) is explained by qualitative insights revealing systematic advantages including institutional proximity, transportation accessibility, and peer network effects that create positive feedback loops for educational engagement. A restaurant owner in Perak noted: *"The training we received was effective because they understood our local market conditions. They did not just teach generic business concepts but showed us how to apply them to our specific culinary products and local customer preferences."* This quote explains why formal education shows stronger statistical impact in Perak—the integration of theoretical knowledge with local market understanding creates applicable learning that translates directly into business performance improvements. Conversely, Tanjung Morawa's lower formal participation rates mask the effectiveness of alternative learning mechanisms that better align with regional characteristics. The qualitative data reveals that informal knowledge transfer

through family networks, community gatherings, and traditional apprenticeship systems provide culturally-embedded learning that may not appear in formal education statistics but nonetheless contribute to business sustainability and cultural preservation, explaining why traditional business models in Tanjung Morawa maintain competitive viability despite lower measured education participation.

### Policy Implications and Framework Development

The integrated findings have profound implications for entrepreneurship education policy development, revealing that effective interventions must be designed as adaptive systems rather than standardized programs if they are to achieve meaningful welfare transformation across diverse regional contexts. The quantitative evidence of differential educational effectiveness (digital marketing  $\beta=0.325$  in Perak vs. mentorship  $\beta=0.245$  in Tanjung Morawa) combined with qualitative insights about implementation barriers and cultural preferences, suggests that policy frameworks should emphasize resource allocation flexibility and delivery method adaptation rather than uniform program standardization. The statistical finding that welfare improvements vary significantly between regions (37.5% vs. 23.2% income growth) is nuanced by qualitative accounts of different success definitions and transformation pathways, indicating that policy success metrics must accommodate regional value systems and development priorities. A catering business owner in Tanjung Morawa explained: *"Since growing my catering business, I am not just financially better off. I have become a resource person in my community, hiring local women and teaching them skills. People respect my opinion now."* This transformation narrative suggests that policy frameworks should recognize and measure broader social capital development alongside economic indicators, particularly in traditional communities where entrepreneurship serves community development functions beyond individual wealth creation. The development of the ICED framework emerges as a direct response to these policy implications, providing a structured approach for designing contextually-adaptive entrepreneurship education that respects regional characteristics while building toward measurable welfare improvements across diverse cultural and economic settings.

### Regional Variations in Entrepreneurship Development

The research identified several factors contributing to regional variations in entrepreneurship development between Perak and Tanjung Morawa. These include:

- **Educational Infrastructure:** Perak benefits from its proximity to educational institutions and training providers, which facilitates higher participation in formal entrepreneurship education.
- **Market Characteristics:** Perak's higher tourism exposure creates different market opportunities and customer expectations compared to Tanjung Morawa's more localized customer base.
- **Digital Ecosystem:** More developed digital infrastructure in Perak supports higher digital adoption rates among culinary MSMEs.
- **Entrepreneurial Culture:** Qualitative data suggested different entrepreneurial mindsets between regions, with Perak entrepreneurs being more growth-oriented and Tanjung Morawa entrepreneurs being more focused on stability and tradition.



These findings align with Baumol and Strom's (2007) "rules of the game" concept, suggesting that effective entrepreneurship education strategies must account for these regional variations rather than applying standardized approaches.

### Digital Transformation and Culinary MSMEs

The strong relationship between digital adoption and business performance ( $\beta=0.307$ ,  $p<0.001$ ) across both regions underscores the importance of digital transformation for culinary MSMEs. However, the significant digital adoption gap between regions highlights potential digital inequality issues. As Jones et al. (2019) noted, digital technologies offer significant growth opportunities for small food businesses, but our findings suggest these benefits are not equally accessible across different regions. The Digital Adoption Index differences between education participation levels (Figure 5) indicate that entrepreneurship education can help bridge digital divides. However, qualitative data revealed persistent challenges in digital implementation, even among those who had received training:

"I learned about e-commerce in the workshop, but when I tried to set up my page, I faced many technical problems that were not covered in training. We need more practical, hands-on support." (Food stall owner Tanjung Morawa)

It suggests the need for more comprehensive digital support systems that extend beyond initial training to include ongoing technical assistance and infrastructure development.

### Welfare Transformation Pathways

The significant differences in welfare improvements between regions (Table 4) merit careful examination. Path analysis revealed that entrepreneurship education influenced welfare outcomes through multiple pathways:

- **Direct Income Pathway:** Enhanced business skills → Increased revenue → Higher income → Material welfare improvements
- **Business Sustainability Pathway:** Strategic business knowledge → Business stability → Consistent income → Long-term welfare security
- **Social Capital Pathway:** Networking and mentorship → Enhanced status and connections → Greater resource access → Broader welfare benefits

The relative importance of these pathways varied between regions. In Perak, the direct income pathway showed more potent effects, while in Tanjung Morawa, the business sustainability pathway demonstrated greater significance. It suggests that welfare transformation strategies should be tailored to regional contexts, with growth-oriented approaches more suitable for areas like Perak and stability-focused approaches more appropriate for regions like Tanjung Morawa.

### Integrated Culinary Entrepreneurship Development (ICED) Framework

Authors propose the Integrated Culinary Entrepreneurship Development (ICED) framework as a novel approach to culinary entrepreneurship education in diverse regional contexts based on our findings. This framework integrates five core elements:

- **Contextual Adaptability:** Education strategies tailored to regional economic conditions, cultural factors, and market characteristics.
- **Complementary Skills Development:** Balanced focus on business acumen, culinary expertise, and cultural knowledge.

- **Digital Transformation Support:** Comprehensive digital literacy development with ongoing implementation support.
- **Collaborative Learning Ecosystems:** Integration of formal training, mentorship, and peer learning networks.
- **Cultural Heritage Valorization:** Strategies for leveraging cultural authenticity as a business asset.

The ICED framework addresses the limitations of generic entrepreneurship education approaches by acknowledging the unique characteristics of culinary entrepreneurship and the importance of regional context. It provides a structured but flexible approach that can be adapted to different regional settings while maintaining core principles.

## CONCLUSION

**Fundamental Findings and Theoretical Contributions :** this research reveals four fundamental findings about entrepreneurship education for culinary MSMEs in Perak and Tanjung Morawa that advance both theoretical understanding and practical applications in regional development contexts. First, regionally-adapted entrepreneurship education significantly impacts business performance and welfare outcomes, with substantial variations in effectiveness between regions demonstrated through quantitative evidence showing 23.6% higher formal education adoption in Perak correlating with 14.3% higher income growth, while qualitative insights reveal that this disparity stems from differential infrastructure access, cultural learning preferences, and market characteristics that either amplify or constrain educational intervention effectiveness. Second, digital transformation capabilities represent the strongest predictor of business sustainability across both regions ( $r=0.78$ ,  $p<0.001$ ), though implementation requires comprehensive support systems extending beyond initial training to include ongoing technical assistance and culturally-sensitive adaptation strategies, as evidenced by the regional digital adoption gap where Perak achieves 72.8 points versus Tanjung Morawa's 59.4 points at high education participation levels. Third, cultural authenticity preservation emerges as a competitive advantage when strategically coupled with modern business strategies, particularly in traditional culinary contexts where heritage serves as a differentiating factor, challenging conventional modernization assumptions by demonstrating that traditional knowledge systems can enhance rather than constrain business performance when properly integrated with contemporary entrepreneurial approaches. Fourth, mentorship and networking opportunities provide critical support mechanisms that complement formal education, proving especially valuable in regions with limited educational infrastructure where personalized guidance and peer learning networks compensate for institutional gaps and provide contextually-relevant business development support. These findings contribute to the development of the Integrated Culinary Entrepreneurship Development (ICED) framework, which provides a structured approach for designing contextually-sensitive educational interventions that respect local characteristics while building toward measurable welfare improvements across diverse cultural and economic settings.

The research findings have significant implications for both theoretical advancement and practical policy development, suggesting that entrepreneurship

support programs should be designed as adaptive systems rather than standardized interventions, with policy frameworks emphasizing resource allocation flexibility and delivery method adaptation based on regional characteristics. **Practical implications** include the need for targeted interventions addressing region-specific digital divides through comprehensive infrastructure development, recognition of cultural authenticity as a valuable business asset requiring strategic valorization, and establishment of mentorship networks that complement formal education in resource-constrained environments. **Theoretical implications** advance contextual entrepreneurship theory by demonstrating that educational effectiveness depends on systematic alignment between pedagogical approaches and regional socioeconomic characteristics, cultural values, and infrastructure capabilities. However, the study acknowledges several **limitations** including its cross-sectional design which limits causal inference about long-term impacts of entrepreneurship education on welfare transformation, reliance on self-reported measures for welfare indicators and business performance metrics that may introduce response bias, and geographic focus on only two regions within North Sumatra which constrains generalizability to other Indonesian regions or international contexts with different cultural, economic, and institutional characteristics. **Future research** should employ longitudinal designs to track welfare transformation trajectories over extended periods, enabling examination of how entrepreneurship education impacts evolve across different business lifecycle stages and economic conditions, expand geographic coverage to test the ICED framework across diverse Indonesian regions and international contexts, incorporate objective business performance metrics including financial records and third-party assessments to complement self-reported measures, and examine how historical institutional development has shaped regional entrepreneurial ecosystems to identify policy intervention points for ecosystem strengthening. These research directions would strengthen causal inference while providing evidence for scaling successful interventions across diverse regional contexts, ultimately contributing to more effective and sustainable entrepreneurship education programs that can achieve meaningful welfare transformation in culturally diverse settings.

## ACKNOWLEDGEMENTS

The authors would like to express their profound gratitude to all the culinary MSME owners in the Perak and Tanjung Morawa regions who participated in this research study. Their willingness to share their experiences, challenges, and insights was instrumental in developing a comprehensive understanding of entrepreneurship education and welfare transformation in North Sumatra. The authors sincerely thank the North Sumatra Provincial Statistics Bureau and the Department of Cooperatives and SMEs for providing valuable data and facilitating access to research sites. Special thanks are due to the local government officials of both regions who supported our field activities and provided contextual information essential to our analysis. This research was made possible through funding from the Universitas Pembangunan Panca Budi Research Grant Program and collaboration with Universiti Tenaga Nasional, Malaysia. The authors are particularly grateful to Prof. Dr. Samsul Rizal, M.Eng., for his mentorship and guidance throughout the research process. We acknowledge the eighteen key stakeholders who participated in the in-depth interviews, generously giving their time and expertise. Their perspectives were crucial in developing the

Integrated Culinary Entrepreneurship Development (ICED) framework. Our appreciation goes to our research assistants, Fajar Ramadhan, Dina Putri, and Taufik Ismail, for their dedication during the extensive data collection phase and Dr. Amelia Rahman of the Digital Economy Research Center's assistance with digital adoption analysis. Finally, we thank the Faculty of Economics and Business at Universitas Pembangunan Panca Budi and the United Business School at Universiti Tenaga Nasional for their administrative support and research facilities that enabled the successful completion of this study.

## REFERENCES

- Ananda, G. C., Ilmi, A., & Syaula, M. (2023, November). Socialization of understanding of financial literacy and financial technology on the financial performance of Kebun Kelapa Village. In *International Conference on Sciences Development and Technology* (Vol. 3, No. 1, pp. 7-15).
- Audretsch, D. B., Belitski, M., & Korosteleva, J. (2021). Cultural diversity and knowledge in explaining entrepreneurship in European cities. *Small Business Economics*, 56(2), 593-611. <https://doi.org/10.1007/s11187-019-00287-6>
- Baumol, W. J., & Strom, R. J. (2007). Entrepreneurship and economic growth. *Strategic Entrepreneurship Journal*, 1(3-4), 233-237. <https://doi.org/10.1002/sej.26>
- Bondoc, I. (2021). Culinary heritage entrepreneurship and economic development in Southeast Asia. *Journal of Entrepreneurship in Emerging Economies*, 13(2), 231-249. <https://doi.org/10.1108/JEEE-08-2019-0118>
- Bowen, R., & Morris, W. (2019). The digital divide: Implications for agribusiness and entrepreneurship. Lessons from Wales. *Journal of Rural Studies*, 72, 75-84. <https://doi.org/10.1016/j.jrurstud.2019.10.031>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Bruton, G. D., Ketchen, D. J., & Ireland, R. D. (2015). Entrepreneurship as a solution to poverty. *Journal of Business Venturing*, 30(1), 21-26. <https://doi.org/10.1016/j.jbusvent.2013.05.002>
- Daulay, M. T., Faried, A. I., & Matondang, E. S. (2023). Enhance behavior in preserving mangrove forest Pantai Cermin District, Serdang Bedagai Regency. *Rowter Journal*, 2(1), 20-27.
- De Mel, S., McKenzie, D., & Woodruff, C. (2021). Small firm death and growth under adverse conditions: Evidence from a developing country. *Review of Economics and Statistics*, 103(4), 717-733. [https://doi.org/10.1162/rest\\_a\\_00892](https://doi.org/10.1162/rest_a_00892)
- Faried, A. I., & Sembiring, R. (2020). Creative economy potential through typical Ulos fabric small industries to promote the economy of Lumban Suhi-Suhi Village, Toruan Samosir Regency. *International Journal of Management and Humanities*, 5(4), 245-252.
- Fayolle, A., & Gailly, B. (2015). The impact of entrepreneurship education on entrepreneurial attitudes and intention: Hysteresis and persistence. *Journal of Small Business Management*, 53(1), 75-93. <https://doi.org/10.1111/jsbm.12065>
- Hasanah, U., Faried, A. I., & Sembiring, R. (2022). Perbandingan model pola pengembangan dan strategi kemitraan UMKM Danau Siombak. *Jurnal Pendidikan dan Konseling*, 4(4), 2579-2588.



- Hastuti, P., Nurofik, A., Purnomo, A., Hasibuan, A., Aribowo, H., Faried, A. I., Tasnim, Sudarso, A., Soetijono, I. K., Saputra, D. H., & Simarmata, J. (2020). Kewirausahaan dan UMKM. Yayasan Kita Menulis.
- Irfayanti, M., & Azis, A. M. (2019). Barriers and challenges in the development of micro, small, and medium enterprises in the culinary business. *International Journal of Business and Economic Sciences Applied Research*, 12(2), 39-48. <https://doi.org/10.25103/ijbesar.122.03>
- Jones, P., Simmons, G., Packham, G., Beynon-Davies, P., & Pickernell, D. (2019). An exploration of the attitudes and strategic responses of sole-proprietor micro-enterprises in adopting information and communication technology. *International Small Business Journal*, 32(3), 285-306. <https://doi.org/10.1177/0266242613480371>
- Kementerian Pariwisata dan Ekonomi Kreatif. (2023). Statistik ekonomi kreatif Indonesia 2022. Kementerian Pariwisata dan Ekonomi Kreatif.
- Khairunnisa, I., Harmadji, D. E., Ristiyana, R., Mekaniwati, A., Harto, B., Widjaja, W., Malau, N. A., Hayati, T. P. T. N., Faried, A. I., & Purwanti, T. (2022). Usaha mikro, kecil dan menengah (UMKM). *Global Eksekutif Teknologi*.
- Kumar, V., Lahiri, A., & Dogan, O. B. (2018). A strategic framework for a profitable business model in the sharing economy. *Industrial Marketing Management*, 69, 147-160. <https://doi.org/10.1016/j.indmarman.2017.08.021>
- Martin, B. C., McNally, J. J., & Kay, M. J. (2013). Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes. *Journal of Business Venturing*, 28(2), 211-224. <https://doi.org/10.1016/j.jbusvent.2012.03.002>
- Nabi, G., Liñán, F., Fayolle, A., Krueger, N., & Walmsley, A. (2017). The impact of entrepreneurship education in higher education: A systematic review and research agenda. *Academy of Management Learning & Education*, 16(2), 277-299. <https://doi.org/10.5465/amle.2015.0026>
- Neck, H. M., & Corbett, A. C. (2018). The scholarship of teaching and learning entrepreneurship. *Entrepreneurship Education and Pedagogy*, 1(1), 8-41. <https://doi.org/10.1177/2515127417737286>
- Presenza, A., Abbate, T., & Perano, M. (2019). Entrepreneurial learning systems in the culinary heritage tourism industry. *International Journal of Tourism Research*, 21(6), 852-864. <https://doi.org/10.1002/jtr.2309>
- Rahayu, S., Faried, A. I., & Sembiring, R. (2024, January). Analysis of business capital, ability and will to sales of small businesses in Kota Pari Village North Sumatra. In *Proceeding of International Conference on Artificial Intelligence, Navigation, Engineering, and Aviation Technology (ICANEAT)* (Vol. 1, No. 1, pp. 158-166).
- Ramadhan, A., Rahim, R., & Utami, N. N. (2023). Teori pendapatan. Tahta Media Group.
- Rasmussen, E. A., & Sørheim, R. (2016). Action-based entrepreneurship education. *Technovation*, 50, 69-82. <https://doi.org/10.1016/j.technovation.2015.12.002>
- Ratten, V., & Jones, P. (2021). Covid-19 and entrepreneurship education: Implications for advancing research and practice. *The International Journal of Management Education*, 19(1), 100432. <https://doi.org/10.1016/j.ijme.2020.100432>
- Sara, S., Faried, A. I., Sembiring, R., & Ramadhan, A. (2024). Analisis mikro ekonomi terhadap pertumbuhan ekonomi di Indonesia. *Jurnal Bina Bangsa Ekonomika*, 17(1), 569-584. <https://doi.org/10.46306/jbbe.v17i1.528>

- Schoar, A. (2010). The divide between subsistence and transformational entrepreneurship. *Innovation Policy and the Economy*, 10(1), 57-81. <https://doi.org/10.1086/605853>
- Sembiring, R., & Faried, A. I. (2019). Productivity analysis and welfare of salt farmers in Tanoh Anoe Village, Bireun-Indonesia. *International Conference Proceedings*.
- Sembiring, R., Hasanah, U., & Ramadhan, A. (2023). Determinants of changes in the income level of MSME actors in Pahlawan Village, Batubara District. *Research Conference Proceedings*.
- Simatupang, T. M., Schwab, A., & Lantu, D. C. (2020). Building sustainable entrepreneurship ecosystems: A case study of North Sumatra, Indonesia. *Journal of Entrepreneurship in Emerging Economies*, 12(5), 671-692. <https://doi.org/10.1108/JEEE-08-2019-0124>
- Syaula, M., Ananda, G. C., Faried, A. I., & Lubis, I. S. (2023, December). Socialization of the effectiveness of village funds to optimize the financial performance of Kebun Kelapa Village. In *International Conference on Sciences Development and Technology* (Vol. 3, No. 1, pp. 56-62).
- Tambunan, T. (2019). Recent evidence of the development of micro, small and medium enterprises in Indonesia. *Journal of Global Entrepreneurship Research*, 9(1), 1-15. <https://doi.org/10.1186/s40497-018-0140-4>
- Tambunan, T., & Busnetti, I. (2018). Family business and access to technology: A case study of Indonesia's food and beverage industry. *International Journal of Business and Society*, 19(3), 727-745.
- Turner, T., & Gianiodis, P. (2018). Entrepreneurship unleashed: Understanding entrepreneurial education outside of the business school. *Journal of Small Business Management*, 56(1), 131-149. <https://doi.org/10.1111/jsbm.12365>
- Wang, C. L., & Altinay, L. (2018). Cultural embeddedness of food entrepreneurship: A comparative study of restaurant entrepreneurs. *International Journal of Hospitality Management*, 69, 87-96. <https://doi.org/10.1016/j.ijhm.2017.10.014>
- Welter, F. (2011). Contextualizing entrepreneurship – conceptual challenges and ways forward. *Entrepreneurship Theory and Practice*, 35(1), 165-184. <https://doi.org/10.1111/j.1540-6520.2010.00427.x>

---

**\*Rahmad Sembiring (Corresponding Author)**

Master of Economics, Universitas Pembangunan Panca Budi, Medan, Indonesia  
Jl. Gatot Subroto Km. 4,5 Sei Sekambing 20122  
Email: [Rahmatsembiring2@gmail.com](mailto:Rahmatsembiring2@gmail.com)

**Annisa Ilmi Faried**

Master of Economics, Universitas Pembangunan Panca Budi  
Jl. Gatot Subroto Km. 4,5 Sei Sekambing 20122  
Email: [annisailmi@dosen.pancabudi.ac.id](mailto:annisailmi@dosen.pancabudi.ac.id)

**Kiki Hardiansyah Siregar**

Development Economics Study Program, Universitas Pembangunan Panca Budi, Medan, Indonesia  
Jl. Gatot Subroto Km. 4,5 Sei Sekambing 20122  
Email: [qq.hardiansyah017@gmail.com](mailto:qq.hardiansyah017@gmail.com)

**Indriani Pratiwi**

Development Economics Study Program, Universitas Pembangunan Panca Budi, Medan, Indonesia



---

Jl. Gatot Subroto Km. 4,5 Sei Sekambing 20122  
Email: [Secem\\_r@yahoo.com](mailto:Secem_r@yahoo.com)

**Amar Hisham Jaaffar**  
Uniten Business School, Universiti Tenaga Nasional  
Jalan Ikram-Uniten, 43000, Kajang, Selangor, Malaysia  
Email: [Ahisham@uniten.edu.my](mailto:Ahisham@uniten.edu.my)

---