Can Intellectual Capital Drive the Performance of Culinary MSMEs through Innovation Capability and Competitive Advantage?

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Abstract. As part of the Greater Bandung economic cluster, the City of Bandung holds promising market potential for thedevelopment of culinary MSMEs, as indicated by the increasing number of business actors from 2022 to 2024. However, despite this strategic contribution, MSMEs actors still face challenges that may hinder business sustainability. This study analyzes the role of innovation capability and competitive advantage in mediating the effect of intellectual capital on the business performance of MSMEs. The research employs a quantitative descriptive method, using cluster sampling with a sample size of 155 randomly selected respondents. The results of the descriptive analysis show that all four variables fall into the high category. However, intellectual capital does not directly affect business performance, but rather exerts its influence through innovation capability as a significant mediator. Competitive advantage does not act as a single mediator, but proves to be effective when combined with innovation capability. The findings of this study support the Resource-Based View (RBV) theory and highlight the importance of strategic management of intellectual assets, the strengthening of an innovation-oriented culture, and public policy support in creating an innovative ecosystem to enhance MSMEs performance.

Keywords: Business Performance, Competitive Advantage, Intellectual Capital, Innovation Capability, Resources-Based View.

1 Introduction

In 2024, the MSME sector continues to play a strategic role in the national economy. According to data from the Ministry of Cooperatives and MSMEs, there are approximately 65.5 million active MSME units in Indonesia [1]. This number contributes significantly to the Gross Domestic Product (GDP), amounting to IDR 22.139 trillion. The GDP per capita is recorded at IDR 78.6 million, equivalent to USD 4.960,3. National economic growth in the same year stood at

© The Author(s) 2026
R. Hurriyati et al. (eds.), *Proceedings of the 10th Global Conference on Business, Management, and Entrepreneurship (GCBME 2025)*, Advances in Economics, Business and Management Research 407,
https://doi.org/10.2991/978-94-6239-819-1_93

5.03 percent with MSMEs contributing to employment absorption of more than 1.2 million people [2]. At the regional level, West Java holds a strategic position in MSME development. This province recorded a 57.14 percent contribution to the Gross Regional Domestic Product (GRDP) through the MSME sector. In addition to being a driver of regional economic growth, MSMEs in West Java also play a crucial role in job creation, absorbing a total of 1.579.015 workers [3]. The number of MSME units in this region is also substantial, with 641.639 enterprises spread across various sectors. These facts affirm that MSMEs are not only the foundation of the local economy but also a key instrument in supporting social resilience through job creation and community economic empowerment.

Greater Bandung has emerged as one of the main economic clusters for MSMEs in West Java Province. This strategic area—which includes Bandung Regency, West Bandung Regency, Bandung City, Cimahi City, and Sumedang Regency—recorded a total of 142,963 active MSME units. This number represents 22.28 percent of the total 641.639 MSME units in West Java [3]. This achievement reflects the position of Greater Bandung as a dynamic, community based economic growth center with significant potential in entrepreneurship development, job creation, and local economic empowerment. The widespread presence of MSMEs in this region makes them a vital backbone in enhancing regional economic competitiveness amidst digital transformation and global challenges. As part of the Greater Bandung economic cluster, Bandung City presents a promising market potential for MSME development. With 38.058 business units or around 5.93 percent of the total MSMEs in West Java [4], the city possesses a strong foundation for a people based economy. The purchasing power of its residents is also relatively high, as reflected by average monthly expenditures on food and beverages exceeding IDR 988.394 [2]. This high level of domestic consumption opens up considerable opportunities for MSME players—particularly in the culinary and daily needs sectors—to expand their markets and scale up their businesses. Thus, Bandung City holds a strategic position as a region with local economic growth potential based on consumption and entrepreneurship.

Despite contributing significantly to the regional economy, MSMEs in Bandung City still face various challenges, such as limited financing, low technology utilization, weak managerial capacity, and limited market access and crosssector collaboration. Putri et al. identified low digital competence, a lack of strategic partnerships, and weak organizational structures as the main issues in the culinary sector [5]. Meanwhile, Sembiringet al. highlighted the inability of MSME players to prepare financial reports as a major barrier to accessing capital [6]. These conditions call for strategic interventions from the government, academia, private sector, and civil society to enhance the competitiveness and sustainability of MSMEs.

These challenges have contributed to a decline in the revenue of culinary MSMEs in Bandung City over the past five years. According to the Department of Cooperatives and Small Enterprises (2024), the revenue of culinary MSMEs increased from IDR 74.6 billion in 2018 to IDR 76.2 billion in 2019, but this trend did not continue. The COVID-19 pandemic, changing consumer behavior, and the low adoption of technology and new business models have been the main factors behind this decline. Although the number of MSME players has increased, it has not been accompanied by a corresponding

rise in income. Research by Andayani et al. shows that more than 50% of MSME actors experienced a decline in sales, many of whom faced challenges in financing, distribution, and sourcing raw materials [7]. Other obstacles include limited capital, underdeveloped human resources, and low technological literacy [8]. In urban areas such as Bandung City, challenges also stem from weak innovation capacity and poor adaptation to local market demands [9]. If these challenges are not addressed promptly, the competitiveness and productivity of MSMEs will continue to decline, thereby reducing their contribution to the national economy. Targeted strategies are needed, such as improving human resource capacity, increasing access to financing, and accelerating digitalization. This study highlights the importance of digital technology utilization in the industry 4.0 era, although many MSME players remain digitally illiterate. The right digitalization approach can enhance MSMEs' capabilities and competitiveness, making it essential to implement policies that encourage technology adoption to ensure that MSMEs can grow and compete sustainably.

Intellectual capital is regarded as an intangible asset that plays a strategic role in value creation and enhancing organizational competitiveness [10], [11], [12]. In this study, intellectual capital consists of four components: human capital, structural capital, relational capital, and technological capital [11], which collectively reflect the organization's knowledge and competencies in managing human resources, internal systems, external relationships, and technology that supports competitive advantage. In line with this, innovation capability is a critical aspect that reflects an organization's ability to create and implement new ideas to generate added value [13]. Based on Yu-Sheng & Ibrahim and Mendoza-Silva, this capability comprises four dimensions: organizational innovation, product innovation, process innovation, and market innovation[14], [15]. Meanwhile, competitive advantage refers to an organization's ability to establish a strategic position that is difficult for competitors to imitate [16]. The five key dimensions reflecting this advantage include price/cost, product quality, delivery reliability, production innovation, and speed to market (time to market).

Various studies, such as those by Aljuboori et al. and Alqershi et al., show that intellectual capital has a positive influence on business performance [13], [17]. Moreover, Siahaan & Tan and Yousefi et al., identify innovation capability as a mediator in this relationship, emphasizing that innovation serves as a crucial channel for transforming intellectual capital into superior business performance [18], [19], [20]. Furthermore, studies by Kamukama et al; Jain et al; Anwar et al. indicate that competitive advantage also acts as a mediator in the influence of intellectual capital on performance. Thus, the optimal utilization of intellectual capital does not only directly impact performance but also does so through the creation of competitive advantage that strengthens the organization's strategic position in the market [21], [22], [23]. Based on the above explanation, the conceptual framework for this research is as follows.

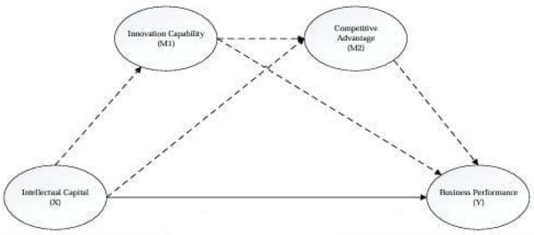

Fig 1. Conceptual Model

Based on the research paradigm that has been explained, the author formulates the research hypotheses as follows:
H1. The higher the level of intellectual capital (X), the higher the business performance (Y) will be.
H2. The higher the level of intellectual capital (X), the higher the innovation capability (M_1), which in turn will lead to higher business performance (Y).
H3. The higher the intellectual capital (X), the greater the competitive advantage (M_2), which subsequently will enhance business performance (Y).
H4. The higher the intellectual capital (X), the greater the innovation capability (M_1) and competitive advantage (M_2), which together will significantly improve business performance (Y).

2 Method

This study uses a quantitative approach at each stage, based on deductive reasoning. The study is causal in nature, aiming to uncover the factors that cause the emergence of problems. The purpose of this research is to test the hypotheses formulated from the research problem. The population in this study consists of culinary MSMEs spread across 16 subdistricts in West Bandung Regency. The sample size is determined using the inverse square root method as follows [24].

$$\alpha = 0.05 \rightarrow \mathrm{N} > \left(\frac{\mathrm{z}\,0.95 + \mathrm{z}\,0.80}{\beta\, min}\right)^2$$
$$= \left(\frac{1.645 + 0.842}{0.20}\right)^2 = \left(\frac{2.486}{0.20}\right)^2$$
$$= 154.56 \rightarrow 155 \text{ Respondent}$$

Description:
α = significance level
z = Standard normal cumulative distribution value
β = Minimal path coefficient value

Based on these calculations, the sample size to be used in this study is 155 culinary SME owners/managers. This study uses a probability sampling technique because each

element in the population has a known and non-zero chance of being selected as a subject in the sample [25], [26]. The sampling technique used in this study is cluster sampling. Cluster sampling is a method where samples are collected from a group or segment of elements that ideally represent the natural aggregate of elements within the population [25]. The data collection technique used is a questionnaire. To test the research hypothesis, the questionnaire used was adopted from several general studies documented in the available literature. The data processing in this study uses Structural Equation Model (SEM) Smart-PLS version 3 software. Structural Equation Model (SEM) as a statistical model that attempts to explain the relationships among several variables. There are two measurements in SEM-PLS: the outer model and the inner model. The outer model refers to the components of the theoretical path model that contains indicators and their relationships with constructs. The measurement model or outer model shows the relationship between latent variables and their indicator variables. The outer model illustrates how constructs are formed. In PLS-SEM, there are two ways to form constructs: reflective measurement models and formative measurement models. Reflective measurement models are based on the assumption that latent variables influence the indicators, while formative measurement models are based on the assumption that indicators influence the latent variables. The inner model is a part of a structural transaction model that describes the relationships between constructs and their indicators [27], [28].

3 Result and Discussion

3.1 Result

Descriptive Analysis. After identifying the respondent characteristics, the next step is to conduct a descriptive analysis to provide a detailed explanation of the research variables. This involves classifying each score obtained from the questionnaire items and calculating the percentage of indicators based on the responses of each respondent. Below is the categorization of the respondents' responses.

Table 1. Recapitulation of Respondents' Responses

Variable	Score Total	Category
Intellectual Capital	7.354	High
Innovation Capability	7.541	High
Competitive Advantage	7.445	High
Business Performance	6.985	High

Source: Author's work

Referring to the table above, the descriptive analysis results for the intellectual capital variable show a value of 7.354. Based on this value, it can be concluded that the level of intellectual capital possessed by the owners or leaders of MSMEs is high. This indicates that business owners have strong intellectual capacity, including knowledge, skills, and relevant experience to support the strategic management and development of their businesses. In other words, the business owners have strong intellectual assets,

both in the form of knowledge, skills, experience, and organizational structures that support strategic decision-making. The high value of intellectual capital reflects significant potential in creating added value through innovation development, operational efficiency improvements, and strengthening business competitiveness. Therefore, intellectual capital is one of the key assets that can be optimally utilized to support the sustainability and performance improvement of MSMEs amid the increasingly competitive business environment.

The descriptive analysis results for the innovation capability variable show a score of 7.541. Based on this value, it can be concluded that the innovation capability possessed by the owners or leaders of MSMEs is high. This means that business owners are not only able to adapt to the dynamics of changing business environments but also demonstrate the capacity to create continuous innovation in products, processes, organizations, and markets. The high innovation capability indicates that MSMEs in the research area have strong potential to develop competitive advantages and sustain business performance in the long term, especially in an era where competition is increasingly driven by knowledge and creativity. The descriptive analysis results for the competitive advantage variable show a score of 7.445. Therefore, it can be concluded that the level of competitiveness of the culinary MSMEs being studied is high. This means that the culinary MSMEs owners in Bandung City have good capabilities in facing market competition. It indicates that they are able to develop and maintain a competitive advantage through various factors such as product quality, service, and the uniqueness that differentiates their businesses from competitors. The high level of competitiveness also shows that these culinary MSMEs have utilized various strategies to improve their market position, including product innovation, operational efficiency improvements, and more effective marketing. The descriptive analysis results for the business performance variable show a score of 6.985. Therefore, it can be concluded that the business performance level of the culinary MSMEs studied is high. This means that the culinary MSMEs owners in Bandung City have successfully achieved good performance levels in their operational and financial aspects. This achievement demonstrates that they are capable of managing resources and business strategies effectively, reflected in optimal results in terms of revenue growth, profitability, and market competitiveness. The high level of business performance also reflects the ability of business owners to adapt to market changes, manage external challenges, and seize opportunities effectively. Consequently, this high-performance level serves as an indicator that these culinary MSMEs have promising long-term prospects if they continue to maintain and improve the factors that support their performance, such as product quality, resource management, and appropriate marketing strategies.

Measurement Model (Indicator Reliability) Indicator. Indicator reliability refers to the square of the standardized outer loading of the indicator. It represents how much of the variation in an item is explained by the construct and is called Average Variance Extracted (AVE). Hair et al. recommend that outer loadings of indicators should be greater than 0.70. Indicators with outer loadings between 0.40 and 0.70 should be considered for removal only if their removal improves composite reliability or AVE above

the suggested threshold value. If so, they can be retained [28]. Below are the results of indicator reliability.

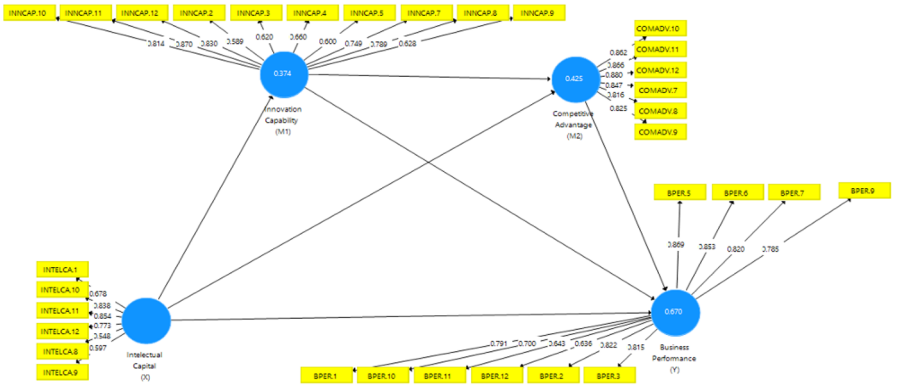

Fig 2. Estimation of the Measurement Model Parameters for the Can Intellectual Capital Drive the Performance of Culinary MSMEs through Innovation Capability and Competitive Advantage

Based on the results of the PLS Algorithm analysis above, it can be concluded that the measurement model for the Can Intellectual Capital Drive the Performance of Culinary MSMEs through Innovation Capability and Competitive Advantage in Bandung City has loading factor values above 0.50, indicating that the results have adequate convergent validity in measuring the constructs. For further clarification, below is the loading factor table for each research construct.

Table 2. Loading Factor

Construct	Dimension	Indicator	Indicator Symbols	Loading Factor
Intellectual Capital (X)	Human capital	Employee creativity spirit	INTELCA.1	0.678
	Structural capital	Clear Standard Operating Procedures (SOP)	INTELCA.8	0.548
		Up-to-date database	INTELCA.9	0.597
	Technological capital	Use of technology in the information exchange process	INTELCA.10	0.838
		Use of marketing technology	**INTELCA.11**	**0.854**
		Use of technology to create competitive advantage	INTELCA.12	0.773
Innovation Capability (M_1)	Organizational innovation	Appropriate SOP innovation	INNCAP.2	0.589
		Openness to new ideas	INNCAP.3	0.620
	Product innovation	Creation of new products	INNCAP.4	0.660
		Improvement of product quality	INNCAP.5	0.600
	Process innovation	Implementation of production methods	INNCAP.7	0.749

		Product delivery methods	INNCAP.8	0.789
		Improvement of production processes	INNCAP.9	0.628
	Market innovation	Creation of unique product designs	INNCAP.10	0.814
		Use of social media	**INNCAP.11**	**0.870**
		Sales growth	INNCAP.12	0.830
Competitive Advantage (M_2)	Quality	Consistency in the quality of products/services offered	COMADV.7	0.847
		Customer satisfaction with product/service quality	COMADV.8	0.816
		Competitive product quality advantage over competitors	COMADV.9	0.825
	Flexibility	Company agility in adapting business processes to external conditions	COMADV.10	0.862
		Ability to adapt to technological and market changes	COMADV.11	0.866
		Ability to adjust products/services to changing customer needs	**COMADV.12**	**0.880**
Business Performance (Y)	Financial Perspective	High sales	BPER.1	0.791
		Profit	BPER.2	0.822
		Asset growth	BPER.3	0.815
	Consumer Perspective	Customer satisfaction	**BPER.5**	**0.869**
		Increased market share	BPER.6	0.853
	Internal Business Perspective	Product quality	BPER.7	0.820
		Success in implementing innovative ideas	BPER.9	0.785
	Learning and Growth Perspective	Ability to adapt to changes	BPER.10	0.791
		Training programs	BPER.11	0.700
		Employee skill development	BPER.12	0.643

Source: Author's work

Based on the table above, it can be seen that the highest loading factor for the intellectual capital construct is reflected in the indicator of marketing technology utilization. For the innovation capability construct, it is reflected in the use of social media. For the competitive advantage construct, it is the ability to adapt products to changing customer needs, and for the business performance construct, the customer satisfaction indicator emerges as the most critical factor to be maintained and improved in the context of culinary MSMEs (Micro, Small, and Medium Enterprises) in Bandung City.

The strongest indicator for the intellectual capital construct is the use of marketing technology. This shows that culinary MSME actors in Bandung have embraced technologies such as digital platforms and marketing applications to manage knowledge and information more effectively. These technologies serve as intangible assets that enhance business competitiveness by improving efficiency and market reach. The dominant indicator for the innovation capability construct is the use of social media. This reflects how culinary MSMEs are able to innovate in terms of marketing and customer

communication in a creative and modern way. Social media serves not only as a promotional tool but also as a space for experimenting with ideas, developing products, and responding to the market in real time.

This demonstrates that business owners have effectively developed organizational and marketing innovations. The highest indicator in the competitive advantage construct is the ability to adapt products to changing customer needs. This indicates that culinary MSMEs in Bandung possess a high degree of flexibility in responding to market dynamics. Such adaptability provides a strong competitive position, as businesses that are responsive to customer needs are more likely to sustain and grow. This aligns with differentiation strategies and rapid market responsiveness. The most prominent indicator in the business performance construct is customer satisfaction. Customer satisfaction is a primary reflection of business success, as satisfied customers are more likely to remain loyal, leave positive reviews, and promote the business through word-of-mouth. This reinforces the importance of service quality, product consistency, and customer experience in the operational strategy of culinary MSMEs. Thus, these four key indicators serve as strategic pillars in building competitiveness and sustainability for culinary MSMEs in Bandung. Therefore, ongoing attention and development toward marketing technology, social media–based innovation, product flexibility, and customer satisfaction are essential to maintaining and enhancing overall business performance.

Internal Consistency and Convergent Validity. Internal consistency as the extent to which the items in a measurement instrument are correlated with each other and consistently measure the same construct, while convergent validity refers to the degree to which a measure positively correlates with alternative measures of the same construct [28].

Table 3. Internal Consistency and Convergent Validity

Construct	Internal Consistency		Convergent Validity	Decision
	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	
Intellectual Capital (X_1)	0.813	0.866	0.524	Reliability
Innovation Capability (M_1)	0.895	0.914	0.521	Reliability
Competitive Advantage (M_2)	0.923	0.940	0.722	Reliability
Business Performance (Y)	0.926	0.938	0.604	Reliability

Source: Author's work

Based on the test results, it was found that all six measurement models had AVE values greater than 0.50 and were statistically significant ($p < 0.001$). This means that all indicators used to measure the constructs in the study have adequate convergent validity.

Additionally, based on the values of Cronbach's Alpha and Composite Reliability, the test results show that for the three measurement models, the values are above 0.60, indicating that these three models have adequate internal reliability.

Discriminant Validity. Discriminant validity as the extent to which a construct is truly different from other constructs based on empirical standards. This ensures that the constructs measured in a study do not overlap too much or measure the same concept, so each construct has a clear and distinct role in the model [28].

Table 4. Heterotrait-Monotrait Ration (HTMT) and Fornell-Lacker Criterion

Contruct	Intellectual Capital (X_1)	Innovation Capability (M_1)	Competitive Advantage (M_2)	Business Performance (Y)
Hetrotrait-Monotrait Ration (HTMT)				
Intellectual Capital (X_1)				
Innovation Capability (M_1)	0.736			
Competitive Advantage (M_2)	0.378	0.697		
Business Performance (Y)	0.498	0.777	0.801	
Fornell-Lacker Criterion				
Intellectual Capital (X_1)	0.724			
Innovation Capability (M_1)	0.612	0.722		
Competitive Advantage (M_2)	0.340	0.648	0.850	
Business Performance (Y)	0.420	0.720	0.757	0.777

Source: Author's work

Based on the table above, from the Heterotrait-Monotrait Ratio (HTMT) coefficients, it can be concluded that the measurement model has adequate discriminant validity. This is evidenced by the HTMT statistics for all ten pairs of the measurement models, which all provide HTMT values below the maximum threshold of 0.90. Meanwhile, according to the Fornell-Larcker criterion, the six measurement models have square root AVE values greater than the correlation coefficients between the measured construct and other constructs. this indicates that the six measurement models exhibit adequate discriminant validity. referring to the overall results of the measurement model evaluation above, it can be concluded that the measurement models for the intellectual capital, innovation capability, competitive advantage and business performance are valid and reliable for use in the next stage of data analysis, which is testing the structural model (to test the research hypotheses).

Goodness of Fit (GoF). Goodness of Fit (GoF) is a measure used in the context of PLS-SEM analysis to assess how well the structural model fits the observed data. GoF provides an indication of how well the PLS-SEM model aligns with empirical data. Below are the GoF analysis results, based on the SRMR value.

Table 5. Goodness of Fit (GoF)

Fit summary	Estimated Model	Decision
SRMS	0.091	Acceptable Fit

Source: Author's work

Based on the table above, it can be observed that the SRMR value is 0.087, which is less than 0.10, indicating that the model provides an acceptable fit with the data, or the model meets the goodness of fit criteria. This means that the estimated parameter results can be generalized to the population [29].

Structural Model (Multicollinearity). Multicollinearity refers to a situation where predictor constructs in a model are highly correlated with one another, as shown in the table below.

Table 6. Multicollinearity Statistics

Contruct	Intellectual Capital (X_1)	Innovation Capability (M_1)	Competitive Advantage (M_2)	Business Performance (Y)
VIF				
Intellectual Capital (X_1)		1.000	1.598	1.612
Innovation Capability (M_1)			1.598	2.460
Competitive Advantage (M_2)				1.741
Business Performance (Y)				

Source: Author's work

Based on the table above, it can be concluded that the constructs under study are free from multicollinearity issues. This is indicated by the VIF statistics, where all constructs have values smaller than five (VIF < 5).

Hypothesis Testing. The basis for hypothesis testing is the values presented in the output result for the inner weight. In PLS, the statistical testing of each hypothesized relationship is conducted using simulation. Specifically, the bootstrapping method is employed. This approach is also intended to minimize issues related to data non-normality. The loadings and t-statistic values obtained from the bootstrapping process, using a resampling sample size of 5.000, are as follows:

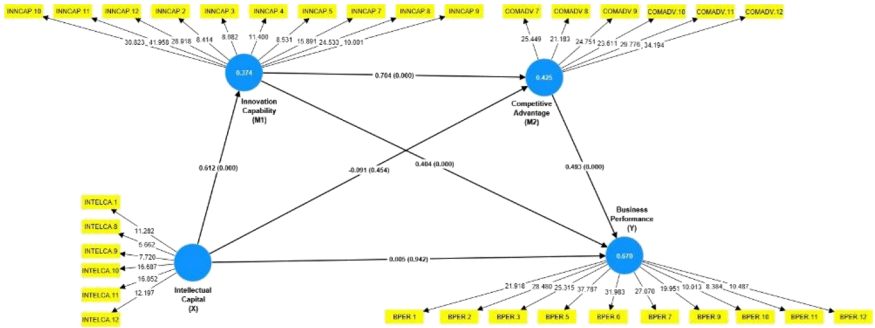

Fig 3. Structural Model of the Can Intellectual Capital Drive the Performance of Culinary MSMEs through Innovation Capability and Competitive Advantage

Based on the figure above, the hypotheses in this study can be concluded as follows:

Table 7. Hypothesis Testing Results for Direct Effects

Hypothesis	Path	Coefficient	t statistic	CR	P Value	Decision
H_1	X → Y	0.005	0.072	1.96	0.942	Not Supported

Source: Author's work

Based on Table 7 above, it can be concluded that intellectual capital (X) has no significant effect on business performance (Y), with a coefficient of 0.005, a t-value of 0.072 < 1.96, and a significance level of 0.942 > 0.05. Therefore, the first hypothesis (H_1) in this study is rejected (Ho is accepted and Ha is rejected). This means that the management of intellectual assets such as knowledge, skills, and internal technology possessed by MSME actors has not directly contributed to improving their business performance. This finding indicates that the effect of intellectual capital on business performance may be indirect, possibly mediated by variables such as innovation capability and competitive advantage. Consequently, strategies to strengthen intellectual capital should be directed toward enhancing innovation and creating competitive advantages in order to positively impact business performance.

Meanwhile, the results concerning the mediating role of innovation capability and competitive advantage in the relationship between intellectual capital and MSME business performance are presented in the following table.

Table 8. Hypothesis Testing Results for Indirect Effect

Hypothesis	Path	Coefficient	t statistic	CR	P Value	Decision
H_2	X → M_1 → Y	0.247	4.293	1.96	0.000	Supported
H_3	X → M_2 → Y	-0.045	0.711		0.477	Not Supported
H_4	X → M_1 → M_2 → Y	0.212	3.982		0.000	Supported

Source: Author's work

Based on the table above, the following information can be concluded that innovation capability (M_1) is found to significantly mediate the effect of intellectual capital (X) on business performance (Y), with a coefficient of 0.247, a tvalue of 4.293 > 1.96, and a significance level of 0.000 < 0.05. Therefore, the second hypothesis (H_2) in this study is accepted (Ho is rejected and Ha is accepted). This result indicates that intellectual capital does not directly enhance business performance but has a significant impact when channeled through improved innovation capability. In other words, innovation capability serves as a significant and positive mediator in the relationship between intellectual capital and the business performance of culinary MSMEs in Bandung City. Thus, culinary MSME actors who are able to effectively manage intellectual assets such as knowledge, human resource skills, external relationships, and organizational structure are better positioned to create innovations in products, processes, or marketing strategies, ultimately leading to improved business performance. In other words, innovation becomes the key link between the intellectual assets owned by entrepreneurs and the business success they achieve.

On the other hand, competitive advantage (M_2) does not significantly mediate the relationship between intellectual capital (X) and business performance (Y), with a coefficient of -0.045, a t-value of 0.711 < 1.96, and a significance level of 0.477 > 0.05. As such, the third hypothesis (H_3) in this study is rejected (Ho is accepted and Ha is rejected). This result indicates that competitive advantage does not serve as a significant mediator in the relationship between intellectual capital and the business performance of culinary MSMEs in Bandung City. This means that the utilization of intellectual capital by MSME actors has not been sufficient to create competitive advantages that directly impact their business performance. Intellectual assets such as knowledge, skills, and external networks have yet to be optimally leveraged to build a strong market position—for example, in terms of competitive pricing, product innovation, service quality, or responsiveness to market changes. Therefore, strengthening competitive advantage should be a key focus of further development efforts so that the potential of intellectual capital can be fully utilized to enhance business performance.

Lastly, innovation capability (M_1) and competitive advantage (M_2) are found to simultaneously mediate the effect of intellectual capital (X) on business performance (Y), with a coefficient of 0.212, a t-value of 3.982 > 1.96, and a significance level of 0.000 < 0.05. Hence, the fourth hypothesis (H_4) in this study is accepted (Ho is rejected and Ha is accepted). This result indicates that innovation capability and competitive advantage together serve as significant mediators that strengthen the influence of intellectual capital on business performance among culinary MSMEs in Bandung City. This means that although intellectual capital does not directly influence business performance, its effect becomes significant when it operates through increased innovation capability and the creation of competitive advantage. In other words, intellectual capital contributes to business performance through two key stages: first, by enhancing the innovative capabilities of MSME actors, and second, by translating those innovations into competitive advantages— such as market adaptation, new product development, or service differentiation—which ultimately lead to improved business outcomes. The implication is that culinary MSMEs in Bandung City must focus their strategies on

innovation development and the creation of competitive advantage based on their existing intellectual assets in order to enhance competitiveness and achieve optimal business performance.

3.2 Discussion

The first hypothesis test result shows that intellectual capital does not directly influence the business performance of culinary MSMEs in Bandung City (coefficient = 0.005; t-value = 0.072 < 1.96; p-value = 0.942), thus the hypothesis is rejected. This finding aligns with Aljuboori et al and Mulyana et al., who argue that intellectual assets such as knowledge, skills, external relationships, and organizational structures, while important, are not sufficient to directly improve revenue, customer satisfaction, or business growth. This suggests that intellectual capital serves more as a strategic input that must be processed through other mechanisms such as innovation and the creation of competitive advantage. Without such transformation, intellectual capital remains a passive resource with limited added value. Therefore, MSMEs actors need to utilize intellectual assets to foster innovation, improve business processes, and build unique value that positively impacts business performance. The enhancement of intellectual capital must be directed toward practical and market-relevant applications.[13], [30].

The second hypothesis test confirms that innovation capability significantly mediates the influence of intellectual capital on business performance (coefficient = 0.247; t-value = 4.293 > 1.96; p-value = 0.000). This implies that the effective management of intellectual assets—such as knowledge, skills, external networks, and organizational systems—drives innovations in products, processes, and business strategies, which are key to improving the performance of culinary MSMEs in Bandung City. This finding supports previous studies emphasizing the importance of synergy between intellectual capital and innovation capability in creating competitive advantage and superior business performance. Innovation acts as a crucial bridge to actualize the value of intellectual capital, resulting in tangible outcomes such as increased revenue, customer satisfaction, and business growth. Hence, MSME development strategies should focus on empowering intellectual assets to strengthen innovation capability, through training, mentoring, and digitalization. Such an approach will not only boost local competitiveness but also enhance the readiness of MSMEs to expand into broader markets [13], [18], [19].

The third hypothesis test reveals that competitive advantage does not mediate the effect of intellectual capital on business performance (coefficient = -0.045; t-value = 0.711 < 1.96; p-value = 0.477), thus the hypothesis is rejected. The negative and non-significant relationship suggests that intellectual assets—such as knowledge, skills, relational networks, and internal systems—have not yet been effectively converted into sustainable competitive strengths among culinary MSMEs in Bandung City. This indicates that intellectual capital has not been strategically managed to create uniqueness, product differentiation, service quality, or responsiveness to market needs. As a result, MSMEs remain vulnerable to competitive pressure and have not maximized the added value of their intellectual assets. This finding is consistent with Kamukama et al., Jain

et al., and Anwar et al., who highlight that although MSMEs may possess high intellectual capital, without strategic management and application, it is insufficient to create competitive advantages that impact performance. What is needed is an integration of knowledge, innovation, and appropriate business strategies aligned with market dynamics. Therefore, intellectual capital must be mobilized into applicable and relevant competitive strategies to make a real contribution to business performance [21], [22], [31].

The fourth hypothesis test shows that innovation capability (M_1) and competitive advantage (M_2) significantly mediate the influence of intellectual capital (X) on business performance (Y) (coefficient = 0.212; t-value = 3.982 > 1.96; p-value = 0.000). This means that the more effectively intellectual capital is managed, the stronger the innovation capability it fosters, leading to the creation of competitive advantage, which in turn enhances business performance. This finding supports the Resource-Based View (RBV) theory [32]. which posits that intangible assets such as intellectual capital have strategic value when they are transformed into innovative capabilities and competitive advantages. Innovation serves as the foundation for competitive advantage that is difficult to imitate, enabling MSMEs to adapt to market changes, improve efficiency, and develop superior products and services. Therefore, innovation capability and competitive advantage are critical pathways for transforming the potential of intellectual capital into optimal business performance. MSMEs must build ecosystems based on innovation and differentiation by managing creative human resources, leveraging technology, and strengthening customer relationships to achieve sustainable competitive advantage.

4 Conclusion

The results of this study emphasize that the business performance of culinary MSMEs cannot be improved solely through the possession of intellectual capital; rather, it must be optimized through strategic pathways involving innovation capability and competitive advantage. Intellectual assets such as knowledge, skills, and experience will only have a tangible impact if managed systematically within a framework of sustainable innovation and strong product or service differentiation. Strategically, MSMEs need to cultivate an internal culture of innovation, encourage the creativity of human resources, and leverage digital technology to expand market reach and enhance operational efficiency. At the same time, differentiation strategies based on local uniqueness and value-added propositions must be integrated into the business model to create and sustain competitive advantage. The role of the government is crucial in providing a supportive ecosystem, including training, mentoring, innovation incentives, and facilitated market access. With such a strategy, intellectual capital is no longer merely a latent potential, but rather a strategic resource capable of driving sustainable business growth and adaptability in response to changes in the business environment.

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