

Knowledge sharing and sustainable competitive advantage: Mediating role of innovation culture and MSMEs business performance

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Abstract

This research aims to investigate how business performance (BP) and innovation culture (IC) mediate the relationship between knowledge sharing (KS) and sustainable competitive advantage (SCA) of MSMEs operating in Yogyakarta, Indonesia. The survey method was employed to gather the necessary data for this research. The population and sample consisted of 50 MSMEs. The unit of analysis in this study is the MSMEs fashionpreneur Jogja Fashion Dunia Incubation Program, which is represented by the owner and manager, who also serves as the respondent. The analysis method employed in this research is Partial Least Squares (PLS) using SmatPLS 4 software. The investigation results demonstrate that knowledge sharing has a significant impact on both the innovation culture and long-term competitive advantage. Additionally, the study reveals that the innovation culture significantly influences business performance and lasting competitive advantage. However, it is worth noting that business performance does not have a noticeable effect on sustainable competitive advantage. Furthermore, the study indicates that the relationship between knowledge sharing and sustainable competitive advantage is mediated by the innovation culture. On the other hand, when business performance acts as a mediator, the effect of the innovation culture and knowledge sharing on competitive advantage is indiscernible. To create exceptional customer value, policymakers and MSME management must showcase a firm dedication to innovation and connect it to supply chain agility, also known as SCA. Ultimately, this will result in comprehensive and enduring business performance.

Introduction

In today's highly competitive business world, companies aim to distinguish themselves from their competitors by providing greater value to customers. Innovation and sustainable competitive advantage (SCA) can help achieve this (Boxall, 1998). Most MSMEs owners and participants also desire an innovation culture (IC) and business performance (BP) (Lohith et al., 2017). The capacity and willingness of MSMEs to innovate and differentiate themselves from the competition may be positively correlated with their innovation culture (IC) and business performance (BP) (Tang et al., 2020). As a result, creative businesses that base their ideas on strategic resources typically achieve and maintain higher levels of company success (Schmidt et al., 2018).

Another way in which the SCA position contributes to superior business performance (BP) is by creating better value for customers. The literature has clearly shown that innovation enhances company performance. However, only a few studies evaluating mediation effects demonstrate how these contributions occur and how a fourth component, such as SCA, is considered in addition to the other two factors (Zhang et al., 2021). Therefore, business policymakers need empirical research and a better understanding of how the functions of IC and BP influence the relationship between KS and SCA, particularly during this time of intense global competitiveness (Xu & Wang, 2018).

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Innovation culture serves as a tactical instrument for launching new products, entering untapped markets, increasing market share, and overcoming obstacles to achieve sustainable competitive advantage (SCA) by enhancing knowledge sharing (KS) (Wang & Horng, 2009). It is crucial to focus on developing KS through IC and business processes (BP) to maintain a competitive edge over other businesses, whether in the short or long term (Hwang & Lu, 2013). By doing so, companies increase the likelihood of generating higher economic value, delivering superior customer value, and mitigating external risks. MSMEs must address the challenges of their business environment through IC and BP, with the support of KS (Rosalina & Wahyudin, 2021). KS plays a critical role in sustaining SCA, enabling businesses to identify and align with key factors that are essential for the successful implementation of value-creation initiatives, beyond what competitors can achieve simultaneously (Goswami & Agrawal, 2018). MSMEs should embrace innovative practices that can lead to SCA, leveraging IC and BP supported by KS. When strategic resources form the foundation of innovation and appropriate strategies are developed and implemented (Ab Rahman et al., 2015), KS has the potential to deliver greater value to customers. This phenomenon supports the expectation of superior company performance through innovation culture (IC) and business performance (BP) in achieving sustainable competitive advantage (SCA).

This paper’s main objective is to evaluate the mediating roles of IC and BP on the relationship between KS and SCA in MSEM empirically. There is a gap in the literature since there aren’t many empirical research that specifically assess this mediating role and the overall relationship between these variables. By presenting the mediating roles of IC and BP, as well as the combined link between KS and SCA, this work contributes to the existing literature. The next section will cover the research methodology, theoretical underpinnings, hypothesis generation, analysis, findings, and discussion of the research findings. Finally, conclusions and management implications will be presented in light of the findings.

Literature Review and Hypotheses Development

Resource-Based View (RBV)

A management strategy called resource-based view (RBV) is used to identify critical resources that businesses can use to gain a sustained competitive advantage (Famiyeh et al., 2018). According to the RBV theory, the cornerstone of a company’s competitive advantage is the utilization of valuable resources (Sabihaini et al., 2024). The RBV concept involves the realization of competitive advantage through important resources, especially resources that are valuable, rare to be replaced by resources owned by competitors (non-substitutable) (Barney, 1991). This perspective considers the organization as a compilation of assets and capabilities. Each organization is unique due to distinct experiences, strengths, capabilities, and organizational cultures. The efficiency and effectiveness of the company’s operations hinge on its assets and capabilities. According to this viewpoint, specific critical resources can provide MSMEs with a sustainable competitive advantage (Prakash et al., 2021). However, the success of MSMEs depends on possessing the most appropriate resources aligned with its business and strategic objectives. The RBV theory is used in this research to explain the internal strategy of MSMEs in creating SCA (Tehseen et al., 2019). The MSMEs are expected to possess unique qualities that are hard for competitors to replicate. In this study, the RBV evolved into a grand theory to explain how MSMEs used the process of knowledge-sharing to SCA with an innovative culture and business performance as a mediator.

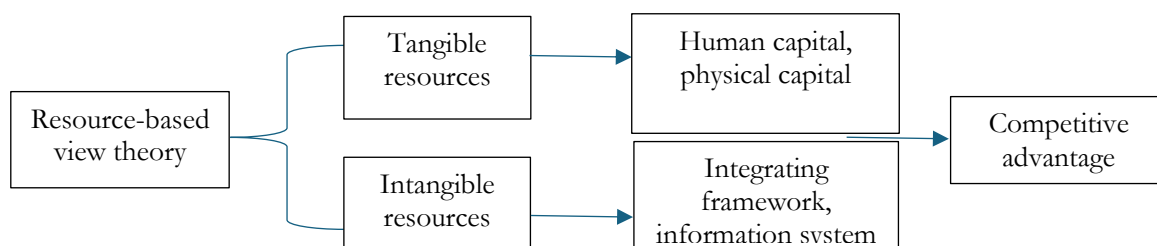


Figure 1. Review of RBV Theory

Source: (Hadjar et al., 2023)

In order to create SCA, knowledge sharing (KS) is essential since it improves performance overall, fosters understanding amongst parties, and speeds up innovation. This strategy promotes innovation, teamwork, and creativity, all of which enhance output and quicken the process of invention. Higher internal capabilities, especially in human resources and system design, allow MSEM's to establish and maintain SCA, according to the RBV paradigm. According to (Issau et al., 2021), improving performance and a company's competitiveness require a robust innovation culture. A sustainable competitive advantage (SCA) is a strategic edge that enables MSMEs to excel over its competitors within the same industry. To achieve SCA, a firm must meet four requirements: 1) be valued; 2) be uncommon among rivals; 3) be difficult to imitate; and 4) have no strategically equivalent alternatives. MSMEs should focus on developing core capabilities, hiring qualified personnel, creating unique product strategies, and acquiring intellectual property (Singh et al., 2008).

There is a close relationship between knowledge sharing and sustainable competitive advantage. Knowledge sharing helps companies to develop, update, and expand their knowledge (Arsawan et al., 2022). If the knowledge is shared within the company, it can provide several benefits that lead to a sustainable competitive advantage. The ability of knowledge management to manage and facilitate the KS process is a key factor in creating SCA for the company. KS forms new information and improves SCA through several activities such as sharing experiences, brainstorming ideas, and practices (Ayanbode & Nwagwu, 2021). Knowledge-based assets are the basis of success and SCA (Bashir & Farooq, 2019). Thus it can be concluded that the practice of knowledge sharing has a significant positive impact on the creation and maintenance of sustainable competitive advantage for companies. Based on the description, the following hypothesis is proposed:

H₁: Knowledge sharing has a positive effect on sustainable competitive advantage.

A strategic management approach known as the resource-based view (RBV) emphasizes the importance of internal corporate resources in achieving competitiveness (Medcof, 2000). A business can gain and sustain a competitive advantage by leveraging resources that are distinctive, valuable, and underutilized. Knowledge sharing (KS) is essential to this process, as it improves access to information and facilitates group learning, which in turn fosters creativity (Lee, 2016). This creative environment leads to the development of new ideas and the implementation of innovative solutions. An innovation culture refers to a work setting that actively supports and encourages innovation through practices that nurture creativity and emphasize innovative thinking (Johannessen & Olsen, 2011).

The effectiveness achieved by companies when implementing both knowledge sharing and innovation culture demonstrates the relationship between the two. This indicates a strong connection to innovation, especially within the culture of MSMEs, which is determined by the sharing of knowledge among. Knowledge sharing plays an important role in building a strong innovation culture (Ahmad & Karim, 2019). The authors believe that knowledge sharing encourages organizational innovation. When individuals or teams within a company share their knowledge openly, it creates an environment that facilitates the exchange of new ideas and thoughts. In a culture that promotes knowledge sharing, people within the company feel more comfortable sharing new ideas, improving existing processes, and creating innovative solutions to problems (Berraies, 2020; Cummings, 2004). Based on these findings, the following hypothesis is proposed:

H₂: Knowledge sharing has a positive effect on innovation culture.

The success of this innovation culture significantly affects various elements of customer satisfaction. To remain competitive, MSMEs need to capitalize on valuable. By integrating RBV with a focus on fostering an innovation culture, MSMEs can use their internal assets to create a dynamic environment that boosts overall performance (Liu et al., 2009). Thus, RBV underscores the importance of nurturing an innovation culture as a central strategy for achieving SCA (Kamasak, 2015). In MSMEs, an innovation culture encompasses the shared values, beliefs, and assumptions that support transformative processes (Dabić et al., 2019). Therefore, businesses must establish a shared value system that includes initiatives to promote fresh ideas and enhanced communication. Furthermore, innovation within the internal environment of the company helps their employees to

convey messages to the other employees that every new idea submitted is valued. Employees will be encouraged to share ideas and explore new approaches to enhance business performance once innovation culture is implemented (Ghasemzadeh et al., 2019). Previous studies (Exposito & Sanchis-Llopis, 2018; Kafetzopoulos et al., 2019; Kneipp et al., 2019) have demonstrated that innovation culture has a positive impact on company or business performance. Companies with a culture of innovation tend to be more adaptable, responsive to changes, and attuned to new opportunities (Kneipp et al., 2019). Based on these findings, the following hypothesis is proposed:

H₃: Innovation culture has a positive impact on business performance.

The RBV theory (Andersen, 2010) emphasizes the significance of internal resources in achieving a sustainable competitive advantage (SCA). To achieve a sustainable competitive advantage (SCA), MSMEs must foster an innovation culture (Wang et al., 2016) and effectively utilize its resources. Innovation culture is MSMEs climate that encourages new ideas creation, experimentation, and implementation of creative problem-solving. The RBV emphasizes the value of creativity and knowledge as critical assets (Amabile & Pratt, 2016). When supported by innovation culture, MSMEs can more effectively innovate and adapt to market shifts, boosting their capacity to generate and utilize knowledge and creativity. This innovation enhances their market relevance and competitiveness, especially leading to a sustainable competitive advantage (Chi, 2021). Integrating RBV theory with innovation culture, MSMEs can optimize the competitive benefits gained from their internal resources and unique abilities (Patras et al., 2012). Utilizing these distinctive internal resources through the combination of RBV and IC offers a path to achieving SCA (Almarri & Gardiner, 2014). Based on these findings, the following hypothesis is proposed:

H₄: Innovation culture has a positive effect on sustainable competitive advantage.

Business success and SCA are closely interconnected (Magon et al., 2018). A company achieves a SCA when it can maintain its market position over time, making it challenging for competitors to replicate (Arsawan et al., 2022). Strong MSMEs performance is crucial for establishing a lasting competitive advantage. MSMEs that demonstrate robust financial performance, such as rising sales, profits, and market share, generally hold a stronger position against their competitors (Reimann, 1987). This often involves investing in skills and resources to generate positive value that matches or exceeds that of rivals (Wang, 2019). Furthermore, business success supports a company's ability to invest in long-term strategies that enhance SCA. This includes funding for research and development, creating new products, exploring new markets, and developing unique organizational capabilities (Barney & Hesterly, 2020). Additionally, businesses must create value that is equal to or greater than their competitors to gain a competitive advantage. To enhance business performance and achieve a SCA, a company's internal resource structure, and control management system should be integrated (Corchuelo Martínez-Azúa & Sama-Berrocal, 2022). Based on these findings, the following hypothesis is proposed:

H₅: Business performance has a positive effect on sustainable competitive advantage.

According to the resource-based view (RBV), a business can enhance and maintain its competitiveness if it possesses valuable and undeveloped resources (Andersen, 2010). These resources include tangible assets, as well as abilities, know-how, and special talents. The Knowledge sharing (KS) process facilitates the sharing of information, expertise, and experiences across organizational units (Vidic, 2022). This process, in turn, enhances an organization's problem-solving capacity and fosters innovation (Ghosh, 2012). An organization's innovation culture is the environment that encourages and nurtures innovation. It serves as a catalyst for generating and applying creative ideas (Soken & Barnes, 2014). Sustainable competitive advantage (SCA) is the capacity of a business to remain competitive over time. To achieve and maintain SCA, MSMEs must effectively implement knowledge sharing (KS) and foster an environment that supports the creation and exchange of knowledge.

Selecting the right candidates, developing their skills, enhancing their motivation and creativity, and retaining outstanding individuals are all crucial and strategic for improving business

performance and achieving an SCA through human resources (Iqbal et al., 2019). Knowledge sharing promotes the growth of an innovation culture by enabling the free flow of new ideas and knowledge across the organization. The innovations generated from this culture of innovation then become a source of SCA (Syifa & Ahman, 2022). Because companies can continue to create superior products, services, or processes compared to competitors. Therefore, knowledge sharing has a significant influence on competitive advantage and is an important factor in shaping the company's competitive capacity (Arsawan et al., 2022). Based on these findings, the following hypothesis is proposed:

H₆: Innovation culture mediates the effect of knowledge sharing on sustainable competitive advantage.

Indeed, there is a close relationship between innovation culture, business performance, and sustainable competitive advantage. Innovation culture provides the basis for creating optimal business performance (Ghasemzadeh et al., 2019), overcoming the uncertainty of the company's external environment (Anwar et al., 2018), and facilitating the development of sustainable competitive advantage (Kafetzopoulos et al., 2019). Companies with a strong culture of innovation tend to have higher levels of employee satisfaction, better productivity, and higher levels of innovation, which ultimately contribute to better business performance. The dimensions of innovation culture (IC), namely organizational culture, products, process management, and innovation goals, provide the basis for creating business performance (Ghasemzadeh et al., 2019), overcoming the uncertainty of the external environment, and facilitating the development of SCA (Kafetzopoulos et al., 2019). Thus, innovation culture and business performance are two effective strategies to be integrated in achieving and maintaining sustainable competitive advantage (Arsawan et al., 2022; Bhat & Darzi, 2018). Based on these findings, the following hypothesis is proposed:

H₇: Business performance mediates the effect of innovation culture on sustainable competitive advantage.

This research explores how KS influences SCA through the mediation of IC and BP, integrating various theories about the relationships among these four variables. KS can help MSMEs to create SCA because it enables them to develop, update, and expand their existing knowledge. This effect is amplified by a strong IC within the MSMEs, as an effective KS process relies on an innovation-friendly environment (Teixeira et al., 2019). Furthermore, both KS and IC can lead to improved BP. This highlights the strategic importance of human resources in boosting performance and achieving SCA (Hanifah et al., 2020; Julpisit & Esichaikul, 2019). MSMEs can achieve SCA depending on enhancing KS through a strong IC and improving BP. Based on these findings, the following hypothesis is proposed:

H₈: Innovation culture and business performance mediate the effect of knowledge sharing on sustainable competitive advantage.

The model presented in Figure 2 incorporates four variables. It was developed using both theoretical and empirical research methods. This approach proposes examining the impact of information sharing on SCA while considering the mediating effects of innovation culture and business performance in MSMEs.

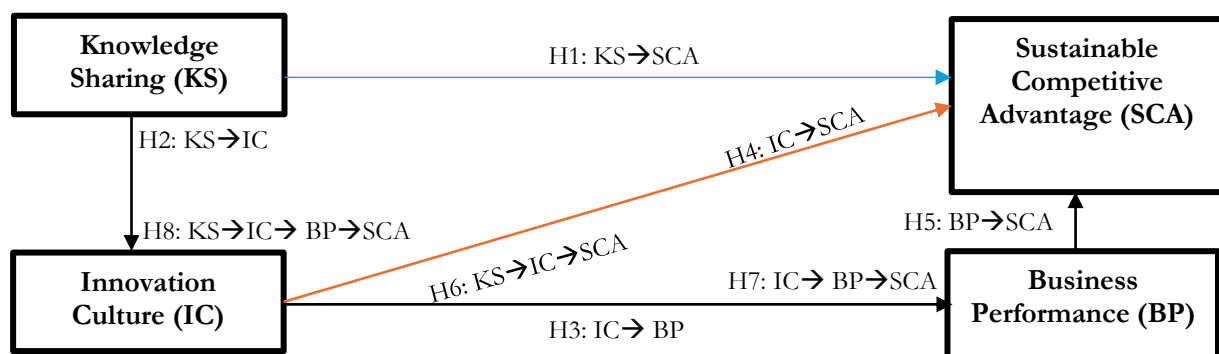


Figure 2. Research Model

Research Methods

This study aims to explore how knowledge sharing affects the sustainable competitive advantage of MSMEs. Additionally, it investigates the relationship between business performance and innovation culture.

Population and Sample

The study focused on fifty (50) MSMEs fashionpreneurs from Daerah Istimewa Yogyakarta, Indonesia based on the demographic and sample size information provided by Jogja Fashion Dunia 2024. The reason why the researchers chose this population and sample is due to the high and diverse number of MSMEs in Daerah Istimewa Yogyakarta province, particularly among fashionpreneurs. This phenomenon is related to the decision by the Governor of Daerah Istimewa Yogyakarta, Sri Sultan Hamengkubuwono X, to support Yogyakarta as a global fashion hub. As a result, fashionpreneurs throughout Daerah Istimewa Yogyakarta are expected to develop distinctive and unique characteristics in the fashion industry. Consequently, the Jogja Fashion Dunia incubation program is held to provide exclusive training and mentoring for selected fashionpreneurs, preparing them to compete on a global stage.

Data Collection and Procedures

The main online and offline data collection tool for this project is a Google Form. Fifty MSMEs fashionpreneurs who are taking part in the Jogja Fashion Dunia program are given the questionnaire. This is done in order to evaluate how well the four research variables—sustainable competitive advantage, knowledge exchange, innovation culture, and business performance—are being implemented in the business environment of MSMEs. Three different kinds of variables are used in this study: mediating, independent, and dependent variables. Refers to Table 1 below for further information on the variables utilized in this investigation:

Table 1. Operational Definition of Research Variables

Variable	Definition	Indicator
Sustainable Competitive Advantage (SCA) (Singh et al., 2020)	SCA, or sustainable competitive advantage, refers to a company's ability to outperform other companies in the same industry or market. It is achieved through leveraging the company's unique characteristics and resources (Porter, 1980).	<ol style="list-style-type: none"> 1. The resulting value 2. Price 3. Rareness 4. Service delivery systems 5. Imperfectly non-imitable 6. Product differentiation
Knowledge Sharing (KS) (Arsawan et al., 2022)	The process of developing individual knowledge is facilitated through the exchange of information and experiences between individuals within MSMEs.	<ol style="list-style-type: none"> 1. Socialization 2. Externalization 3. Combination 4. Internalization 5. Make it easier to access information 6. Collaborate on problem solving or idea development
Innovation Culture (IC) (Arsawan et al., 2022)	A set of company norms and values that foster creativity, idea-sharing, and calculated risk-taking in order to create and improve solutions and processes.	<ol style="list-style-type: none"> 1. Innovation goals 2. Organizational Culture 3. Product Innovation 4. Innovation Process 5. Management innovation
Business Performance (BP) (Sabihaini et al., 2024)	The level of achievement or results obtained by MSMEs in a certain period.	<ol style="list-style-type: none"> 1. MSME productivity level 2. Level of customer satisfaction 3. ROA (return on assets) 4. Profit growth 5. Sales growth 6. Market share growth

All variables were measured using a 5-point Likert scale ranging from “1 = strongly disagree” to “5 = strongly agree”. The researchers used phrases that are appropriate to the context of the MSMEs fashionpreneur Jogja Fashion Dunia incubation program. This approach ensures that MSMEs owners, as respondents, can easily understand the questions being asked.

The Likert scale explains the range of responses for each respondent. The average value of each respondent can be grouped into interval classes, totaling 5 classes, as follows:

$$\frac{\text{maximum value} - \text{minimum value}}{\text{classes number}} = \text{intervals}$$

$$\frac{5 - 1}{5} = \text{intervals}$$

$$0.8 = \text{intervals}$$

Based on the calculations above, the distribution scale of answer criteria and opinions from respondents generates the intervals value: 1.00-1.79 = very low; 1.80-2.59 = low; 2.60-3.39 = enough; 3.40-4.19 = high; and 4.20-5.00 = very high.

Data Analysis Technique

Descriptive analysis is used in this study to examine the traits of SMEs, with particular attention paid to business performance, innovation culture, information sharing, and sustainable competitive advantage. Questionnaire data is collected and subjected to partial least squares (PLS) analysis, which is a structural equation modeling (SEM) technique. PLS works well with small sample sizes and can handle any size of data (Hair et al., 2021). Regression and component analysis are used in SEM, a statistical field that assesses weak correlations, as a multivariate analysis tool. The study employs two sub models for data analysis: the inner model and the outer model using SmartPLS version 4.0 software. The goal of the PLS-SEM analysis is to evaluate the link between an indicator and a construct or the relationship between a construct and an indicator.

Results and Discussion

Table 2. Characteristics of the Respondents

	Category	Frequency (n=47)	Percentage (%)
<i>Business experience (years)</i>	1 – 5	10	21.28
	6 – 10	22	46.81
	11 – 25	15	31.91
<i>Gender</i>	Male	10	21.28
	Female	37	78.72
<i>Age (years old)</i>	25 – 29	5	10.63
	30 – 50	35	74.47
	51 – 58	7	14.9
<i>Education level</i>	Senior high school/equivalent	5	10.64
	Diploma	3	6.38
	Bachelor	34	72.35
	Master	5	10.63
<i>Market orientation</i>	Local	20	42.55
	Regional	17	36.17
	Global	10	21.28
<i>Income per month (in million/IDR)</i>	5,000 – 10,000	42	89.4
	10,000 – 15,000	5	10.6
<i>Number of employees</i>	3 – 15	36	76.6
	16 – 35	11	23.4
<i>Ownership type</i>	Individual	15	32
	Family business	2	4.2
	CV	5	10.6
	Limited company	15	32
	Enterprise	10	21.2

Source: Primary data processed, 2024

Table 2 shows the characteristics of respondents. The majority of the respondents' have been operating in the range of 6 to 10 years. This means that the business has managed to survive in a variety of situations and conditions. Because, 6-10 years is a long life. There are many problems that have been faced by respondents. Furthermore, the majority of respondents are women, and most are between 30-50 years old. This indicates that the respondents are at a productive stage in running their businesses. This age range is associated with market responsiveness, intellectual ability, and optimal business management. Another finding is that most respondents have an undergraduate level of education. This suggests that a majority of respondents' knowledge in achieving long-term success for their companies. Such success should be reflected in their ability to serve target markets effectively. The majority of respondents' target markets are local and regional. This presents a significant challenge for respondents, as they need to expand their global market coverage. The monthly turnover of the respondents' businesses falls into a favorable category, with the majority generating between IDR 5 million and 10 million per month. Thus, the business conditions of the respondents in this article present an opportunity for success and sustainability.

The following data show the number of employees in SMEs. This data refers to the ability of SMEs to manage human resources effectively, which allows them to achieve sustainable competitive advantage (SCA) and improve business performance. this phenomenon indicates that respondents demonstrate strong management skills in handling human resources. Table 2 reveal that the majority of SME ownership is managed by private (individuals) and limited companies. This observation aligns with our direct findings that every SME participating in Jogja Fashion Dunia Incubation Program has complete legality, including proper licensing and intellectual property rights.

Outer Model Measurement

The software named SmartPLS 4.0 was used to analyze the data. Initially, the measurement model is evaluated using tests for validity, reliability, and hypothesis testing.

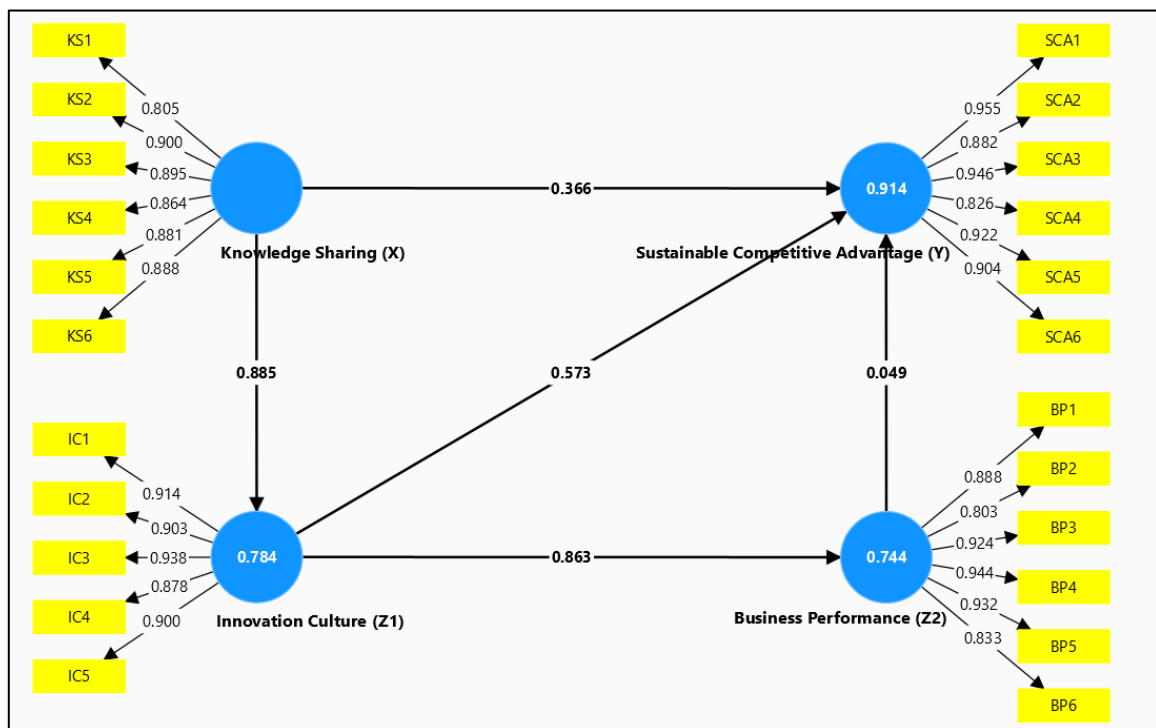


Figure 3. Path Coefficient Result
Source: Primary data processed, 2024

The value of the outer loading on latent variables indicates the convergent validity. The study employed the loading factor method to assess discriminant validity. Table 3 presents the

results of the convergent validity test. The entire loading factor in this study measurement item has a value above 0.70 so it is stated that the entire structure meets the criteria. The rule of thumb to evaluate convergent validity must be more than 0.70 (Hair et al., 2021).

Table 3. Convergent Validity Result

Variables	Items	Convergent Validity	
		Loading Factor	AVE
Sustainable Competitive Advantage (SCA)	6	0.826 – 0.955	0.790
Knowledge Sharing (KS)	6	0.805 – 0.900	0.823
Innovation Culture (IC)	5	0.878 – 0.938	0.762
Business Performance (BP)	6	0.803 – 0.944	0.822

Source: Primary data processed, 2024

The results of the discriminant validity test, as shown in Table 4 using the cross-loading approach for each reflective variable, are 0.70 or higher and exhibit stronger correlations with the main variable being measured compared to other variables. This indicates that the reflective variables have excellent discriminant validity. This aligns with the theory that each research variable's cross-loading should exceed 0.70. The table presents cross-loading data, with rows representing the indicators and columns representing the constructs or latent variables.

Table 4. Cross-Loading Discriminant Validity Result

Item Measurement	BP	IC	KS	SCA
BP1	0.888	0.762	0.689	0.709
BP2	0.803	0.763	0.800	0.777
BP3	0.924	0.765	0.738	0.791
BP4	0.944	0.807	0.757	0.755
BP5	0.932	0.787	0.750	0.756
BP6	0.833	0.689	0.815	0.770
IC1	0.795	0.914	0.801	0.882
IC2	0.752	0.903	0.812	0.858
IC3	0.799	0.938	0.856	0.932
IC4	0.769	0.878	0.778	0.757
IC5	0.785	0.900	0.765	0.819
KS1	0.752	0.788	0.805	0.801
KS2	0.743	0.792	0.900	0.782
KS3	0.846	0.806	0.895	0.788
KS4	0.681	0.688	0.864	0.760
KS5	0.751	0.783	0.881	0.851
KS6	0.698	0.750	0.888	0.795
SCA1	0.810	0.884	0.889	0.955
SCA2	0.781	0.805	0.782	0.882
SCA3	0.809	0.915	0.885	0.946
SCA4	0.732	0.778	0.842	0.826
SCA5	0.768	0.851	0.796	0.922
SCA6	0.753	0.827	0.774	0.904

Source: Primary data processed, 2024

Note. BP = Business performance; IC = Innovation culture; KS = Knowledge sharing; SCA = Sustainable competitive advantage.

In addition to using cross-loading, this study employs the Fornell-Larcker test. The Fornell-Larcker criterion states that a construct is considered valid when the square root of the average variance extracted (AVE) is compared to the correlation values among latent variables. The square root of the AVE must be greater than the correlations among latent variables. According to the Table 5, the square root of the AVE (Fornell-Larcker criterion) for each construct is greater than

its correlations with other variables. Thus, the correlation values for all variables in this research are considered valid.

An acceptable threshold for discriminant validity is also obtained by examining the Heterotrait-Monotrait ratio (HTMT) values, which should be less than 0.90. All HTMT values in this paper are below 0.90. The highest HTMT value in this study is for the correlation between knowledge sharing variable and sustainable competitive advantage variable, with a score of 0.864, while the lowest HTMT value is for the correlation of business performance and innovation culture, with a score 0.712, as shown in Table 5. All variables have correlation values less than 0.90, thus the correlation values for all variables are considered valid.

Table 5. Fornell-Larcker and HTMT Results

Constructs	Fornell-Larcker Criterion				HTMT Ratio			
	BP	IC	KS	SCA	BP	IC	KS	SCA
BP	0.889							
IC	0.863	0.907			0.712			
KS	0.776	0.885	0.873		0.808	0.838		
SCA	0.786	0.839	0.714	0.907	0.800	0.784	0.864	

Source: Primary data processed, 2024

Note. BP = Business performance; IC = Innovation culture; KS = Knowledge sharing; SCA = Sustainable competitive advantage.

In this study, Cronbach’s alpha and composite reliability were used to evaluate the reliability of the variables. The results, shown in Table 6, indicate that Cronbach’s alpha values for each variable range from 0.937 to 0.956, with a value above 0.70 deemed reliable. Additionally, the composite reliability values for each variable range from 0.950 to 0.965, also considered reliable if greater than 0.70. These results underscore the importance of a variable’s reliability, as measured by both Cronbach’s alpha and composite reliability, with both values needing to exceed 0.70 (Hair et al., 2021).

Table 6. Reliability Test

Variables	Indicators	Cronbach’s Alpha	Composite Reliability
Sustainable competitive advantage	SCA1	0.956	0.965
	SCA2		
	SCA3		
	SCA4		
	SCA5		
	SCA6		
Knowledge sharing	KS1	0.937	0.950
	KS2		
	KS3		
	KS4		
	KS5		
	KS6		
Innovation culture	IC1	0.939	0.959
	IC2		
	IC3		
	IC4		
	IC5		
Business performance	BP1	0.946	0.958
	BP2		
	BP3		
	BP4		
	BP5		
	BP6		

Source: Primary data processed, 2024

Inner Model Measurement

R Square

R-square measures how well the exogenous latent variables in this study can explain the endogenous latent variables. The results for R Square and adjusted R Square are presented in Table 7.

Table 7. R Square Test Result

Endogenous Variables	R Square	R Square Adjusted
Business performance	0.744	0.739
Innovation culture	0.784	0.779
Sustainable competitive advantage	0.914	0.908

Source: Primary data processed, 2024

The results of the R-square test show that the model in this study is robust. Based on the R-square criteria, a value of 0.25 indicates a weak model, 0.50 indicates a moderate model, and 0.75 indicates a robust model. The interpretation of the R-square analysis is as follows: 1) The exogenous variable, knowledge sharing, explains 74.4% of the endogenous variable, company performance, as evidenced by the endogenous variable's R-square value of 0.744. 2) The endogenous variable has an R-square value of 0.784, indicating that 78.4% of the variation in the endogenous variable, innovation culture, can be explained by the exogenous variable, knowledge sharing, while the remaining 21.6% is attributed to other variables. 3) The endogenous variable has an R-square value of 0.914, suggesting that 91.4% of the variation in the endogenous variable, sustainable competitive advantage, can be explained by the exogenous variable, knowledge sharing, while the remaining 8.6% is attributed to other variables.

Hypothesis Testing

In this research, hypothesis testing can be done by examining the path parameters and degree of significance between latent variables. The link of each hypothesized variable is determined using the hypothesis put forth in this study. If the p-value is less than 0.05, the results of the hypothesis testing are accepted and supported (Hair et al., 2021). Therefore, Tables 8 and 9 present the outcomes of the hypothesis testing for the direct and indirect effects between variables.

Table 8. Direct Effect Examination

Hypothesis	Original Sample (O)	P-Values	T-Statistics (O/STDEV)	95% Confidence Interval		Decision
				Lower Limit	Upper Limit	
H1. KS→SCA	0.366	0.000***	3.688	0.164	0.558	Supported
H2. KS→IC	0.885	0.000***	2.198	0.818	0.937	Supported
H3. IC→BP	0.863	0.000***	2.866	0.779	0.928	Supported
H4. IC→SCA	0.573	0.000***	5.401	0.348	0.758	Supported
H5. BP→SCA	0.049	0.689	0.400	-0.154	0.314	Not supported

Source: Primary data processed, 2024

Note. BP = Business performance; IC = Innovation culture; KS = Knowledge sharing; SCA = Sustainable competitive advantage.

*p<0.05; **p<0.01; ***p<0.000

Table 8 presents the results of the direct effects in the hypothesis testing of this study. The results of the hypothesis testing can be assessed by the p-values, which should be less than 0.005. Hypothesis 1 through hypothesis 4 are accepted because their p-values are less than 0.005. This indicates that the effects of each variable in this study are positive and significant, consistent with observations that MSMEs are optimizing the variables studied. However, hypothesis 5 is not supported because its p-value is greater than 0.005. This finding aligns with observations that BP

has not yet fully succeeded in creating SCA because MSMEs have not accurately reflected their performance conditions over the past year. Often, MSMEs focus on periods of suboptimal performance, which represents a limitation of this study, highlighting the need for MSMEs to genuinely report their actual performance conditions based on available data.

Table 9. Indirect Effect Examination

Hypothesis	Original Sample (O)	P-Values	T-Statistics (O/STDEV)	95% Confidence Interval		Upsilon V	Decision
				Lower Limit	Upper Limit		
H6. KS→IC→SCA	0.507	0.000***	5.360	0.308	0.677	0.2571	Supported, high effect mediation
H7. IC→BP→SCA	0.042	0.693	3.395	-0.134	0.280	-	Not supported
H8. KS→IC→BP→SCA	0.037	0.694	0.394	-0.109	0.265	-	Not supported

Source: Primary data processed, 2024

Note. BP = Business performance; IC = Innovation culture; KS = Knowledge sharing; SCA = Sustainable competitive advantage.

*p<0.05; **p<0.01; ***p<0.000

Table 9 presents the results of the indirect effect between variables. Hypothesis 6 is accepted. The results of testing H6 show that the variable IC significantly mediates the effect of KS on SCA, with a path coefficient of 0.507 and a p-value of 0.000 (which is less than 0.005). Since SmartPLS 4.0 does not include a feature for mediation effect size, this study refers to (Lachowicz et al., 2018) to assess the level of mediation effect. According to their criteria, a mediation effect value of <0.01 indicates low effect, 0.075 signifies moderate effect, and more than 0.175 represents high effect. Therefore, the mediation effect in H6 is classified as high mediation effect. Additionally, based on descriptive analysis of respondents' feedback on the research variables, these three variables also have high to very high average values. This implies that each variable has a positive impact individually, and when integrated, they significantly benefit for MSMEs (Dabić et al., 2019; Schmidt et al., 2018). This finding also provides a comprehensive understanding that high educational level of respondents contributes positively to each variables.

However, hypothesis 7 and hypothesis 8 are rejected. This conclusion is supported by p-values of H7 and H8 (which is greater than 0.005). Descriptive analysis of the variables shows that business performance in Jogja Fashion Dunia's fashionpreneurs is categorized as high. This is because the owners of MSMEs recognize that all indicators of BP reflect their business conditions well and support the operational and existential aspects of MSMEs. IC positively impacts SCA, this finding contrasts with previous studies that suggested a partial effect between IC and SCA, with BP as a mediating variable. Previous research also indicated that IC lays the groundwork for strong BP, addresses external environmental uncertainties, and facilitates the development of SCA (Magon et al., 2018; Steffen et al., 2017). Despite this study's divergence from earlier findings, the competitive environment poses unique challenges for Jogja Fashion Dunia's fashionpreneurs. Moreover, BP has not yet contributed to enhancing IC to improve SCA. Thus, the integration of these two variables should be continuously evaluated to positively influence the creation of SCA.

According to the descriptive analysis of variables, H5 and H7 show that BP does not significantly contribute to SCA. This suggest that, in H8, BP and IC are not sufficiently strong to enhance KS's impact on creating SCA. BP is not yet strong enough to contribute to creating and maintaining a sustainable competitive advantage for MSMEs in Jogja Fashion Dunia incubation program. Based on these findings, it can be concluded that BP is insufficient to work alongside IC in enhancing the impact of KS on SCA. Therefore, MSMEs need to continuously reflect on their actual BP conditions based on both financial and non-financial reports (Issau et al., 2021). H8

introduces a new perspective in this study, as previous literature does not address this specific aspect. Nonetheless, it can be concluded that KS may influence SCA, mediated by IC and BP. This result diverges for earlier research which indicated that KS generates new information and enhances SCA through activities such as experience sharing, brainstorming, and innovation practices (Tehseen et al., 2019).

Discussion

The research findings indicate that five hypotheses are supported while three are not. This suggests that the roles of KS and IC are effective in creating and enhancing SCA for MSMEs. However, the variable BP is not yet strong enough contribute to SCA. This finding is new given the increasingly competitive environment and growing awareness among MSMEs entrepreneurs to continuously innovate. Nevertheless, MSMEs should conduct regular evaluations of their BP conditions. Such evaluations are essential for monitoring, mapping current, and potential issues. Evaluating BP will help MSMEs enhance their overall performance, considering their significant role in national economic growth (Magnier-Watanabe & Senoo, 2009). Additionally, there must be continuous improvement in the implementation of KS and IC. These efforts are expected to be solutions for MSMEs to achieve SCA. Maintaining SCA can be a lengthy process to understand what MSMEs should and should not do. Although H5, H7, H8 are not supported, these findings represent a phenomenon that requires a prompt response to improve BP. MSMEs need to address various aspects of BP comprehensively, quickly, and accurately. This will enable future research to provide a thorough understanding of effectiveness of the strategies used in this study for achieving SCA.

The study's findings also suggest that there are five plausible explanations related to the success of MSMEs in promoting and improving SCA creation. The results of the descriptive variable analysis show that the respondents' business performance is high. This is because MSME owners recognize that all business performance metrics yield positive results, which supports the continued existence of MSMEs. However, it is important to note that MSMEs operate in a dynamic environment. Given the current circumstances, MSMEs must continually enhance their unique selling point, capitalize on their potential in the domestic market, and explore diversification into other sectors (Sabihaini & Prasetyo, 2020).

The owner's assessment of the performance circumstances over the previous year is a fundamental factor that explains how business success contributes to a sustainable competitive advantage. MSMEs often focus on achieving SCA within a specific timeframe (Sadeghi Boroujerdi et al., 2020). Therefore, it is crucial for MSMEs owners to assess and consider the actual circumstances of the prior year. By providing accurate information based on monthly statistics and performance parameters, MSMEs owners can ensure that research findings are evaluated empirically.

Nonetheless, there is still room for improvement and maximizing the benefits that knowledge sharing and an innovation culture can provide for MSMEs. This aligns with earlier studies, such as those by Arsawan et al. (2022), who emphasizes the significant potential of MSMEs in generating sustainable competitive advantage (SCA). MSMEs have cultivated a strong culture of innovation, as evidenced by the impact of knowledge sharing and an innovative culture on SCA. Within this atmosphere of innovation, staff members regularly exchange ideas, perspectives, and knowledge. As a result, MSMEs are able to thrive even in an unpredictable business climate (Sattayaraksa & Boon-itt, 2016).

Even if the business performance of MSMEs in this study is sufficient to establish SCA, empirical research findings demonstrate the effectiveness of this approach. This can serve as both a catalyst and a hindrance to future development for MSMEs, especially those in Indonesia and Daerah Istimewa Yogyakarta, enabling them to successfully establish and maintain SCA.

Implication and Conclusion

MSMEs rely on cutting-edge strategies to compete against formidable competitors and increase their market share, sales income, profitability, and overall performance. The study reveals that the

relationship between MSMEs' performance and key performance indicators (KPIs) and IC is influenced by strategic control (SC). When evaluating the significant mediating effect on business performance (BP) and IC, both BP and IC make valuable contributions. Innovation is a driving force behind MSMEs performance and plays a crucial role in determining SCA. This study demonstrates how the innovative thinking and strengths of MSMEs promote KS, BP and IC. The study maintains, validates, and supports the premise that RBV theory influences SCA through internal capabilities and creative activities. Enterprises that have efficient internal resource management and utilization are more likely to achieve sustainable competitive advantage (SCA).

The findings of this study indicate that the practices of KS and IC are capable of creating, enhancing, and achieve SCA for MSMEs. Furthermore, the mediating role of IC can amplify the impact of KS on SCA. This phenomenon must be continuously improved by MSMEs by optimizing the processes of effective, efficient, and measurable KS. Additionally, the implementation of IC should be continuously enhanced by clearly defining innovation goals, manage the knowledge sharing management, and applying innovation management effectively, so that IC and KS processes become more effective. The results of this study can serve as a foundation for MSMEs in formulating strategies to achieve SCA. MSMEs should also pay attention to both financial and non-financial aspects that reflect their true performance conditions. This can help MSMEs identify the challenges they face and the solutions they can offer.

There are limitations in this study that should be considered for the future research. This study focuses on the fashion creative industry within the Jogja Fashion Dunia incubation program. Additionally, there is a need for innovation in data collection methods to ensure that the research is not perceived as merely a formality. Innovations in data collection could include presenting questionnaires in an engaging manner, conducting data collection directly with specific approaches (to enable participants to more accurately reflect their company's true conditions), and fostering engagement between researchers and participants. The results of this study may differ from previous and future research, as the outcomes also depend on the data and conditions of the research subjects. Moreover, future researchers may want to incorporate covariates into their models and analyze their impact on BP. Additionally, tests can be conducted to determine the differences between low and high innovative organizations (Sigalas & Papadakis, 2018).

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