



# Human capital readiness and global market orientation to business performance: The mediation role of green innovation

*Preparación del capital humano y orientación del mercado global hacia el desempeño empresarial: el papel mediador de la innovación verde*

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## Abstract

This study aims to empirically examine the mediating effect of green innovation on the influence of human capital readiness and global market orientation on micro, small and medium enterprises (MSMEs) business performance. This study was conducted on MSMEs in East Java, Indonesia, with a total of 326 respondents. The data analysis technique in this study used the partial least square (PLS) method. The results of this study indicate that green innovation partially mediates the effect of human capital readiness on MSME business performance. Moreover, green innovation partially mediates the influence of global market orientation on business performance.

JEL Code: J24, L25, O15

Keywords: human capital readiness; global market orientation; green innovation; business performance

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## Resumen

Este estudio tiene como objetivo examinar empíricamente el efecto mediador de la innovación verde sobre la influencia de la preparación del capital humano y la orientación del mercado global en el desempeño empresarial de las micro, pequeñas y medianas empresas (MIPYMES). Este estudio se llevó a cabo en MIPYMES en Java Oriental, Indonesia, con un total de 326 encuestados. La técnica de análisis de datos en este estudio utilizó el método de mínimos cuadrados parciales (PLS). Los resultados de este estudio indican que la innovación verde media parcialmente el efecto de la preparación del capital humano en el desempeño empresarial de las MIPYMES. Además, la innovación verde media parcialmente la influencia de la orientación del mercado global en el desempeño empresarial.

*Código JEL:* J24, L25, O15

*Palabras clave:* preparación del capital humano; orientación al mercado global; innovación verde; el rendimiento del negocio

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## Introduction

This era of the global market demands that all companies, both large and small companies, such as micro, small and medium enterprises (MSMEs), compete to win the competition. The presence of a global market for large companies can spur enthusiasm to continue working and ace the competition. However, for small companies such as MSMEs, the global market is challenging. The weakness of the average MSME is the lack of knowledge and readiness of human resources, so MSMEs often go bankrupt because they cannot maintain their business. MSMEs are one of the Indonesian economy's drivers; they significantly contribute to improving people's welfare (Tjahjadi et al., 2022). Maintaining the survival and business performance of MSMEs is one of the essential things that we must strive for.

Kominfo East Java Province (2022) said that the number of MSMEs is 64.1 million, and the contribution of MSMEs to the Gross Domestic Product (GDP) is Rp. 8.6 T (61.97%), the number of MSMEs in the digital ecosystem is 17.5 million, Investment integration is 60.4%, and Labor Absorption of 97%.s One of the problems of MSMEs is the readiness of human resources, where when receiving workers; sometimes they are not able to work directly or lack work competence. MSMEs must anticipate human resources' willingness to meet work demands. The readiness of human resources is essential for an organization because it can be used to assess business performance.

Business performance is a measure used to assess the company's success; the better the performance, the more successful the company is. To achieve optimal business performance, companies must have adequate resources, both tangible resources and intangible resources. The Knowledge-resource-based views (KBV) theory developed by Grant (1996) says that strategic resources create the company's

success in the form of intangible assets. KBV focuses on managing specific aspects of the company's intangible assets, one of which is knowledge.

Knowledge is one of the intangible assets attached to human resources, or the term is referred to as human capital. RBV theory states that one of the determinants of business performance and competitive advantage is the company's internal resources (Chabowski & Mena, 2017). One of the company's internal resources is human capital. Human capital contributes to creating economic value, which is assumed to improve the company's business performance (Tjahjadi et al., 2022).

High knowledge alone is not enough to improve the company's performance in the global market if it is not balanced with the readiness of adequate resources to understand market conditions (Nakos et al., 2019). One of those resource readiness is the readiness of human capital. The preparedness of human capital plays a vital role in executing the company's strategy. Research conducted by Miyagi et al., (2019) found that the higher the level of readiness of the company's human capital, the more influential the strategy execution, including the transgenic strategy, to improve company performance.

Global business competition is increasingly competitive. Companies to achieve a competitive advantage at the worldwide level, they must have a strategy. Generally, methods that can be used to create a competitive advantage in the global market include market orientation, innovation and entrepreneurial orientation (Djodjoko & Tawas, 2014). The strategy used by the company must be in line with the company's goals. In addition to the readiness of human capital, a critical approach for improving the company's business performance is global market orientation. Previous research conducted by Nakos et al. (2019), Tjahjadi et al. (2020), Tjahjadi et al. (2022) found that global market orientation is one of the factors that can improve company performance. International market orientation can provide explicit knowledge about the target market following the products offered by the company. The ability referred to in this study is the information needed by the company to complete specific tasks (Grant, 1996). A company that is oriented to the global market is a company that makes the target market a company parameter to run a business. Companies with a high international market orientation have a high impact on company performance as well. A company that is oriented to the global market is a company that makes the target market a company parameter to run a business. Companies with a high global market orientation have a high impact on company performance as well. A company that is oriented to the global market is a company that makes the target market a company parameter to run a business. Companies with a high global market orientation have a high impact on company performance as well.

MSMEs must strive to create innovations that adapt to global market conditions and the environment. Green innovation can be a solution for companies to continue to carry out production and innovation activities while maintaining environmental sustainability. Green innovation is not only needed by large companies but also needed by small companies such as MSMEs.

MSMEs have created many opportunities, such as employment opportunities, providing opportunities to develop soft skills and hard skills so that they can contribute to economic growth. Innovation is an effective way to improve product quality and increase company productivity, contributing to company performance in achieving competition (Camisón & Villar López, 2010), (Giniuniene & Jurksiene, 2015). GPI applied by companies can improve product design, quality, and environmental concerns that can result in the company's opportunity to set higher prices and make better profit margins, thereby increasing the company's performance (Chen et al., 2006).

The results of previous research on human capital on business performance are still inconsistent Chahal et al. (2016) and Agyabeng-Mensah & Tang (2021) found that green human capital has a positive effect on financial performance, Githaiga (2020) found that human capital has significantly influence bank performance, Onuoha, (2021) found that human capital has positive effect on corporate financial performance dan structural capital, and Tjahjadi et al. (2022) found that human capital has a positive effect on business performance. Research conducted by Cabrilo & Dahms (2018) found the opposite human capital does not affect business performance. The inconsistency of the results of this study is suspected to be other variables that may mediate the relationship. Therefore, this study proposed a green innovation variable mediating the influence of human capital readiness and global market orientation on business performance.

## **Literature review**

### *Resource-Based Views Theory (RBV)*

The Resource-Based View (RBV) theory discusses how companies can utilize their resources to compete with other companies. Riahi-Belkaoui (2003) states that a potential strategy to improve company performance combines tangible and intangible assets. The company will gain its competitive advantage when the company has superior resources. Employees are one of the most valuable resources for a company. The company's ability to manage resources effectively can create an excellent competitive advantage to improve company performance. The Resource-based view theory explains that the internal resources owned by the company that the success or failure of a company will be primarily determined by the strengths and weaknesses that exist within the company internal. Bates & Flynn (1995) emphasize that resources will affect the company's performance and also state that something rare and difficult to imitate by others encourages the emergence of competitive advantage. Resource-Based View Theory can be concluded that the resources owned by the company affect the company's performance, increasing the company's value.

### *Knowledge-Based Views (KBV) theory*

Grant (1991) The Knowledge-Based View (KBV) theory is based on corporate knowledge, indicating that knowledge in its various forms is a resource interest for the company. KBV theory sees that knowledge is an essential thing that someone in creating company value must possess. The company will try to develop new knowledge or information faster than its competitors. This knowledge view-based theory is expected to manage and utilize resources well to improve company performance. Knowledge-based view states that the products and services produced by a company depend on the way the company combines and implements functions within the company. Knowledge-based view theory is a view that focuses on knowledge because, with the development of knowledge, the company can maintain its competitive advantage and will provide an increase in company performance so that the value of the company will increase.

### *Human capital readiness*

Kaplan & Norton (2004) Human Capital Readiness (HCR) is a framework that enables organizations to identify HC requirements for strategy execution, estimate gaps between HC requirements and employee readiness, and build programs to close gaps between current conditions and readiness. The measurement process of HCR begins by identifying the competencies needed by individuals whose performance affects the company's performance. The result is the level of preparedness of human resource competencies. The role of human capital in the company is a driving force for the company, so the management and readiness of human capital are one of the success factors of the company. Talented human resources can increase company productivity. Human capital can improve the productivity of human resources and company performance through the ability of human resources, knowledge, and skills in work.

### *Business performance*

The more the economy develops, the more competitors can cause its presence to be threatened. If a company can maintain its presence in the market, then the company can keep the company's performance stable. Moerdiyanto (2015) reveals that company performance results from a series of business processes at the expense of various kinds of human and financial resources. The corporate version refers to how well an organization achieves market-oriented and economic goals (Yamin et al., 1999).

### *Green innovation*

Innovation is an essential function for the company because it determines how the company's business performance. Innovation is becoming increasingly important as a tool for survival, not only for growth but also in increasingly fierce competition and environmental uncertainty (Han et al., 1998). The increasingly intense competition and changing market needs require companies to create something new to compete with other competitors. Companies are required to develop products or services continuously so that companies can maintain their survival (Robbins, 1994). Green innovation can be used as an appropriate environmental approach to improve environmental efficiency, environmental protection, and waste management (Chen et al., 2006).

Green innovation can be grouped into two namely: Green product innovation is an innovation in products by considering environmental impacts (such as using environmentally friendly materials, green design, minimizing the use of useless goods, and products using recyclable goods) to increase competition Companies (Chen et al., 2006). Green product innovation should be able to provide more value than other products so that the company has an advantage over its competitors and will improve the company's performance. Daniel (2008) revealed that green product innovation is beneficial for customers because, in addition to having environmentally friendly benefits, green products will also produce personal environmental benefits for customers, such as energy savings; then indirectly, this will create more demand, and companies will be motivated to implement better innovations. Green process innovation is using innovative ways to reduce the negative environmental impacts caused by the production process (Chen et al., 2006). The most crucial key to green process innovation is that the products produced do not contain hazardous materials and are processed without harmful chemicals. Green process innovation creates more value for customers and improves the company's image. The savings in using raw materials and production efficiency in green innovation will impact better company performance (Ar, 2012).

### *Global market orientation*

Global market orientation (GMO) is important for companies as global competition increases and the customer always needs change, making them thirsty to be close to their target market. GMO is defined as a company's orientation and activities to market its products in the global market with the aim of increasing competitive advantage (Nakos et al., 2019). Applying global market orientation will increase the company's performance, where the parameter in creating products is the customer's understanding of the wishes and needs.

## Hypothesis development

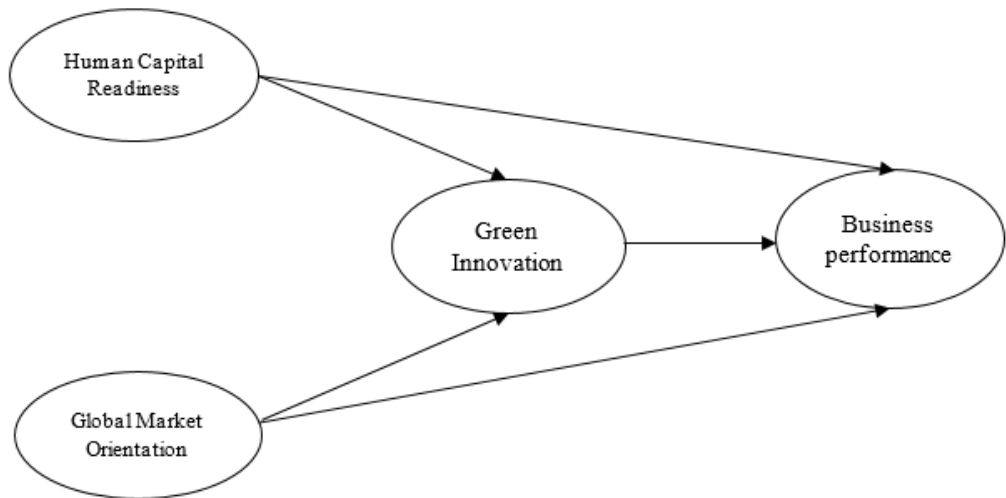


Figure 1. Conceptual framework

Figure 1 above shows the conceptual framework of this research. This study uses human capital readiness and global market orientation variables as antecedent variables of business performance variables. This study uses green innovation as a mediating variable on the influence of human capital readiness and global market orientation on business performance. The implementation of the green innovation strategy is believed to be able to improve the company's business performance.

### *Human capital readiness and business performance with green innovation as a mediating variable*

Human capital is one of the essential factors as a determinant of company performance. The higher the human capital readiness, the higher the company's performance. The enthusiasm of human resources is critical to the success of GMOs. The higher the level of preparedness of the company's human capital, the more influential the strategy execution, including the transgenic strategy so that it can improve the company's performance (Miyagi et al, 2019). The results of previous research conducted by Chahal et al. (2016); Agyabeng-Mensah & Tang (2021); Githaiga (2020); Onuoha (2021);Tjahjadi et al (2022) found that human capital has a positive effect on business performance.

Every company has a different strategy to achieve company goals. The strategy formulation that will be used must pay attention to consumer demand. Recently, consumers have switched to environmentally friendly products, so some companies focus on green innovation in their products. The implementation of this green innovation strategy is believed to be able to improve the company's business performance. This is evidenced by the results of research conducted by Hult et al (2004); Shashi et al (2019); Xie et al (2019), (Beyhan Yasar et al., 2019) found that green innovation has a positive effect on the company's financial performance. Research conducted by Singh et al (2020); Zhang et al (2019); Tjahjadi et al (2020) found that green innovation had a positive effect on MSME business performance.

The readiness of human capital is very influential on the strategy execution process; the strategy execution process is evident in the achievement of company performance. Based on the results of the research and the arguments above, the proposed hypothesis is as follows:

H1: green innovation mediates the effect of human capital readiness on MSME business; ss performance.

### *Global market orientation and business performance with green innovation as a mediating variable*

Public concern for the environment has started to increase recently; this can be seen in the number of consumers who choose to buy environmentally friendly products (Siyal et al., 2021). Green innovation is an essential thing for all companies to do. Companies will generate higher profits by developing, producing, and selling environmentally friendly products (Kopnina, 2017). Green innovation is one of the company's strategies to meet the needs of the world market because the current world customer orientation prefers environmentally friendly products; when achieving this strategy, the company must have a strategy that can understand the world's customer orientation, usually referred to as the global market. orientation.

Global market orientation is a vital customer management process that leads to better customer performance and financial performance (Tjahjadi et al., 2020). International market orientation directs companies to focus on product marketing globally to reach the world market. To enter the global market, the company must know the customers and the competitive environment of the worldwide target market and then disseminate this knowledge to various departments (Nakos et al., 2019).

Global market orientation helps companies to know the shortcomings that may arise related to competition in the worldwide market; for example, specialized distribution systems and knowledge of complex local regulations may become impossible to develop in a short time Nakos et al (2019). Previous research conducted by Nakos et al (2019); (Tjahjadi et al (2020); Tjahjadi et al (2022) found that global



market orientation has a positive effect on company performance. Based on the description above, the proposed hypothesis is as follows:

H2: green innovation mediates the influence of global market orientation on MSME business performance.

## Methods

The data in the study were obtained by distributing online questionnaires to prospective respondents. Respondents in this study were MSMEs in East Java, Indonesia. Research questionnaires were distributed in the form of online links through social media. Based on the results of distributing questionnaires for one month, there were 326 answers, which we processed into research data.

### *Variable definition and measurement*

The human capital readiness variable was measured using an instrument developed by Kaplan & Norton( 2004). Human capital readiness is estimated using seven statement items, as listed in Table 1.

Table 1  
 Indicators of human capital readiness

Variable	Indicator
Human Capital Readiness	The readiness of employees' knowledge to carry out operational activities properly
	Readiness of employees' knowledge of relationships for customer needs
	The readiness of employees to know about quality at an affordable price
	The readiness of employees' skills when processing the business/business that is being run
	Skill readiness of employees When providing consultation, advice and feedback to customers
	Employee values or attitudes towards readiness in business strategy relationships, courtesy, and quick response
	Employee values or attitudes towards good teamwork to achieve the same goal

The global market orientation variable is measured using the instrument that has been used by Nakos et al (2019) and Tjahjadi et al (2022), using ten-item statements as listed in Table 2.

Table 2  
 Indicators of global market orientation

Variable	Indicator
Global Market Orientation	Customer satisfaction drives my company to run an environmentally friendly business
	My company is always committed and serving environmentally friendly customers
	My company provides information to employees and customers about environmentally friendly products and services
	My company's competitive advantage can be determined by its knowledge-oriented eco-friendly customers
	My company constantly measures customer satisfaction through environmentally friendly products and service attributes
	My company has customer service that operates regularly
	My company invests more in green products and services than any other competitor
	My company believes that this business exists to serve environmentally friendly customers
	My company provides information to customers to assess the quality of environmentally friendly products and services
	My company conveys customer satisfaction data to all permanent employees

The green innovation variable is measured using an instrument that has been used by Tjahjadi et al., (2020) and Chen et al (2006) using eight statement items as listed in Table 3.

Table 3  
 Indicators of green innovation

Variable	Indicator
Green Innovation	My company has chosen environmentally friendly raw materials in product development
	My company has used energy-saving raw materials in product development.
	My company has made efficiency in raw materials for the production process in product development
	My company has evaluated that the product is easy to reuse, easy to recycle, and easy to decompose
	My company effectively reduces the production of chemicals or waste in the production process
	My company can effectively recycle waste and reduce the production process
	My company can effectively reduce the use of water, electricity or oil in the production process
	My company effectively innovates to reduce the use of raw materials in the production process

The business performance variable is measured using an instrument that has been used by (Kaplan & Norton, 2004) which has been used by Tjahjadi et al (2020); Tjahjadi et al (2022) using the following twelve statement items as listed in Table 4.

Table 4  
 Indicators of business performance

Variable	Indicator
Business Performance	Company sales tend to increase
	My company has successfully made various efforts for cost efficiency
	Company profits tend to increase
	My company can sell quality products at affordable prices and deliver them on time
	Customer complaints tend to decrease
	My company has been able to build an image and reputation so that customer loyalty increases
	My company has been able to improve the quality of production and service
	My company has been able to get new customers and keep old ones
	My company has been able to innovate products
	Employee skills tend to be better
	The ability to process information using a computer tends to be better
	Cooperation among employees tends to be better

## Results

Table 5 presents the result of testing the validity and reliability of this research variable. It shows the loading value of each construct above 0.50, which means that the variables in this study are declared valid. The convergent validity test was assessed based on the loading factor of each construct greater than 0.50 (Hair, 2017). It is noted that all constructs in this study have met the internal consistency reliability. This is evidenced by the value of composite reliability and Cronbach's alpha of each construct greater than 0.07.

Table 5  
 Validity and reliability test results

Latent Variable	Loading	p-value
GI (Composite Reliability = 0.853; Cronbach's alpha = 0.803)		
GI 1	0.656	< 0.001
GI 2	0.644	< 0.001
GI 3	0.662	< 0.001
GI 4	0.642	< 0.001
GI 5	0.679	< 0.001
GI 6	0.642	< 0.001
GI 7	0.655	< 0.001
GI 8	0.606	< 0.001
HCR (Composite Reliability = 0.781; Cronbach's alpha = 0.801 )		
HCR 1	0.575	< 0.001
HCR 2	0.165	< 0.001
HCR 3	0.586	< 0.001
HCR 4	0.783	< 0.001
HCR 5	0.653	< 0.001
HCR 6	0.816	< 0.001
HCR 7	0.718	< 0.001
GMO (Composite Reliability = 0.885; Cronbach's alpha = 0.847 )		
GMO 1	0.613	< 0.001
GMO 2	0.651	< 0.001
GMO 3	0.751	< 0.001
GMO 4	0.808	< 0.001
GMO 5	0.751	< 0.001
GMO 6	0.731	< 0.001
GMO 7	0.746	< 0.001
BP (Composite Reliability = 0.899; Cronbach's alpha = 0.877 )		
BP 1	0.580	< 0.001
BP 2	0.577	< 0.001
BP 3	0.680	< 0.001
BP 4	0.719	< 0.001
BP 5	0.684	< 0.001
BP 6	0.711	< 0.001
BP 7	0.683	< 0.001
BP 8	0.667	< 0.001
BP 9	0.732	< 0.001
BP 10	0.617	< 0.001
BP 11	0.710	< 0.001

source: own calculations using data from research questionnaires

Note(s):

- 1) Composite Reliability of 0.70 or more: sufficient reliability
- 2) Cronbach's alpha of 0.70 or more: sufficient reliability

Table 6  
Hypothesis Testing Results

Panel A. Direct Relationship		
Variable		path to- Business Performance
Human Capital Readiness		0.21***
Global Market Orientation		0.37**
Panel B. Indirect relationship (full model)		
Variable	Green Innovation	path to- Business Performance
Human Capital Readiness	0.43***	0.21**
Global Market Orientation	0.65***	0.37***
Green Innovation		0.64***

source: own calculations using data from research questionnaires

Table 7  
VAF estimation

Human capital readiness → green innovation → business performance	0.43*0.64	0.28
Global market orientation → green innovation → business performance	0.65*0.64	0.42
Total Indirect Relationship		0.70
Direct relationship		
Human capital readiness →green innovation		0.21
Global market orientation→ green innovation		0.37
Total Direct Relationship		0.58
Total Relationship	0.70 + 0.58 = 1.28	
VAF (Human capital readiness → green innovation → business performance)	Indirect relationship = 0.28 Total Relationship 1.28	0.22
VAF (Global market orientation → green innovation → business performance)	Indirect relationship = 0.42 Total Relationship 1.28	0.33

source: own calculations using data from research questionnaires

Table 6 presents hypothesis testing. The results of testing the first hypothesis, namely green innovation mediating the effect of human capital readiness on business performance. Table 7 shows the beta coefficient on human capital readiness for the business performance of 0.27 with a p-value <0.001, which means that the first assumption of testing using the VAF method is fulfilled so that it can be continued at the next stage. VAF value on the relationship between human capital readiness → green innovation, → business performance is 0.22 or 22 per cent. Hair (2017) classify the level of mediation of variables as follows: VAF value < 20 per cent means not meditating, VAF 20-80 per cent indicates partial

mediation, and  $VAF > 80$  per cent suggests complete mediation. Based on the classification results above, it can be interpreted that green innovation partially mediates the influence of human capital readiness on business performance.

The results of testing the second hypothesis obtained the value of the beta coefficient on the direct relationship of global market orientation  $\rightarrow$  business performance of 0.37 with a p-value  $< 0.001$ . The results of the indirect test obtained that the beta coefficient of international market orientation  $\rightarrow$  green innovation,  $\rightarrow$  business performance was 0.42. After being tested using the VAF formula, a value of 0.33 or 33 per cent was found. This means that green innovation partially mediates the influence of global market orientation on MSME business performance.

## **Discussion**

The first hypothesis in this study states that green innovation mediates the effect of human capital readiness on business performance is supported. The results of this study support the RBV theory, in which MSME owners/managers must use the right strategy to continuously improve their business performance to increase the company's competitive advantage. The results of this study provide an understanding for MSME owners/managers regarding how human capital readiness affects business performance through green innovation. Owners or managers of MSMEs need to improve human capital readiness to ensure that their competencies can meet the standards of customer needs, in this case, environmentally friendly products to compete in the competition. The higher the readiness of human capital to execute the company's strategy will improve the company's business performance (Tjahjadi et al., 2022), (Githaiga, 2020). The readiness of human resources to develop environmentally friendly products plays a vital role in supporting the application of green innovation to improve MSME business performance.

The second hypothesis in this study is that green innovation mediates the influence of global market orientation on supported MSME business performance. The results of this study support the existing sustainability theory. The results of this study provide an overview to the owners/managers of MSMEs about how this global market orientation affects business performance through green innovation. Green innovation is a strategy that MSMEs must develop to attract consumer interest. Environmentally friendly products tend to be more in demand by the public so that they can improve MSME business performance. The application of green innovation to MSMEs products requires adequate knowledge regarding the market share to be targeted, especially the global market. To reach this global market, The company must know the customers and competitive environment of the worldwide target market and then disseminate this knowledge to various departments of the company (Nakos et al., 2019). Global market

orientation directs companies to focus on product marketing globally to reach the world market. The existence of a worldwide market orientation will increase the application of green innovation so that it will improve MSME business performance.

The results of this study provide an overview and understanding for MSME owners/managers to pay attention to the readiness of human capital to face the global market and the readiness of human capital to meet the international community's needs. Investment in human capital readiness is more important than the quantity of human capital because, in this study, it was proven that human capital readiness could improve MSME business performance.

## **Conclusions**

This research aims to empirically test the mediating effect of green innovation on the influence of human resource readiness and global market orientation on MSME business performance. The results of this research conclude that mediating green innovation partially influences the readiness of human resources on the company's business performance, meaning that the readiness of human resources can influence business performance both directly and through green innovation variables. Human resource readiness is one of the main factors for improving MSMEs business performance, because human resource readiness is the driving force for running MSMEs. The readiness of human resources greatly determines the success of the strategies used by MSMEs. One of the green innovation strategies implemented by MSMEs will work well if the readiness of their human resources is also good. The higher the level of human resource readiness, the greater the possibility for MSMEs to successfully implement green innovation which in turn can improve business performance, either through operational efficiency, controlling a larger market or higher profits.

The second conclusion of this research is that green innovation partially mediates the influence of global market orientation on MSMEs business performance, which means that global market orientation can have a direct or indirect effect through green innovation on MSME business performance. MSMEs with a global market orientation may be more inclined to explore business opportunities related to international markets, create products or services that can meet global demand, and pursue broader marketing strategies. This can help increase market share and income of MSMEs. Furthermore, MSMEs with a global market orientation that implement a green innovation strategy will find it easier to reach the market, because the market tends to like products that care about the environment, so that they can increase MSMEs sales which will ultimately improve business performance.

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