



The influence of the mediating role of green innovation on the influence of human capital on competitive advantage in MSMEs

El papel mediador de la innovación verde en la influencia del capital humano en la ventaja competitiva de las MIPYMES

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Abstract

The aim of this research is to determine the influence of the mediating role of green innovation on the influence of human resources on competitive advantage. With increasingly tight business competition, MSMEs are faced with several problems that can hinder business development, one of which is the low quality of human resources. MSME players who are not equipped with knowledge and human resources who are skilled at competing can end up in bankruptcy. To maintain business continuity, MSMEs must create new and different ideas through environmentally friendly innovation to excel in competition. To achieve this goal, data from 100 MSME respondents providing food and beverage accommodation in Surabaya was used. The data collection method uses a questionnaire in the form of a Google form and distributed online to respondents. This research uses the WarpPLS 8.0 application for assistance in analyzing. The empirical results of this research show that green innovation is able to mediate human resources on competitive advantage.

JEL Code: J24, L25, O15

Keywords: competitive advantage; green innovation; human capital

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Resumen

El propósito de este estudio es determinar el papel mediador de la innovación verde en la influencia de los recursos humanos en la ventaja competitiva. Ante una competencia empresarial cada vez más fuerte, las MIPYMES se enfrentan a varios problemas que pueden obstaculizar el desarrollo empresarial, uno de ellos es la baja calidad de los recursos humanos. Las MIPYMES que no cuentan con el conocimiento y los recursos humanos calificados para competir pueden terminar en quiebra. Para mantener la continuidad del negocio, las MIPYMES deben crear ideas nuevas y diferentes a través de innovaciones amigables con el medio ambiente para sobresalir en la competencia. Para lograr este objetivo, se utilizaron datos de 100 encuestados de MIPYMES que ofrecen alojamiento de alimentos y bebidas en Surabaya. El método de recopilación de datos utilizó un cuestionario en forma de formulario de Google y se distribuyó en línea a los encuestados. Este estudio utiliza la aplicación WarpPLS 8.0 para ayudar en el análisis. Los resultados empíricos de este estudio muestran que la innovación verde es capaz de mediar la influencia de los recursos humanos en la ventaja competitiva.

Código JEL: J24, L25, O15

Palabras clave: ventaja competitiva; innovación verde; capital humano

Introduction

MSMEs in Indonesia always experience an increase every year. This increase must be balanced with an increase in MSME productivity which will have an impact on competition with other MSMEs. MSMEs that cannot maintain their business will go bankrupt, so MSMEs must be able to survive and be ready to compete with other MSMEs. On the one hand, business competition is increasingly fierce, MSMEs are faced with the emergence of several problems that can hinder business development, one of which is the low quality of human resources (Nabawi, 2021). MSME players who are not equipped with the knowledge and skilled human resources to compete result in MSMEs being marginalized and the business performance of these MSMEs experiencing a decline. To maintain business continuity, MSMEs must create new and different ideas to gain an advantage over the competition.

Competitive advantage is a collection of factors that differentiate a company from its competitors and give it a unique position in the market (Zimmerer & Scarborough, 2002). By having a competitive advantage, MSMEs will be able to survive to continue the survival of their business. Rupert (1998) quoted by Sawarjuwono and Kadir (2003) said that knowledge and technology will be obtained by using human resources efficiently and effectively which will provide a competitive advantage for companies in competition. Having reliable resources will help companies create quality products. The higher the quality of the products produced by the company, the more difficult it will be for competitors to imitate, thereby creating a competitive advantage. Ordóñez de Pablos (2004) states that the knowledge existing in the organization will have an influence in increasing the company's competitiveness. Each

company has different qualities and capabilities of human resources. Winning the competitive advantage of MSMEs will depend on the utilization and management of human resources owned by MSMEs.

Currently, innovation cannot be separated from the issue of global warming and new products that uphold environmentally friendly concepts with processes that pay attention to the impact of business activities on the environment. Green innovation is divided into two according to Chen et al. (2006), namely green product innovation and green process innovation. Green innovation can create competitive advantages by involving concern for the environment. Green innovation can be assessed as a competitive advantage that can be seen from the uniqueness and differences of environmentally friendly products. The uniqueness of product innovation results contributes to and determines competitive advantage (Urbancova, 2013). When consumers obtain unique and interesting differences in the product manufacturing process compared to competitors, competitive advantage will be achieved and consumer purchasing power will increase, thereby improving business performance. It can be concluded that companies that implement green innovation tend to have good performance.

O'Leary et al. (2002) emphasize the importance of human capital as a source of competitive advantage for organizations to be successful. Research on competitive advantage has been conducted by Jin et al. (2010); Hariyanto & Hermawan (2015); Paulus (2019) examined the influence of human capital on competitive advantage, the results of which were significant. This is different from the research of Kangarlouei et al. (2012) who found that human capital is not significant to competitive advantage. Previous research provides strong evidence of the relationship between human capital and green innovation on competitive advantage. Chen et al. (2006), Ar (2012), Puspasari (2020) and Safitri (2022) found that green innovation had a positive effect on competitive advantage. Meanwhile, Irmawati (2022) found that green innovation was not significant to competitive advantage.

This research focuses on Surabaya MSMEs because it is the capital of East Java province and is one of the economic centers in East Java. This condition is taken advantage of by people setting up businesses. Food and beverages have become an industry that is in demand by the public because it is related to everyday life, thus making business people increasingly develop their businesses with various innovations in order to survive. Based on this, this research aims to analyze the relationship between human capital, green innovation and competitive advantage. Research results and findings can increase awareness among business actors to help improve performance and achieve competitive advantage.

Literature review and hypotheses development

Resources based view theory (RBV)

Muharam (2017) also stated that the concept of resources based view theory emphasizes that companies that have a competitive advantage based on resources and capabilities will exist longer in running their business, compared to just based on product/market positioning. Valuable and rare knowledge can be directed to create a competitive advantage, so that the knowledge possessed is able to last a long time and is not easily imitated, transferred or replaced (Ulum, 2017). resource based view theory can be concluded that the resources owned by the company influence the company's performance which can increase company value and competitive advantage. A company is declared to have a competitive advantage if it has resources that are valuable, unique, rare and difficult to imitate which can encourage superior business performance.

Legitimacy theory

According to Mousa & Hassan (2015) legitimacy theory is a theory of the two-way relationship between the company and the environment. Legitimacy theory is an oriented company management system that favors society, government, individuals and community groups (Gray, 1996) quoted by (Hadi, 2011). Companies are required to fulfill community expectations, one of which is managing the environment well. Pfefer & Salancik (1978) quoted by Utomo (2019) stated that legitimacy can help boost a company's operational effectiveness in facing competition, because it makes it easier to access resources, creates better employees, and increases synergistic relationships with partners. Companies can be responsible for the environment by implementing green innovation. The implementation of green innovation is carried out as a form of company communication to the public that it has complied with the norms that apply in society and is responsible for the environment in its operational activities.

Human capital

Human capital is the competence, knowledge, skills and personality possessed by employees to carry out useful activities so as to produce economic value for the company (Pramudita, 2012). If human capital can be processed and utilized well, then human capital will become a key resource for the company. Totanan (2004) in Kasmawati (2017) states that a company will have different performance when

managed by different people, meaning that different people managing the same assets will produce different added value. Even though human capital is not tangible because it is owned by individuals, it is one of the main components that a company must have. According to Mayo (2000), human resources have five components, namely individual capability, individual motivation, leadership, the organizational climate and workgroup effectiveness. Each component has a different role in creating a company's human capital which will determine the value of a company. Human capital has characteristics and abilities that can improve a company's reputation and achievements.

Competitive advantage

Competitive advantage is a strategy carried out by a company to create or provide more value to its consumers so that they can compete with similar companies. Companies that can survive are companies that have strong competitiveness. Competitive advantage is a collection of factors that differentiate a company from its competitors and give it a unique position in the market (Zimmerer & Scarborough, 2002). By having a competitive advantage, MSMEs will be able to survive to continue the survival of their business. Competitive advantage is a position where a company is able to control the business competition arena, they have something that is not easily imitated, enabling the company to seize and maintain the market as a leadership position.

Green innovation

Chen et al. (2006) also provided an opinion in their study, green innovation is an innovation tool which is related to the creation and development of products or processes, including technological innovation which is able to create energy savings, prevent pollution, implement waste recycling, design environmentally friendly products or management of the environment. Green innovation can influence business performance and create competitive advantage by engaging in environmental awareness. Green innovation can be assessed as a competitive advantage that can be seen from the uniqueness and differences of environmentally friendly products. The uniqueness of product innovation results contributes to and determines competitive advantage (Urbancova, 2013). Green innovation is divided into two according to Chen et al. (2006), namely green product innovation and green process innovation. Green product innovation is creating or improving products by paying attention to their impact on the environment. Meanwhile, green process innovation creates a new and better production method than the previous method by paying attention to its effectiveness and efficiency.

Human capital influences competitive advantage

By having a competitive advantage, MSMEs will be able to survive to continue their business continuity. MSMEs can be said to be superior if they have differences from their competitors that are unique and cannot be imitated. Research on competitive advantage was conducted by Hariyanto & Hermawan (2015) who examined the influence of human capital on competitive advantage with significant results. This proves that companies that have good human capital, for example competence, capability, knowledge, can create more competitive products, more efficient costs and more creative ideas compared to competing companies.

Some studies such as Jin et al. (2010) and Paulus (2019) revealed that human capital has a positive effect on competitive advantage because MSMEs that have human capital with effective management will increase the competitive advantage of MSMEs. The hypothesis in this research is:

H1: Human capital has a positive effect on competitive advantage.

Human capital influences green innovation

Resources are a very important component in carrying out company strategy to create competitive advantages and business performance. The use of strategy must consider consumer needs and desires. Today's consumers often pay attention to the issue of global warming and new products that uphold environmentally friendly concepts with processes that pay attention to the impact of business activities on the environment. The implementation of green innovation cannot be separated from human resources. Human resources are an important asset because they act as drivers of green innovation strategies.

Visualization of intellectual capital (human capital) is considered a main factor in increasing SME green innovation (Durst & Bruns, 2019). Highly skilled human capital can provide a strong competitive advantage and carry out green innovation (Chen et al., 2006). Investment in human capital is positively related to green innovation, for example new product development (Durst & Bruns, 2019). Research conducted by Ali et al. (2021) shows that companies with higher human capital tend to adopt green innovation. Human capital greatly influences the process of implementing green innovation strategies, the process of implementing strategies influences the achievement of competitiveness and business performance. Based on the description and arguments above, the hypothesis proposed is as follows:

H2: Human capital has a positive effect on green innovation

Green innovation influences competitive advantage

The company realizes that the company's survival depends on the company's relationship with society and the environment. Companies that care about the environment will have their own attractiveness for society which can increase competitive advantage. Competitive advantage is something that a company must have, competitive advantage shows the company's position from existing competition (Chen et al., 2006). Green innovation can optimize productivity, cost efficiency and generate new market opportunities through product innovation (Dewi & Rahmianingsih, 2020). When consumers obtain unique and interesting differences in the manufacturing process of the products produced compared to competitors, competitive advantage will be achieved and consumer purchasing power will increase, which will improve business performance.

Qiu et al. (2020) say that one of the factors that influences competitive advantage is green innovation and is supported by Ar (2012) and Puspasari (2020) who shows that green innovation influences competitive advantage. When MSMEs innovate, they can have a good impact on MSMEs, especially in terms of competitive advantage. Based on the explanation above, the hypothesis in this research is:

H3: Green Innovation has a positive effect on competitive advantage.

Green innovation mediates the influence of human capital on competitive advantage

MSMEs that use human resources effectively and create innovations that are unique and cannot be imitated by other competitors can maintain their competitive advantage. Hariyanto & Hermawan (2015); Jin et al. (2010); Paulus (2019) found that human capital has a positive effect on competitive advantage. Bontis (1998) said that human capital is an organizational asset from which resources will emerge to achieve competitive advantage.

Green innovation is carried out to fulfill MSMEs' concern for the environment for the sake of community survival. Green innovation not only reduces the impact on the environment, but can increase competitive advantage (Chiou et al., 2011). Green innovation can provide a competitive advantage to companies by creating products that have advantages and added value to consumers.

Green innovation helps improve product quality, increase product variety or produce new products, thereby enabling companies to increase the company's competitive advantage (Xie et al., 2019). This is supported by the results of previous research by Ar (2012); Chen et al. (2006); Waqas et al. (2021) and Puspasari (2020) who found that green innovation has a positive effect on competitive advantage. Chang (2011) conducted research on green innovation as a mediating influence of environmental ethics

on competitive advantage. Research conducted by Chahal & Bakshi (2014) states that innovation can mediate the influence of human capital on competitive advantage and business performance. Based on the description above, the hypothesis proposed is:

H4: Green innovation mediates the positive influence of human capital on competitive advantage

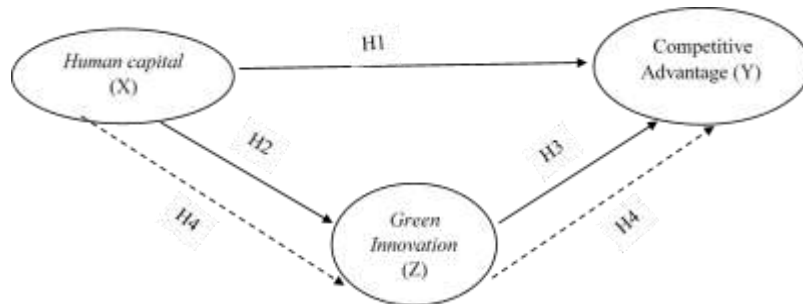


Figure 1. Conceptual framework

Method

Data collection

Data collection in this research was carried out by distributing questionnaires online using Google Form. This questionnaire was distributed in various ways, including by distributing the questionnaire link via social media, distributing the link via WhatsApp for MSMEs, and visiting MSMEs directly. The population of this study consists of MSMEs in Surabaya. The sample used by researchers was 100 MSME respondents. The research questionnaire used a 5-point-Likert scale to measure responses. The data analysis used in this research is Partial Least Square (PLS) using WarPLS software. Analysis using PLS is a technique used for comparisons between dependent and multiple independent variables.

Definition and measurement of variables

The human capital variable is measured using instruments that have been used by previous researchers, namely Bontis (1998); Hsu & Fang (2009) with slight modifications. The instrument consists of four indicators as follows:

Table 1
 Indicators of human capital

Variable	Indicator
Human Capital	MSME employee capability development is very high
	MSME employees have excellent skills
	MSMEs provide a series of well-designed training programs
	MSME employees have unique and new ideas

The competitive advantage variable was measured using the instrument used by previous researchers, namely Li et al. (2006) and Anatan (2010) with slight modifications according to research needs. The competitive advantage variable instrument contains nine indicators which are measured as follows :

Table 2
 Indicators of competitive advantage

Variable	Indicator
Competitive Advantage	MSMEs provide lower prices than other competitors
	MSMEs offer long-lasting products
	MSMEs offer decent prices and can compete with other competitors
	MSMEs are able to compete with other competitors based on quality
	MSMEs offer products that consumers can really trust
	MSMEs respond well to consumer demand for new products
	MSMEs offer high quality products to consumers
	MSMEs provide products according to consumer desires.
	MSMEs innovate products to meet consumer needs

Green innovation is measured using an instrument that has been adopted from research by Tjahjadi et al. (2020);Chen et al. (2006) which has gone through a modification process according to research needs and uses six indicators, namely:

Table 3
 Indicators of green innovation

Variable	Indicator
Green Innovation	MSMEs choose environmentally friendly raw materials in developing products
	MSMEs use energy-efficient raw materials in developing products
	MSMEs make efficiency in raw materials for the production process in product development
	MSMEs evaluate products so that they are easy to reuse, easy to recycle and easy to decompose

MSMEs can reduce or recycle waste from the production process
The company effectively reduces the use of water, electricity or oil in the production process

Result and discussion

The research results showed that the respondents were relatively female and dominated by young people aged 21-30 years. All respondents are in the MSME sector providing food and beverages with a maximum length of business of 2-5 years.

Table 4
Descriptive statistics.

Characteristics	Frequency	Percent (%)
Gender		
Male	41	41
Female	59	59
Age		
21-30 Years Old	33	33
31-40 Years Old	31	31
41-50 Years Old	30	30
>50 Years Old	6	6
Long Time In Business		
2-5 Years	48	48
6-10 Years	33	33
>10 Years	19	19

Source: SPSS Output Results (2023)

Evaluation of the PLS model is carried out by evaluating 2 models, namely the measurement model (outer model) and structural capital (inner model) (Permana & Mudiyanti, 2021).

Validity test and reliability test

The next step is to evaluate the outer model which is carried out through validity and reliability tests. The following are the results of data processing:

Validity test

Covergent validity can be seen from measuring the correlation between the indicator value and the construct value (loading factor) with the criterion that the loading factor value of each indicator is >0.70 which can be said to be valid, then if the P-value is <0.05 it is considered significant.

Table 5
 Combined loading and cross-loading output results

Variable	Indicator	Loading	P value
Human Capital	HC1	0.825	<0.001
	HC2	0.845	<0.001
	HC3	0.900	<0.001
	HC4	0.751	<0.001
Competitive Advantage	KK1	0.738	<0.001
	KK2	0.289	0.001
	KK3	0.953	<0.001
	KK4	0.836	<0.001
	KK5	0.791	<0.001
	KK6	0.144	0.068
	KK7	0.864	<0.001
	KK8	0.855	<0.001
	KK9	0.820	<0.001
Green Innovation	GI1	0.737	<0.001
	GI2	0.844	<0.001
	GI3	0.758	<0.001
	GI4	0.741	<0.001
	GI5	0.771	<0.001
	GI6	0.764	<0.001

Source: WarpPls 8.0 Output Results (2023)

The results of the validity test above show that there are two indicators in this research questionnaire that are invalid so these indicators had to be dropped (Drop Out), namely KK2 and KK6 because they were based on a loading factor value of less than <0.70 and were not included in data processing because they were deemed not meet convergent validity criteria. Meanwhile, other indicators with a loading factor value of more than >0.70 are declared valid and included in data processing.

Another measurement of convergent validity is by looking at the AVE value.

Table 6
 Latent variable coefficient output results

Variable	HC	KK	GI
Average variances extracted	0.692	0.708	0.593
Full collinearity VIFs	1.051	1.426	1.624

Source: WarpPls 8.0 Output Results (2023)

Based on these calculations, the four constructs have met the convergent validity criteria, namely > 0.50 . Human capital has a value of $0.692 > 0.50$, competitive advantage has a value of $0.708 > 0.50$; and green innovation has a value of $0.593 > 0.50$. From this calculation it can be concluded that the three constructs have met the convergent validity criteria.

Reliability test

Reliability tests are measured using Cronbach's alpha and composite reliability. According to Sholihin and Ratmono (2013) in Khusnah (2020), the rule of thumb for composite reliability and Cronbach's alpha is greater than 0.70. The following are the results of the reliability test calculations:

Table 7
 Reliability test results

Variable	HC	KK	GI
Composite reliability	0.900	0.944	0.897
Cronbach's alpha	0.850	0.930	0.862

Source: WarpPls 8.0 Output Results (2023)

The results of the reliability test show that all composite reliability and Cronbach's alpha values are each greater than 0.7, which means that the questionnaire data for this research is said to be reliable.

Structural model evaluation (inner model)

The next stage is to evaluate this structural model using the coefficient of determination (R^2) and Q-Squared values.

Table 8
 Latent variable determination coefficient

	HC	KB	KK	GI
R^2	0.199	0.298	0.063	
Q-Squared	0.197	0.339	0.071	

Source: WarpPls 8.0 Output Results (2023)

Table 8 above shows that the R^2 of the competitive advantage (KK) construct has an R^2 value of 0.298, which means that the variance of the endogenous construct of KK can be explained by 30% by the variance of the exogenous construct, namely HC. The green innovation (GI) construct has an R^2 value of 0.063, which means that the variance of the endogenous GI construct can be explained by 6.3% by the exogenous construct, namely HC.

The next structural model evaluation process is to look at the predictive relevance, namely by using the Q-Squared value. The value of each endogenous construct must be greater than zero so that it can indicate that the exogenous construct has predictive relevance for the endogenous latent variable that is influenced (Sholihin and Ratmon, 2013) in (Triayuni et al. 2020). The Q-Squared value for each endogenous construct in this study is all greater than zero, namely 0.339 for KK, and 0.071 for the GI value. The Q-Squared value for each endogenous construct in this study is all greater than zero, which means that the predictive relevance of this research model is very good.

Evaluation of the structural model apart from using R^2 and Q-Squared also uses effect size.

Table 9
 Effect size for path coefficient

	HC	KK	GI
HC	-	-	-
KB	0.043	-	0.174
KK	0.011	-	0.315
GI	0.063	-	-

Source: WarpPls 8.0 Output Results (2023)

Table 9 above shows that the effect size for human capital on competitive advantage is 0.011 (weak), indicating that human capital has a weak role from a practical perspective in increasing competitive advantage. The effect size for human capital on green innovation is 0.063 (weak). This effect size shows that human capital has a weak role from a practical perspective in increasing green innovation. The effect size for green innovation on competitive advantage is 0.315 (medium). This effect size shows that green innovation has a good role from a practical perspective in increasing competitive advantage.

Hypothesis testing

Hypothesis testing in this research uses structural model evaluation in SEM-PLS. The test in this research can be seen based on the path coefficient value and significance value (p-value). Path coefficients are used to see the direction of the relationship in the research hypothesis. A positive path coefficient value indicates that the independent variable has a positive relationship with the dependent variable, while a

negative path coefficient value indicates that the independent variable has a negative relationship with the dependent variable. This study also tested the mediation hypothesis following the mediation hypothesis testing procedure described by Hair et al. (2017) which are grouped as follows:

- a. Complementary mediation, if the direct relationship effect and indirect relationship effect are both significant and have the same direction.
- b. Competitive mediation, if the direct relationship effect and the indirect relationship effect are both significant and have opposite directions.
- c. Indirect-only (full mediation), if the direct relationship effect is not significant and the indirect relationship effect is significant.

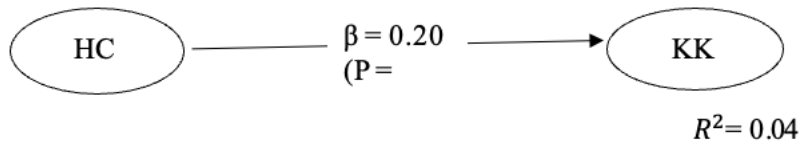


Figure 2 Estimated direct relationship (HC → KK)
Source: WarpPls 8.0 Output Results (2023)

The results of Figure 2 show the first step of hypothesis testing carried out in this study by estimating the direct relationship from HC to KK. Figure 2 shows that the results of the respective path coefficients are $\beta=0.20$, indicating that the proposed hypothesis has a positive effect on competitive advantage.

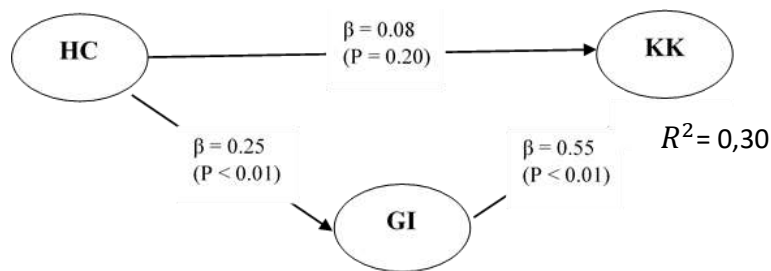


Figure 3 estimated indirect relationship
Source: WarpPls 8.0 Output Results (2023)

Figure 2 and 3 shows the results of direct hypothesis testing. For further explanation, see table 10 below:

Table 10
 Direct Hypothesis

Path	Path Coefficient	P-Value	Hypothesis	Information
HC to KK	0,20	0,02	H1	Supported
HC to GI	0,25	<0,01	H2	Supported
GI to KK	0,55	<0,01	H3	Supported

Source: WarpPls 8.0 Output Results (2023)

Figure 3 above shows the results of hypothesis testing after entering the green innovation mediating variable. For further explanation, see Table 11 below:

Table 11
 Mediation hypothesis testing results

Path	Path coefficient		p-value		Hypothesis	Information
	before entering the mediating variable	after entering the mediating variable	before entering the mediating variable	after entering the mediating variable		
HC to KK	0.20	0.08	0.02	0.20	H3	Indirect-only (full mediation)
HC to GI		0.25		< 0.01		
GI to KK		0.55		< 0.01		

Source: WarpPls 8.0 Output Results (2023)

Based on the research results from Figure 2, it shows that the path coefficient value is 0.20 with a P-value of 0.02, which means that human capital has a positive and significant effect on competitive advantage. It can be concluded that H1 is supported. The results of this study are in line with the results of previous research conducted by Jin et al. (2010); Hariyanto & Hermawan (2015); Paulus (2019) stated that human capital has a direct influence on competitive advantage. This shows that developing wise employees will create human capital that is different and superior to other competitors, the higher the competitive advantage of MSMEs will be achieved.

The path coefficient value is 0.25 with a P-value < 0.01, which means that human capital has a positive and significant effect. It can be concluded that H2 is supported. This research is supported by Ali et al. (2021) and Durst & Bruns (2019) which show that companies with higher human capital tend to adopt green innovation. With the knowledge and skills possessed by human capital, it helps to implement green innovation for business development.

Green innovation has a positive and significant influence on competitive advantage with a path coefficient value of 0.55 and a p-value <0.01. It can be concluded that H3 is supported because it is in accordance with the hypothesis and has been proposed. The results of this study are the same as research conducted by Chen et al. (2006), Ar (2012) and Puspasari (2020) which show that green innovation influences the competitive advantage of MSMEs. Green innovation can not only increase resource productivity, but can increase product development which can increase MSME profits and company image. Thus, green innovation allows companies to have a competitive advantage. Green innovation allows companies to be better prepared to handle future challenges with asset and knowledge management. This shows that the higher the concern for the environment through green innovation, the greater the competitive advantage created for MSMEs.

Then human capital on competitive advantage after including green innovation is positive and not significant with a significant value of $P=0.20$ ($HC \rightarrow KK: \beta=0.08, P=0.20$) and the path coefficient of the human capital variable on competitive advantage before including green innovation is positive and significant ($HC \rightarrow KK: \beta=0.20, P=0.02$) but after inclusion there was a decrease in the path coefficient value from 0.20 to 0.08. Based on Hair et al. (2017) when the indirect relationship (H3 and H4) is significant and the direct relationship (H2) is not significant but there is a decrease in the path coefficient value before and after the inclusion of the green innovation mediating variable then it can be said to be indirect-only (full mediation). Based on these results, hypothesis 4 is supported in line with research conducted by Chahal & Bakshi (2014). This shows that green innovation can have a high human capital impact on achieving competitive advantage.

Limitations

This research aims to understand the influence of human capital on competitive advantage mediated by green innovation among MSMEs, especially in the food and beverage supply sector. This research investigates human capital, green innovation and competitive advantage in MSMEs, where in this research the human capital management factors that are owned will provide a competitive advantage for MSME businesses. However, MSMEs are divided into various sectors, where in this sector there are many other

factors that can influence the continuity of MSME businesses. Some of these factors are marketing, finance and markets, etc. Further research in this area may shed more light on these areas.

Conclusions

The research that has been carried out can provide important information to MSMEs to improve the management of their human capital and develop green innovation. The research results show that human capital has a positive and significant influence on green innovation and competitive advantage, meaning that human capital is a determining factor for MSMEs in maintaining the continuity of their business. Good human capital management will provide new and unique innovations that can increase competitive advantage. As the skills and knowledge of MSME human capital increase, awareness about the importance of caring for the environment becomes greater, so the adoption of green innovation increases. Green innovation has a positive and significant influence on competitive advantage, meaning that the more green innovation that is implemented, the greater it will support competitive advantage.

Green innovation is able to fully mediate (indirect-only) the influence of human capital on competitive advantage, meaning that companies that have good and correct human capital can achieve competitive advantage, but if the company can use and implement green innovation well, it will have a positive influence. great impact on competitive advantage. competitive advantage will be stronger. MSMEs must pay attention to adequate management of human capital and green innovation for their business because it can shape business survival. If human capital management is getting better from day to day, skills and knowledge will increase so that it can help provide unique innovations that make consumers add more value to the products or processes produced so that MSMEs can win excellence. Therefore, MSMEs must realize the importance of managing human capital and green innovation in the long term.

Implications

The results of this study found that Human Capital has a positive effect on green innovation. Based on this, MSMEs must focus on improving employee capabilities. The results of this study also found that green innovation has a positive effect on competitive advantage, therefore for the sustainability of their business, MSMEs must be more active in adopting green innovation by using environmentally friendly raw materials, recycling production waste and others.

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