



GREEN COMPETITIVE ADVANTAGE: THE INFLUENCE OF ENVIRONMENTAL AWARENESS AND HUMAN RESOURCES ON SMES

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Abstract: Business actors pay a lot of attention to the implementation of green business, in line with the issue of global warming that has an impact on nature and the increasing consumer decision to make purchases with consideration for environmentally friendly products. This study uses a sample of SMEs located in Jambi City. Data analysis using Structural Equation Model-PLS. The result is that Awareness of the Environment greatly affects the increase of knowledge about the green environment, Knowledge about the green environment will affect the management of human resources who have knowledge of the green environment, and does not have a direct influence on the competitive advantage of a business, but the Management of Human Resources who have green environmental insight is able to become an intermediate variable that strengthens the awareness of the green environment affects Competitive Advantage.

Keywords: Environmental Consciousness; Green Intellectual Capital; Green Competitive Advantage

Abstrak: Perhatian pelaku usaha sangat tinggi terhadap penerapan green business, sejalan dengan isu pemanasan global yang berdampak pada alam dan semakin meningkatnya keputusan konsumen dalam melakukan pembelian dengan pertimbangan pada produk ramah lingkungan. Penelitian ini menggunakan sampel UKM yang berada di lokasi Kota Jambi. Analisis data menggunakan Structural Equation Model-PLS. Hasilnya bahwa Kesadaran terhadap Lingkungan sangat mempengaruhi peningkatan pengetahuan tentang Lingkungan hijau, Pengetahuan tentang lingkungan hijau akan mempengaruhi pengelolaan sumber daya manusia yang memiliki pengetahuan lingkungan hijau, dan tidak memberikan pengaruh langsung terhadap Keunggulan bersaing suatu usaha, Namun Pengelolaan Sumber daya Manusia yang memiliki wawasan lingkungan hijau mampu menjadi variable perantara yang memperkuat Kesadaran lingkungan hijau mempengaruhi keunggulan bersaing.

Kata Kunci: Kesadaran Lingkungan; Modal Intelektual Ramah Lingkungan; Keunggulan Kompetitif Ramah Lingkungan

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Introduction

Nielsen reports, that 81 percent of consumers want companies to contribute to improving environmental conditions. Consumer awareness of environmental responsibility among millennials (85%), Gen Z (80%), and more than 73% of consumers said they were ready to switch to more environmentally friendly products and 41% said they preferred natural and organic products.¹ In the era of globalization, rapid technological advances, growing customer needs, and global economic turmoil, companies seek new solutions to survive in a highly competitive market. To achieve and maintain a competitive edge, businesses must draw on their resources more effectively and develop novel competencies. An organization's knowledge is the basis for taking advantage of new opportunities and developing key competencies. A specific intangible asset based on knowledge is Intellectual Capital. A number of studies have found that IC is the principal source of a competitive advantage in the knowledge economy. However, emerging crises and transforming economic and political structures make it necessary for enterprises to review their strategies to ensure lasting competitive advantages. Growing environmental awareness and special emphasis on sustainable management point to the conclusion that investment in Green Intellectual Capital may prove an effective strategy for gaining a competitive edge.²

The number of natural disasters has made business actors aware of the importance of maintaining environmental sustainability. So that the term environmentally friendly studies have developed for various studies such as green economy, green culture, green government, eco-city, green product, green design, and so on. Global public awareness of environmental sustainability has also triggered the creation of a green lifestyle. Current business demands have referred to the creation of environmentally friendly products, if responded to positively it will be an opportunity.³

To achieve this, a business requires intangible assets as capital in competing in addition to tangible assets. SMEs, as an economic sector that plays an important role in economic growth, must be oriented to current trends to reach potential consumers. SMEs must have green intellectual capital, which is intellectual capital that is oriented towards the environment. Green Intellectual Capital is an intangible asset owned by a company including knowledge, wisdom, experience, and innovation in the area of environmental protection. Green Intellectual Capital consists of green human capital, green structural capital, and green relation capital.⁴

However, to grow green intellectual capital in a business, there needs to be environmental consciousness in business actors.⁵ Good Green Intellectual Capital makes green human resource management good and has also been proven to increase

¹ Ni Kadek Mita Ayu Wandari And Gede Sri Darma, "Pengelolaan Karakter Green Behavior Pada Generasi Milenial Dalam Meningkatkan Minat Penggunaan Green Product," *Jurnal Akuntansi Dan Manajemen* 17, no. 02 (2020): 48.

² Edyta Bombiak, "Effect Of Green Intellectual Capital Practices On The Competitive Advantage Of Companies: Evidence From Polish Companies," *Sustainability* 15, no. 5 (2023): 4050.

³ Mila Badriyah, *Manajemen Sumber Daya Manusia*, (Bandung: Pustaka Setia, 2015).

⁴ Yu-Shan Chen, "The Positive Effect of Green Intellectual Capital on Competitive Advantages of Firms," *Journal of Business Ethics* 77, no. 3 (2008): 271.

⁵ Ching-Hsun Chang And Yu-Shan Chen, "The Determinants Of Green Intellectual Capital," *Management Decision* 50, no. 1 (2012): 74.

competitiveness and excellence in SMEs.⁶ Currently, SMEs have not included environmentally friendly criteria as something important, due to the lack of knowledge about caring for the environment, the absence of financing that is oriented towards being environmentally friendly, and the low level of consumer awareness to use environmentally friendly products. Lack of information, limited knowledge and willingness to share, and limited awareness are inhibiting factors in the low category, while limited public funding is an inhibiting factor in the high category to become an ecopreneur. Meanwhile, the triggers for realizing green values, gaps in the market, making a living, being their own boss, and passion are high triggering factors to become an ecopreneur.⁷ For this reason, this study was conducted to see the influence of environmental consciousness on SME actors in increasing green intellectual capital in SMEs so that green human resources management is formed so that it can achieve a green competitive advantage for the sustainability of SMEs in the long term. SMEs are targeted in increasing awareness of environmental sustainability because most economic actors in Indonesia are from the SME sector.⁸

The existence of environmental damage greatly disrupts the problem of ecological balance which has an impact on human existence in living their lives. The ability of nature to carry out production activities will decrease if there is a problem of ecological balance on the other hand human needs will increase in line with the increasing number of humans on earth. Therefore, public awareness of environmental problems is very important. The awareness of Indonesian people to protect nature is still low in their lives. Saving the environment from damage is closely related to improving morals and making people aware of the importance of protecting nature so as to reduce the ecological crisis in Indonesia.⁹

In Jambi City, there are still many SMEs engaged in Jambi Batik that produce waste in the River because most of the Jambi Batik production locations are along the Batanghari River.¹⁰ Even for the younger generation, their understanding of the theory of environmental awareness is still limited to a high level of implementation.¹¹ The condition of the Batanghari River has also decreased in quality and is included in the moderately polluted category.¹²

⁶ Qurota A'yuni And Muafi Muafi, "Pengaruh Green Intellectual Capital Terhadap Keunggulan Kompetitif Dengan Pemediasi Green Human Resource Management," *JBTT: Jurnal Bisnis Teori Dan Implementasi* 11, no. 2 (2020).

⁷ Yulianti, "Influence Of Fraud Pentagon Toward Fraudulent Financial Reporting In Indonesia An Empirical Study On Financial Sector Listed In Indonesian Stock Exchange.," *International Journal Of Scientific & Technology Research* 8, no. 8 (2019).

⁸ Alifira Nabila Zalfa And Nova Novita, "Green Intellectual Capital Dan Sustainable Performance," *InFestasi* 17, no. 2 (2021).

⁹ Nurul Qur'ani Islamiyah, "Tingkat Kesadaran Masyarakat Dalam Menjaga Lingkungan Di Era Pandemi Covid-19 Di Kelurahan Warugunung, Kota Surabaya," *SOCLA: Jurnal Ilmu-Ilmu Sosial* 19, no. 1 (2022): 1.

¹⁰ Mhd Ansori And Nuraini Nuraini, "Pengawasan Pemerintah Daerah Terhadap Limbah Usaha Batik Di Kota Jambi," *Wajah Hukum* 4, no. 1 (2020): 73.

¹¹ Agus Sugiarto And Diana Gabriella, "Kesadaran Dan Perilaku Ramah Lingkungan Mahasiswa Di Kampus," *Jurnal Ilmu Sosial Dan Humaniora* 9, no. 2 (2020): 260.

¹² Erna Rahayu Eko Wiriani, "Analisis Kualitas Air Sungai Batanghari Berkelanjutan Di Kota Jambi," *Jurnal Khazanah Intelektual* 2, no. 2 (2020): 219.

Therefore, it is necessary to carry out research related to the environment among SMEs so that they are able to have competitiveness through human resources that are well managed through environmentally sound management with green environmental awareness, and knowledge about the environment.

Methods

This study examines the influence of Environmental Consciousness and green Intellectual Capital, on Green Competitive Advantage with Green Human Resources Management as a mediating or intervening variable. An intervening variable is a variable that in theory can influence (mediate) the relationship between the independent variable and the dependent variable into an indirect relationship. Primary data was obtained directly from Small and Medium Enterprise owners located in Jambi City and East Tanjung Jabung. Primary data was obtained by distributing research questionnaires as a research instrument. Where respondents only need to choose 5 alternative answer choices from the questions provided, which are called Likert scales including: Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5.

The Small Business Data and Samples from this study use the purposive sampling technique which is a sample determination technique with certain considerations, namely: Muslim, located in Jambi City and East Tanjung Jabung, and the Small Business Category has a minimum of 3 employees.

Determination of sample size is based on the Slovin formula so the number of samples can be determined as follows:

$$n = \frac{N}{1 + N(e)^2}$$

Description:

n = Sample size/number of respondents

N = Population size

e = Percentage of tolerance for sampling error accuracy; e= 0.1.

Small Business Data in Jambi City amounted to 3,506 businesses and Small Business in East Tanjab amounted to 1,135 businesses. These two areas are the top 2 with the most small businesses in Jambi Province. Through the Slovin formula above, the sample for the Jambi City area amounted to 75 businesses, and for East Tanjab amounted to 25 businesses. The questionnaire was distributed to the two areas and the return of the questionnaire amounted to 100 questionnaires which were then used as primary data in this study. The research indicators can be explained in the table below:

Table 1: Operational Definition of Research Variables

No	Definisi	Indikator
1	Environmental Consciousness (X1) is a behavior that is aware of the environment in an organization in producing a product that has benefits but also reduces the emergence of negative impacts on the natural environment.	<ul style="list-style-type: none"> a. ethically and socially responsible b. Ethics and social responsibility are essential for profitability c. Ethics and social responsibility are essential for business sustainability d. Businesses must be socially responsible to generate profits e. Must have a clear environmental policy f. Management must be responsible for the environment g. Employees must understand environmental policies h. Conduct environmental monitoring and assessment
2.	Green Intellectual Capital (X2) is the totality of knowledge, information, technology, intellectual property rights, experience, organizational learning and competencies, team communication systems, customer relationships and brands that create value for the company.	<ul style="list-style-type: none"> a. Employees have Protection competency b. Employees have environmental services c. Teamwork level towards the environment d. Managers support employees to achieve environmentally friendly work e. The business has invested in employee training f. Environmental responsibility is stated in work instructions g. Business units encourage employees not to be involved in waste issues
3.	Green Human Resources Management (Y1) is an innovative approach to HR performance and functions within an organization, where the environmental context is the basis of all initiatives undertaken.	<ul style="list-style-type: none"> a. The company designs products according to environmental desires b. Customer satisfaction regarding environmental protection is better than competitors c. Employees have environmental knowledge d. The company chooses to employ employees who have environmental knowledge e. Employee selection takes environmental knowledge into account f. Environmental training is a priority g. Employees have an understanding of the environment in accordance with the objectives h. The company's performance regarding the environment is recognized as good by the community
4.	Green Competitive Advantage (Y2) is a condition where a company can achieve several positions regarding environmental protection or green innovation, where competitors cannot imitate	<ul style="list-style-type: none"> a. This business has a competitive advantage with low costs b. The quality of products and services related to the environment is better c. Has the ability to develop and innovate d. Able to carry out environmental management e. Profitability is very superior

successful environmental f. Business growth is very proud
strategies, resulting in the g. Competitors cannot imitate the product
company gaining sustainable
benefits from this
environmental strategy.

The data analysis technique used in this study is using the Structural Equation Model (SEM) analysis test. This study uses SEM-Partial Least Square (SEM PLS) software by testing the measurement model (outer model) with validity and reliability tests, as well as testing the structural model (inner model) with determination tests and t-tests, and to test the relationship between independent variables and dependent variables through intervening variables, this study uses the effect test.

Result And Discussion

The analysis of the structural and measurement models in this study was carried out with the help of SmartPLS 3. Direct and indirect effects were analyzed according to the research objectives. Table 2 shows that the hypotheses H1, H2, and H4 are accepted, because they have a p-value smaller than 0.05. Meanwhile, H3 in this study is rejected, because it has a p-value greater than 0.05.

Table 2: Direct Effect Hypothesis Test

	Original Sample (β)	Standard Deviation	T Statistics	P Values	Conclusion
Environmental Consciousness (X1) -> Green Intellectual Capital (X2)	0.717	0.052	13.854	0.000	Accepted
Green Intellectual Capital (X2) -> Green Human Resource Management (Y1)	0.878	0.025	35.585	0.000	Accepted
Green Intellectual Capital (X2) -> Competitive Advantage (Y2)	0.348	0.186	1.867	0.062	Rejected
Green Human Resource Management (Y1) -> Competitive Advantage (Y2)	0.423	0.179	2.363	0.019	Accepted

Source: SmartPLS 3 Output In 2023

In addition, PLS-SEM bootstrap is applied to test the indirect effect or mediation effect.¹³ Table 3 shows the results of the indirect effect test. And the mediation effect (H5) is accepted, because its significance value is less than 0.05. Therefore, Green Human Resource Management (Y1) is able to mediate the relationship between Green Intellectual Capital (X2) and Competitive Advantage (Y2). These results prove that Green Intellectual Capital (X2) on Competitive Advantage (Y2) can occur if through the Green Human Resources Management variable (Y1).

¹³ Joe Hair, "Partial Least Squares Structural Equation Modeling (PLS-SEM): An Emerging Tool for Business Research," *European Business Review* 26 (2014): 106.

Table 3: Indirect Effect Hypothesis Test

	Original Sample (β)	Standard Deviation	T Statistics	P Values	Conclusion
Green Intellectual Capital (X2) -> Green Human Resource Management (Y1) -> Competitive Advantage (Y2)	0.371	0.159	2.329	0.020	Accepted

Source: SmartPLS 3 Output In 2023

The next test is the R Square, Q Square and f Square test. R Square shows how the contribution given by the exogenous variable to the endogenous variable. The Environmental Consciousness variable (X1) has an R Square of 0.514 or 51.4. Thus, the Environmental Consciousness variable (X1) contributes 0.514 or 51.4 percent to Green Intellectual Capital (X2) which is included in the moderate category.¹⁴ In addition, the Green Intellectual Capital variable (X2) has an R Square of 0.771 or 77.1 percent which is included in the strong category. Thus, the Green Intellectual Capital variable (X2) contributes 77.1 percent to Green Human Resource Management (Y1). Furthermore, the contribution of Green Intellectual Capital (X2) and Green Human Resource Management (Y1) to the Competitive Advantage variable (Y2) is 55.8 percent. Thus, both variables have a moderate contribution to the Competitive Advantage variable (Y2). The test results can be seen in table 4 below:

Table 4. Q Square, R square value (R2) and Effect size of (f²)

	R Square	Q Square	f Square	Effect size f ²
Environmental Consciousness (X1) -> Green Intellectual Capital (X2)	0.514	0.442	1.059	Large
Green Intellectual Capital (X2) -> Green Human Resource Management (Y1)	0.771	0.498	3.360	Large
Green Intellectual Capital (X2) -> Competitive Advantage (Y2)			0.063	Small
Green Human Resource Management (Y1) -> Competitive Advantage (Y2)	0.558	0.361	0.093	Small

Source: SmartPLS 3 Output In 2023

Table 4 also shows the magnitude of the Q Square value, which is the value used to assess the predictive model. The Environmental Consciousness variable (X1) has a Q Square of 0.442. Thus, the Environmental Consciousness variable (X1) has a strong predictive model against Green Intellectual Capital (X2). In addition, the Green Intellectual Capital variable (X2) has a Q Square of 0.498 which is included in the strong category against the Green Human Resource Management variable (Y1). Furthermore, the predictive model of Green Intellectual Capital (X2) and Green Human Resource Management (Y1) against the Competitive Advantage variable (Y2) is 0.361. Thus, both variables have a strong predictive model against the Competitive Advantage variable (Y2). Table 4 also reveals that the value of f Square. Strong effect when if the f Square value is 0.35, 0.15 is moderate, and a value of

¹⁴ Joseph F. Hair, "When to Use and How to Report the Results of PLS-SEM," *European Business Review* 31, no. 1 (2019): 2.

0.02 reflects a small effect.¹⁵ In this study, the f square value for the Environmental Consciousness variable (X1) has a strong effect on Green Intellectual Capital (X2) because it has an f Square of 1.059. Furthermore, the Green Intellectual Capital variable (X2) has an f Square of 3.360 on Green Human Resource Management (Y1). Thus, Intellectual Capital (X2) has a large effect on Green Human Resource Management (Y1). In addition, the Green Intellectual Capital variable (X2) on Competitive Advantage (Y2) has an f Square of 0.063, which means it has a small effect. Meanwhile, Green Human Resource Management (Y1) has an f Square of 0.093 on Competitive Advantage (Y2), which means it has a small effect.

The Influence Of Environmental Consciousness On Green Intellectual Capital

The results of the study indicate that hypothesis I in this study is accepted where Environmental Consciousness or Awareness (X1) has a positive and significant influence on Environmental Knowledge Capital (X2). This can be seen from the p-value of 0.000 which is smaller than 0.05, this indicates that Environmental Awareness has a positive and significant effect on increasing environmental knowledge capital. The higher the environmental awareness of an individual, the better the individual's knowledge of the environment. These results indicate that the values contained in environmental awareness can increase and have an impact on the intellectual capital of a business about the green environment. These values, such as business actors' awareness of the environment, in addition to profit orientation, employees must understand environmental policies will be proven to have an impact on increasing individual knowledge capital about the environment.¹⁶

The results of this study which state that environmental awareness is positively related to intellectual capital about being environmentally friendly are in line with research.¹⁷ According to the questionnaire given to Small Businesses in Jambi City and East Tanjab, they currently have clear and concrete environmental policies that can be understood by their employees. In addition, business owners or managers will be responsible for this policy. Where with this policy, employees involved in this business will make a positive contribution and have adequate competence in environmental protection.

Environmental policies that are understood by employees will show the competence of employees in the business which allows them to provide high-quality services and products related to environmental protection. Giving managers responsibility for environmental policies shows the manager's full support for their employees in carrying out environmental protection duties. High environmental awareness will encourage small businesses to provide an understanding of environmental policies for their employees and

¹⁵ Imam Ghozali And Hengky Latan, *Partial Least Squares : Konsep, Teknik Dan Aplikasi Menggunakan Program SmartPLS 3.0, -2/E*, (Semarang: Badan Penerbit UNDIP, 2016).

¹⁶ A. A. Ngurah Bagus Jaya Krisnanda And I Nyoman Nurcaya, "Pengaruh Kesadaran Lingkungan Terhadap Persepsi Konsumen Dan Niat Beli Produk Lampu LED Philips Di Kota Denpasar," *E-Jurnal Manajemen Universitas Udayana* 8, no. 2 (2018): 1115.

¹⁷ Partiwi Dwi Astuti And Luh Kade Datri, "Green Competitive Advantage: Examining The Role Of Environmental Consciousness And Green Intellectual Capital," *Management Science Letters* 11, no. 4 (2021): 1141.

strive to improve employee competence related to environmental management and green innovation.¹⁸

The company will decide to implement green management because of the desire from external factors to pay attention to the environment, although Friedman emphasized that maximizing shareholder profits is the main goal of the company.¹⁹ However, institutional theory states that there is an impact of external factors in the implementation of green management by companies.²⁰

The company's social goals are not always to maximize profits and operational needs to meet external pressures for legitimacy. To gain trust from external institutions, the company has a strong reason to carry out green management according to institutional theory. According to Carmi, environmental awareness can be defined as a conscious behavior towards the environment like the pro-environmental behavior. Enger and Smith, presume environmental awareness as the science which helps people attain the value, skills, and knowledge required to live sustainably. Environmental awareness plays a significant role in building people's awareness of the environment and becomes a responsible part of the country that cares about the environment.²¹ In Ahmed refers to environmental consciousness refers to the entire view of any individual and organization regarding environmental safety, environmental controlling, and green politics. The emergence of international environmental regulations and popular environmentalism will have a significant impact on companies around the world.²² Environmental awareness is a trigger for organizational and technological change, which will force companies to change the way they think about products, technologies, processes, and business models.²³ Companies must change their strategies and operations in line with these environmental trends. Previous studies have argued that corporate environmental awareness has a positive influence on green intellectual capital.²⁴

The Influence Of Green Intellectual Capital On Green Human Resources Management

Intellectual Capital (IC) has contributed to a better understanding of knowledge assets and was a first step towards a less abstract and more operative conceptualising of knowledge. The literature refers to IC in a number of different ways. The expression

¹⁸ Erica Mina Okada And Eric L. Mais, "Framing The 'Green' Alternative For Environmentally Conscious Consumers," *Sustainability Accounting, Management And Policy Journal* 1, no. 2 (2010): 222.

¹⁹ Y. Datta, "Friedman Doctrine: Maximizing Profits Is Neither Good For Society Nor Even For The Shareholders," *Journal Of Economics And Public Finance* 7, no. 3 (2021): 153.

²⁰ A. W. Hofmann, "Mantle Geochemistry: The Message From Oceanic Volcanism," *Nature* 385, No. 6613 (1997): 219.

²¹ Wiwik Handayani, "Literature Review: Environmental Awareness And Pro-Environmental Behavior," In *Nusantara Science And Technology Proceedings*, (2021).

²² Yu-Shan Chen, Shyh-Bao Lai, And Chao-Tung Wen, "The Influence Of Green Innovation Performance On Corporate Advantage In Taiwan," *Journal Of Business Ethics* 67, (2006): 331.

²³ Ram Nidumolu, Coimbatore K. Prahalad, And Madhavan R. Rangaswami, "Why Sustainability Is Now The Key Driver Of Innovation," *Harvard Business Review* 87, no. 9 (2009): 56.

²⁴ N I Chaudhry, "The Role Of Environmental Consciousness, Green Intellectual Capital Management And Competitive Advantage On Financial Performance Of The Firms: An Evidence From Manufacturing Sector Of Pakistan," *Journal of Quality and Technology Management* 13, no. 2 (2016).

“intellectual capital statement” refers to “capital”, emphasising the accounting value . Some authors use the concept of IC while referring to the knowledge of a social community, such as an organisation or professional practice , other scholars interpret IC as a human resource.²⁵

Intellectual capital is the brain power of the Company in the last ten years, excessive activity in the industry that also causes environmental problems has attracted the attention of professionals to initiate "green" actions in the organization. One of the efforts made is through intellectual capital management, including knowledge about environmental management which is hereinafter referred to as green intellectual capital.²⁶ In the era of a knowledge-based economy, intellectual capital is much more important than financial capital. Increasing the recognition and utilization of intellectual capital will help improve the company's financial performance, so that this will also affect the sustainability of the organization. ²⁷ The GIC concept seeks to identify intellectual capital that is oriented towards environmentally friendly principles, while the GHRM concept seeks to implement every series of human resource management in an organization that applies environmentally friendly principles. The concept can be practically said to be practices that can be carried out in the human resource management process so that employees can contribute to achieving the organization's sustainability goals.²⁸

Green intellectual capital is measured by three determinants: green human capital, green structural capital, and green relational capital. Green intellectual capital is defined as the ability, knowledge, creativity, awareness, and commitment of business actors to environmental management.²⁹ Liu describes GIC as a combination of organizational green capabilities and knowledge to enhance competitive advantage.³⁰

Green Human capital is the capital represented by employees to create intellectual capital through the competence, ability, and agility of employees. Green human capital is an intangible asset of employees in the form of knowledge, experience, expertise, the innovation that can be empowered to achieve the company's operational environmental sustainability. ³¹ The most important thing in developing and improving the ability and also expertise in green programs in members of the organization or employees is training.

²⁵ Bernard Marr, Gianni Schiuma, And Andy Neely, “Intellectual Capital – Defining Key Performance Indicators For Organizational Knowledge Assets,” *Business Process Management Journal* 10, no. 5 (2004): 551.

²⁶ Yvonne Augustine Sudibyo And Karel Adam Sutanto, “Environmental Consciousness And Corporate Social Responsibility As Drivers Of Green Intellectual Capital,” *International Journal Of Innovation* 13, no. 4 (2020).

²⁷ Kusuma Indawati Halim, “The Importance Of Intellectual Capital In Driving Firm Performance,” *Accounting Analysis Journal* 12, no. 3 (2024): 190.

²⁸ Dadi Heryana, Muchammad Nurul Huda, And Amrie Firmansyah, “Green Intellectual Capital Dan Green Human Resource Management: Pendekatan Scoping Review,” *Journal Of Law, Administration, And Social Science* 4, no. 3 (2024): 340.

²⁹ Fang Fang Chen, “Sensitivity Of Goodness Of Fit Indexes To Lack Of Measurement Invariance,” *Structural Equation Modeling: A Multidisciplinary Journal* 14, no. 3 (2007): 464.

³⁰ Budhi Cahyono And Abdul Hakim, “Green Intellectual Capital And Competitive Advantage: The Moderating Effect Of Islamic Business Ethics,” *Proceedings Of The 3rd Asia Pacific International Conference Of Management And Business Science (AICMBS 2019)*, (2020).

³¹ . Syahidun And Lenny C. Nawangsari, “The Effect Of Green Human Capital, Green Structural Capital And Green Relation Capital On Company Sustainability By Mediating Green Environment Management,” *Academic Journal Of Interdisciplinary Studies* 11, no. 5 (2022): 154.

Therefore, Green Human Capital allows an organization to know its invisible assets such as knowledge, capability and also skills and can help to implement green strategies in organizations or companies in facing a dynamic competitive environment to perform better.³²

Structural capital is a supporting infrastructure for human capital. Structural capital is related to the system and order of an organization or company as a support for individuals for optimal thinking power. Structural capital includes all aspects of non-individual organizational knowledge such as databases, routines, organizational culture, and anything that creates value for the organization.³³ Green Structural Capital has a positive and significant relationship with Green HRM. Green Structural Capital can have a significant effect on Green HRM. One of them is because of the embedded environmental culture in the company's management system. Green Structural Capital (GSC), circular economy programs or water management systems can be developed to improve organizational capacities aimed at preserving the environment.³⁴

Green Relational Capital as an important intangible asset of a company that requires maintenance, strengthening, improving, and maintaining the quality of relationships with individuals and groups to gain a high position in the business market. Green Structural Capital has an influence on Environmental Performance.³⁵

The Influence Of Green Intellectual Capital On Green Competitive Advantage

Intellectual Capital (IC) is not a new concept for companies, and its importance in the process of creating corporate value is clear. Several scholars have studied IC from the perspective of a resource-based view. According to Youndt and Snell, IC can add value and improve corporate performance by reducing costs, increasing consumer benefits, or a combination of both. IC so stated that intangible resources tend to generate value for companies and help them maintain market competitiveness.

However, since its inception in 2008, green IC has received little attention.³⁶ Chen is a pioneer in establishing the idea of green IC, which he defines as “the total stock of all types of intangible assets, knowledge, capabilities, and relationships about environmental protection or green innovation at the individual level and organizational level in a company”. Then describes green IC as “the integration of green and environmental knowledge sources and knowing the company's ability to model sustainability through green HRM to increase competitive advantage. Similarly, GIC as “the total stock of all kinds of intangible assets, knowledge, capabilities, and relationships, etc. about environmental protection or green innovation of both the individual and organization levels within a

³² Muhammad Lutfi Ali Fattah And Sidiq Permono Nugroho, “The Effect Of Green Intellectual Capital On Environmental Performance With Green Human Resource Management As A Mediating Variable” (2024).

³³ Fattah And Nugroho, “The Effect Of Green Intellectual

³⁴ Bartolomé Marco-Lajara, Patrocinio Zaragoza-Sáez, and Javier Martínez-Falcó, “Does Green Intellectual Capital Affect Green Performance? The Mediation of Green Innovation,” *Telematique* 21, no. 1 (2022).

³⁵ Fattah and Nugroho, “The Effect of Green Intellectual.

³⁶ Jing Yi Yong, M. Y. Yusliza, And Olawole Fawehinmi, “Green Human Resource Management: A Systematic Literature Review From 2007 To 2019,” *Benchmarking: An International Journal* 27, no. 7 (2019).

company". Based on this definition, a company's competitive advantage can be obtained through intangible assets regarding environmental protection. Intangible assets are valuable, rare, and not easily imitated. Green IC ensures that the company fully complies with international environmental laws, and this addresses the problem of customer environmental awareness and realizes the creation of corporate value.

Trained employees, timely service, competence, reliable teamwork, and support from company managers are key factors that must be attached to green human capital to carry out activities with the abilities, physical and intellectual strength they have. Resources in green human capital can maintain a sustainable competitive advantage. The knowledge, skills, abilities, experience, attitudes, creativity and commitment inherent in employees can help companies achieve sustainable competitive advantage. GIC has an impact on the competitiveness of organizations and that the rate of impact varies according to individual practices. Furthermore, it has been established that the assessment of the relevance of individual practices fostering GIC and their practical implementation are correlated.³⁷

Green Human Resources Management And Green Competitive Advantage

HR is considered to have great potential in relation to sustainability.³⁸ However, its effectiveness including environmental actions in a company requires various types of contributions from the organization's functions, especially from HRM.³⁹ The HR function has an important role in creating and implementing sustainable business strategies throughout the organization. The HR function can assist in formulating and achieving environmental and social goals and also balancing these goals with traditional financial performance metrics. The HR function can also act as a partner in formulating corporate values and sustainability strategies.

Although research on Green HRM has received greater attention, its focus areas are: determining the relationship between disciplines vary widely. Therefore, developing a holistic concept of this structure and an overview of the existing body of Green HRM research is needed. Currently, the area lacks a comprehensive literature review that has investigated and analyzed the growing body of literature on Green HR.

Conclusion

This study shows that employee environmental awareness is very important, this can be done through routine education and massive socialization to employees about the importance of maintaining the environment. Awareness of a clean environment can be done through training for employees and all business managers. The purpose of the training itself has a strong influence on increasing knowledge of the green environment. Knowledge of the green environment itself has 3 (three) dimensions, namely green human capital, green

³⁷ Bombiak, "Effect Of Green Intellectual Capital Practices On The Competitive Advantage Of Companies," *Sustainability* 15.5 (2023): 4050.

³⁸ Charbel José Chiappetta Jabbour And Fernando César Almada Santos, "The Central Role Of Human Resource Management In The Search For Sustainable Organizations," *The International Journal Of Human Resource Management* 19, no. 12 (2008): 2133.

³⁹ Pascal Paillé, "The Impact of Human Resource Management on Environmental Performance: An Employee-Level Study," *Journal of Business Ethics* 121, no. 3 (2014): 451–466.

structural capital and green relational capital. Where these three dimensions strongly influence human resource management that has the competence and competitiveness in maintaining the green environment of the business. However, green intellectual capital will not have a strong influence on competitiveness if it does not begin with a strong awareness of the employees towards the environment. Human resource management is also weak in competitiveness if it is not based on knowledge about the environment. From this study it shows that a company or business in the future must have employees who have an awareness to maintain the environment by being given education and training about the environment so that human resource management is better about improving the environment so that it can have competitiveness in business, increasing sales because the company or business participates in maintaining sustainable development goals. For further researchers, we can add variables that have not been researched and implemented in manufacturing companies that have many waste and environmental problems.

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Author Contributions Statement

The research and writing of the article could be completed because RA's contribution was in charge of collecting primary data, presenting it in sending this article to the journal, then SR was in charge of collecting supporting data and translating the language, SR was in charge of presenting and analyzing it, and AA was in charge of editing the language and participating in analyzing the results of the research findings this

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