Examining the Mediating Role of Artificial Intelligence in Green Organizations, and Employee Sustainabilitty

Nurmala Pratiwi[1*]; Agus Arijanto[2]

[1] **55124110016@student.mercubuana.ac.id**, Universitas Mercu Buana, Indonesia
[2] **agus.arijanto@mercubuana.ac.id**, Universitas Mercu Buana, Indonesia
*) Corresponding Author

ABSTRACT

Sustainability issues and the implementation of Environmental, Social, and Governance (ESG) principles have become a major concern in the modern banking sector in order to ensure stable long-term performance. Amidst industry competition and the digitalisation of financial services, banks are required to not only pursue profitability, but also maintain a balance between employee welfare and environmental sustainability. In the context of sustainable performance, green organisational culture, green transformational leadership, and perceived organisational support are important factors that influence sustainable employee performance, with artificial intelligence adaptation acting as a mediating variable.

Objectives*: This study aims to analyse the influence of green organisational culture, green transformational leadership, and perceived organisational support on sustainable employee performance at PT Bank BRI Pluit Branch, with artificial intelligence adaptation as a mediating variable in the perspective of sustainable business.*

Methodology*: A quantitative survey was conducted using non probability purposive sampling, involving 119 respondents. The data were analyzed with Partial Least Squares Structural Equation Modeling (PLS-SEM)*

Finding*: The results of the study indicate that green organisational culture, green transformational leadership, and perceived organisational support have a positive and significant effect on sustainable employee performance. The mediation test results show that artificial intelligence adaptation is unable to mediate the influence between leadership and organisational support on sustainable performance.*

Conclusion *: AI technology has been adopted, but its effectiveness in improving performance still depends heavily on the readiness of human resources and the integration of work culture. Based on the results of this study, it is recommended that the management of PT Bank BRI Pluit Branch improve digital literacy and align workloads with organisational support in order to maintain consistent employee performance.*

Keywords*: Green Organizational Cultture; Green Transformational Leadership; Perceived Organizational Support; Sustainable Employee Performance; Artificial Intelligence.*

INTRODUCTION

Currently, financial institutions are developing rapidly, and various measures are being taken by banking companies to create strategies to enable them to compete. In the changing global business environment, the digitisation of financial services and increasing industry competition are driving banks in Indonesia to transform in line with the latest guidelines from the International Liaison Committee on Resuscitation (ILCOR).

_____

Companies can no longer assess their success through short-term performance achievements, but must also ensure that their performance can be maintained consistently in the long term. Companies are required not only to achieve optimal operational performance and prioritise profit or economic value, but also to pay attention to social contributions and environmental responsibility (profit, people, planet), commonly referred to as the Triple Bottom Line, as a form of sustainable responsibility.

Within the framework of Environment, Social, and Governance (ESG), it has become a global benchmark for organisations in ensuring that their activities are in line with sustainability principles. The Global Sustainable Investment Alliance (GSIA, 2021) report shows that interest in ESG continues to increase significantly across all sectors, indicating that sustainability is no longer an option, but rather a strategic necessity for organisations. In the public sector, increased attention to sustainability is in line with the global development agenda through the Sustainable Development Goals (SDGs). Of the 17 global goals, one of them is SDG 16, Peace, Justice and Strong Institutions, which emphasises the importance of developing effective, accountable, sustainable state institutions that are capable of maintaining long-term stability (United Nations, 2022).

Bank Rakyat Indonesia (BRI) as one of the largest banks in Indonesia, is committed to developing sustainability practices in line with the principles of the World Class Sustainable Banking Group in the areas of Environmental, Social, and Governance (ESG), with a focus on 'Strengthening Sustainable Finance Practices'. In this context, improving sustainable employee performance is key to ensuring the company's operational sustainability and competitiveness. Sustainable employee performance describes the contribution of employees to their own sustainable development as well as that of the company. This refers to the demonstration of high, stable, and sustainable performance by employees.

Sustainable employee performance not only covers all functions listed in the system requirements specification (SRS) document, but also covers all functions listed in the SRS document with the possibility of additions or changes made on an ongoing basis in the long term (Fu et al, 2023). Organizational cultural factors, perceived organizational support, and leadership are considered to have a significant influence on employee performance. Meanwhile, work motivation, green recruitment, job satisfaction, and work facilities have a lower influence. Work facilities are an important factor because they can support customer service, namely artificial intelligence. Although these factors remain important, they are considered supporting factors that do not always have a significant impact compared to the three main factors.

LITERATURE REVIEW

Natural Resource Based View Theory

The Natural Resource-Based View (NRBV) is an extension of the Resource-Based View (RBV) theory, which places the natural environment as a central dimension in the analysis of competitive advantage and organisational performance. The Resource-Based View (RBV) itself is based on the assumption that the source of competitive advantage lies in the organisation's internal resources that are valuable, rare, inimitable, and non-substitutable, or what is known as the VRIN framework (Barney, 2022).

Sustainable development requires organisations to adopt a long-term vision to ensure responsible management of environmental resources across generations. In the context of

_____

human resources, the Natural Resource-Based View emphasises that employees are key actors in sustainability, as changes to environmental systems can only occur if employees have awareness, skills, and motivation regarding the value of sustainability (Yong, et al., 2021).

Hypothesis Development

Andriyana and Setyawati (2025) found that green organisational culture has a significant influence on sustainable employee performance because green values help build consistent and responsible work behaviour. Ferdinand et al. (2024) also showed that green organisational culture is the most dominant variable in driving green employee performance. Furthermore, Zhang et al. (2021) emphasise that green culture can strengthen the effectiveness of green leadership in shaping positive employee behaviour.

H1: Green organisational culture has a positive and significant effect on sustainable employee performance.

Authoritarian or unsupportive leadership can cause discomfort in the workplace, thereby damaging employee morale and performance. Therefore, understanding and applying the right leadership style plays an important role in improving employee performance within an organisation (Diyanah, Suharto, and Rokhman 2024). In their research, leadership style was found to have a significant influence on sustainable employee performance, whereby a higher leadership style would further improve sustainable employee performance.

H2: Green Transformational Leadership has a positive and significant effect on Sustainable Employee Performance.

Explain that if employees feel that the organisation provides adequate support, such as attention to their welfare, recognition of their contributions, and a sense of security and fairness in their work, this will encourage employees to demonstrate voluntary behaviour that goes beyond their main duties.

H3: Perceived organisational support has a positive and significant influence on sustainable employee performance.

Demonstrated that artificial intelligence has a significant positive effect on customer experience for users. The results of the study show that artificial intelligence's ability to collect and analyse consumer preferences, provide responses and recommendations that match those preferences in a responsive manner, predict future consumer actions, and create efficient and responsive services can positively influence the overall user experience when using the application.

H4: Artificial Intelligence Adaptation has a positive and significant effect on Sustainable Employee Performance

Green organisational culture (GOC) creates a work environment that emphasises the values of environmental responsibility, efficiency, and sustainability, thereby encouraging employees to apply these values in their daily work. In companies that implement GOC, employees are more likely to exhibit environmentally friendly behaviour (Employee Green Behaviour, EGB), which supports sustainability goals in the workplace.

H5: Green organisational culture has a positive and significant effect on artificial intelligence adaptation.

Abositta, Adedokun, and Berberoglu (2024) state that strategy formation through Green Transformational Leadership creates an environment for sustainable practices while developing a culture of ecological sustainability, and that the combination of Artificial

Intelligence (AI) provides organisations with a powerful ability to transform their methods of pursuing sustainability, which acts as a fundamental moderating factor between leadership and environmental performance outcomes.

H6: Green Transformational Leadership has a positive and significant influence on Artificial Intelligence Adaptation.

The results of the study indicate that there is a strong direct relationship between perceived organisational support (POS) and artificial intelligence adaptation.

H7: Perceived Organisational Support has a positive effect on Artificial Intelligence Adaptation.

The mediation analysis results show that Artificial Intelligence Adaptation significantly mediates the relationship between Green Organizational Culture and Sustainable Employee Performance. These findings indicate that an organizational culture that supports green values encourages organizations to adopt AI solutions.

H8: Artificial Intelligence Adaptation mediates the influence of Green Organizational Culture on Sustainable Employee Performance

Artificial intelligence can assist humans in various tasks, such as understanding language, thinking, moving, and transforming objects. In addition, AI is also expected to be able to understand knowledge and learn, so that it can ultimately develop itself.

H9: Adoption of Artificial Intelligence mediates the effect of green transformational leadership on sustainable employee performance

AI is a laptop system capable of performing tasks that normally require human labor or intelligence to complete. By creating a work environment that supports the development of technology that is beneficial to operations, it makes it easier for employees to complete their work.

H10: Artificial Intelligence Adaptation mediates the influence of Perceived Organizational Support on Sustainable Employee Performance.
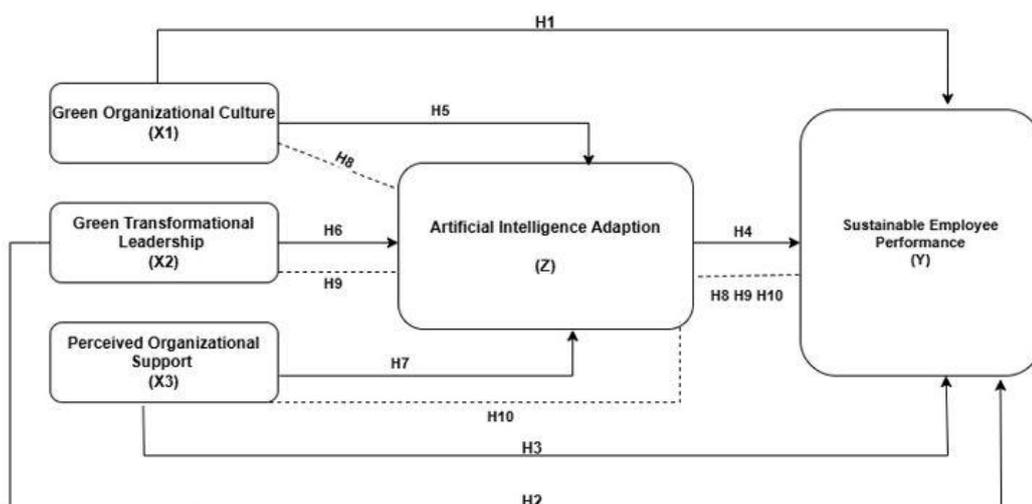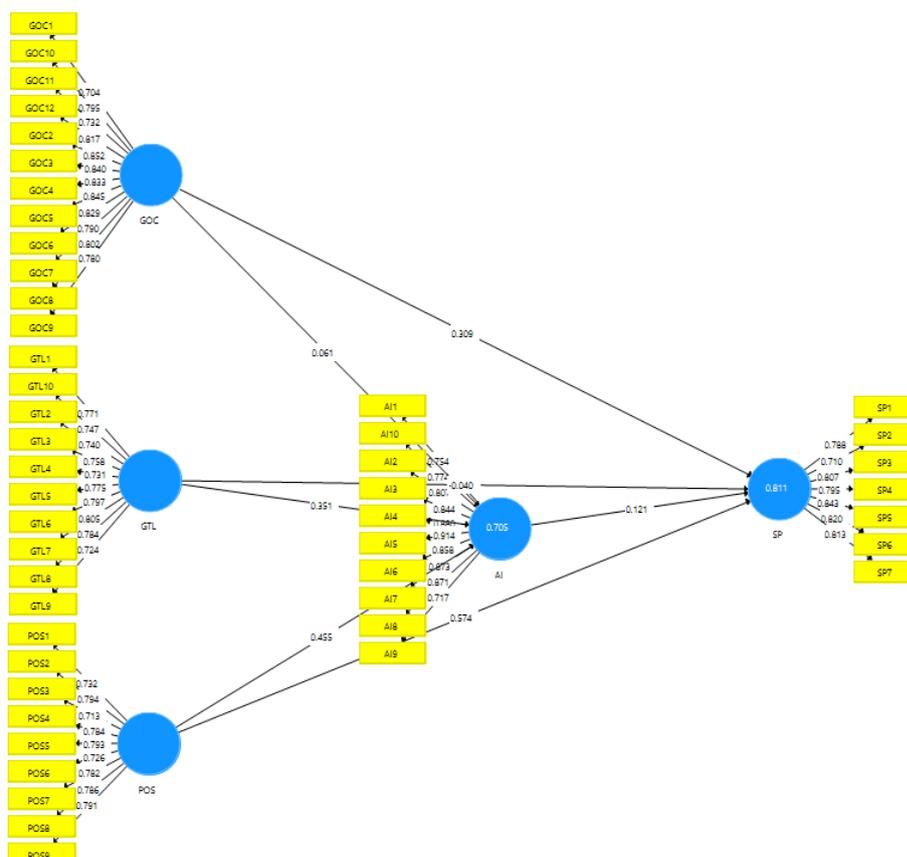
Figure 1. Hypothesis Framework

Figure 2. Outter Model Result Complete

_____

METHOD

Research Design and Sample
This study uses a quantitative survey to examine the factors that determine purchase intent. Respondents were selected using non-probability purposive sampling, targeting adults aged 18 years and above in Greater Jakarta who had previously purchased organic food and planned to purchase organic food.

Construct Measurement
All constructs were assessed using a measurement scale that had been established and adapted to the context of organic food. Items were rated on a 5-point Likert scale from strongly disagree (1) to strongly agree (5).

Data Analysis
The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4.1.1.6. The analysis was conducted in three stages: measurement model (outer model), structural model (inner model) (Hair et al., 2022).

RESULT AND DISCUSSION

Result

_____

Descriptive analysis was conducted to summarize the respondent profiles and provide an overview of the characteristics of the sample used in this study. Descriptive data analysis was performed using Microsoft Excel 2019 and presented in Table 1.

Table 1. Respondent Characteristics

		Frequency	Percent
Valid	Men	63	47,1%
	Women	56	52,9%
	Total	119	100,0
		Frequency	Percent
Valid	<23 year	1	0,8%
	24-30 year	50	42%
	31-40 year	48	40,3%
	>41 year	20	16,8%
	Total	119	100,0
		Frequency	Percent
Valid	Frontliner	28	23,5%
	Relationship Manager	51	42,9%
	Manager	15	12,6%
	Petugas Operasional Kredit	10	8,4%
	Supervisor	15	12,6
	Total	119	100,0
		Frequency	Percent
Valid	<4 year	17	14,3%
	5-10 year	39	32,8%
	11-15 year	32	26,9%
	>15 year	31	26,1%
	Total	119	100,0
		Frequency	Percent
Valid	Diploma	10	8,3%
	Bachelor	95	79,8%
	Postgraduate	14	11,8%
	Total	205	100,0

Assessment of measurement model (outer model)
All variables have composite reliability and Cronbach's alpha values > 0.7. Therefore, it can be concluded that the test results show good and reliable values in accordance with the minimum expected standards.

_____

Table 2. Composite Reliability and Cronbach's Alpha Test Results

	Cronbach's Alpha	Composite Reliability
Artificial intelligence adaption	0,950	0,957
Green Organizational Culture	0,949	0,956
Green Transformational Leadership	0,920	0,933
Perceived Organizational Support	0,912	0,928
Sustainable employee performance	0,904	0,924

Source: PLS-SEM Data

Based on Table 2, all variables have composite reliability and Cronbach's alpha values > 0.7. Therefore, it can be concluded that the test results show good and reliable values in accordance with the minimum expected standards.

Table 3. Fornell Larcker Test Results

	AI	GOC	GTL	POS	SEP
Artificial intelligence adaption	0,831				
Green Organizational Culture	0,707	0,803			
Green Transformational Leadership	0,819	0,764	0,842		
Perceived Organizational Support	0,824	0,771	0,767	0,916	
Sustainable employee performance	0,779	0,803	0,845	0,798	0,875

Source: PLS-SEM Data

In Table 3, it can be seen that each construct has a higher Fornell-Lacker value than the correlation between constructs in the model. Therefore, it can be concluded that these constructs have good discriminant validity.

Structural model assessment (model internal)

Structural (internal) models are evaluated to assess how well predictors explain and predict purchase intent. This assessment focuses on the explanatory power of the model (R^2), predictive relevance (Q^2), and effect size (f^2) of each relationship.

Table 4. R-Square

	R Square
Artificial intelligence adaption	0,705
Sustainable employee performance	0,811

Source: PLS-SEM Data

Based on the results of Table 4 above, the R-Square for artificial intelligence adaptation is 0.705. This means that 70.5% of artificial intelligence adaptation is influenced by green organizational culture, green transformational leadership, and perceived organizational support. The remaining 29.5% is influenced by other factors outside the scope of this study. In addition, the R-Square value for the sustainable employee performance variable is 0.811. This means that 81.1% of sustainable employee performance is influenced by the variables of green organizational culture, green transformational leadership, and perceived organizational support through artificial intelligence adaptation. The remaining 18.9% is influenced by other factors outside the scope of this study.

Table 5. Q-Square

	Q Square

_____

Artificial intelligence adaption	0,468
Sustainable employee performance	0,501

Source: PLS-SEM Data

In Table 5, the calculation results show that the predictive relevance value of the artificial intelligence adaptation variable is 0.468 > 0. In addition, the calculation results above show that the predictive relevance value of the sustainable employee performance variable is 0.501 > 0. Therefore, the model can be considered feasible because it has a relevant predictive value.

Analisis Multigrup

Table 6. Hypothesis test result

	Original sample (O)	T Statistics (|O/STDEV|)	P Values	Keterangan
GOC -> SP	0,309	3,543	0,000	statistically significant
GOC -> AI	0,061	0,636	0,525	insignificant positive
GTL -> SP	-0,040	0,299	0,765	negatively insignificant
GTL -> AI	0,351	2,146	0,032	statistically significant
POS -> SP	0,574	5,971	0,000	statistically significant
POS -> AI	0,455	3,354	0,001	statistically significant
AI -> SP	0,121	1,540	0,124	insignificant positive
Mediation				
GOC -> AI -> SP	0,007	0,486	0,627	insignificant positive
GTL -> AI -> SP	0,042	1,298	0,195	insignificant positive
POS -> AI -> SP	0,055	1,309	0,191	insignificant positive

Source: Data PLS-SEM

Discussion

These results show that the implementation of an environmentally-oriented organizational culture, such as concern for sustainability, environmentally-friendly policies, and green values instilled in the organization, can drive continuous improvement in employee performance. Employees who work in an organizational environment with a green culture tend to have a higher awareness of resource efficiency, environmental responsibility, and consistency in maintaining long-term performance quality. In the context of modern organizations facing sustainability demands, green organizational culture is an important factor in shaping employee work behavior. An organizational culture that emphasizes environmentally friendly practices not only contributes to environmental preservation but also creates a healthier work environment, increases employee commitment, and encourages sustainable productivity. The stronger the green values applied in an organization, the higher the sustainable employee performance will be.

The findings in this study are in line with the research by Wyrtki et al (2021), which indicates that organizational culture alone is not sufficient to drive artificial intelligence without technological readiness, organizational structure, and data capabilities. Green transformational leadership tends to act as a catalyst for change in values and environmental awareness, but it is not yet strong enough to directly shape sustainable employee performance. Without the support of a strong organizational culture, a structured work system, and integrated

_____

sustainability policies, the direction and inspiration provided by green transformational leadership has the potential to be understood only normatively and not yet implemented in the daily work activities of employees.

The findings in this study are in line with the research by Jabbour et al (2021), which shows that the role of green transformational leadership is more effective when supported by organizational systems, rather than as a primary factor in employee performance.

CONCLUSION

Green organizational culture has a positive and significant effect on sustainable employee performance. This means that the stronger the environmentally-oriented organizational culture, the higher the sustainable performance of employees in maintaining quality, responsibility, and long-term consistency at work. Green organizational culture has a positive but insignificant effect on artificial intelligence. This means that the implementation of an environmentally-oriented organizational culture has not yet significantly encouraged the adoption of artificial intelligence within organizations. Green transformational leadership has a negative and insignificant effect on sustainable employee performance. This means that environmentally-based transformational leadership has not been able to directly improve sustainable employee performance and even tends to have no significant effect on long-term employee performance. Green transformational leadership has a positive and significant effect on artificial intelligence. This means that the stronger the implementation of environmental-oriented transformational leadership, the greater the tendency for organizations and employees to accept and adopt artificial intelligence as part of organizational innovation, efficiency, and sustainability efforts.

Perceived organizational support has a positive and significant effect on sustainable employee performance. This means that the higher the level of organizational support felt by employees, such as attention to welfare, appreciation for work contributions, and the provision of adequate facilities and resources, the higher the sustainable performance of employees in carrying out their duties and responsibilitiesPerceived organizational support has a positive but insignificant effect on artificial intelligence. This means that the higher the organizational support felt by employees, such as the provision of technological facilities, training, clear policies, and attention to employee needs and welfare, the greater the tendency for employees and organizations to accept and adopt artificial intelligence in their work activities. Artificial intelligence has a positive but insignificant effect on sustainable employeE performance. This means that the implementation of artificial intelligence in organizations tends to lead to improved employee performance.

Artificial intelligence is unable to mediate the influence of green transformational leadership on sustainable employee performance. This means that environmentally-oriented transformational leadership does not indirectly improve sustainable employee performance through the application of artificial intelligence, so artificial intelligence does not yet serve as a mechanism that bridges the influence of green leadership on sustainable employee performance. These results show that the higher the level of organizational support felt by employees, the higher their sustainable performance. Organizational support, reflected in attention to employee welfare, recognition of work contributions, fair policies, and the provision of adequate resources, encourages employees to work more consistently, responsibly, and with a long-term orientation. Employees who feel valued and supported by

_____

the organization tend to show greater commitment to maintaining the quality of their performance. Perceived organizational support is an important factor in shaping sustainable employee work behavior. Organizational support not only increases motivation and job satisfaction, but also strengthens the psychological bond between employees and the organization. This encourages employees to give their best efforts on a sustainable basis and contribute to the achievement of the organization's long-term goals.

REFERENCES

Abositta, A., Adedokun, M. W., & Berberoglu, A. (2024). Influence of artificial intelligence on engineering management decision-making with mediating role of transformational leadership. *Systems*, 12(12), 570. https://doi.org/10.3390/systems12120570.

Andriyana, D., & Setyawati, A. (2025). The Influence of Green Organizational Culture, Green Employability, and Green Innovation on Employee Performance through Job Satisfaction at PT Geo Dipa Energi (Persero). Jurnal Manajemen dan Organisasi,https://doi.org/10.33096/jmb.v12i2.1254

Barney, J. (2022). Firm resources and sustained competitive advantage. Journal of Management,17(1),99–120. https://josephmahoney.web.illinois.edu/BA545_Fall%202022/Barney%20 (2022).

Diyanah, I., Suharto, S., & Rokhman, M. T. N. (2024). The influence of leadership style and organizational culture on employee performance mediated by work motivation at PT. German Eta Indonesia. Asian Journal of Economics, Business and Accounting, 24(4), 225–234. https://doi.org/10.9734/ajeba/2024/v24i41275.

Elkington, J. (1997). Cannibals with forks: The triple Bottom Line Of 21st Century Business. Oxford: Capstone. Kinerja Dengan Motivasi Sebagai Variable Mediasi Pada PT. ATM. Jurnal Manajerial Dan Kewirausahaan, 3(3), 794. https://doi.org/10.24912/jmk.v3i3.13211.

Fu, X et al. (2023). Self-Rated Health (SRH), Recovery from Work, Fatigue, and Insomnia Among Commercial Pilots Concerning Occupational and NonOccupational Factors. Fontiers in Public Health, 10.

Gundala, R. R., Nawaz, N., R M, H., Boobalan, K., & Gajenderan, V. K. (2022). Does gender moderate the purchase intention of organic foods? Theory of reasoned action. Heliyon, 8(9), e10478. https://doi.org/10.1016/j.heliyon.2022.e10478

GSIA. (2021). Global Sustainable Investment Review 2020. 32.

Hair, joseph f, Hult, g thomas m, Ringle, christian m, & sarstedt, marko. (2022). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM).

Roscoe, S., Subramanian, N., Jabbour, C. J. C., & Chong, T. (202). Green Human Resource Management and the Enablers of Green Organizational Culture: Enhancing a Firm's Environmental Performance for Sustainable Development. Business Strategy and the Environment, 28 (5). https://doi.org/10.1002/bse.2277.

Prakash, G., Singh, P. K., Ahmad, A., & Kumar, G. (2023). Trust, convenience and environmental concern in consumer purchase intention for organic food. Spanish Journal of Marketing - ESIC, 27(3), 367–388. https://doi.org/10.1108/SJME-09-2022-

_____

0201.

Roscoe, S., Subramanian, N., Jabbour, C. J. C., & Chong, T. (2019). Green Human Resource Management and the Enablers of Green Organizational Culture: Enhancing a Firm's Environmental Performance for Sustainable Development. Business Strategy and the Environment, 28 (5). https://doi.org/10.1002/bse.2277

United Nations Environment Programme (2022), "Global Status Report for Buildings and Construction : Towards a zero-emissions, efficient and resilient buildings and construction sector," 2022.

Wirae Gunawan, Ferdinand, & Achmad Syamsudin. (2022). Pengaruh Budaya Organisasi dan Gaya Kepemimpinan Terhadap Kinerja Pegawai Melalui Motivasi Kerja DLHKP Kabupaten Gunung Mas. Journal of Environment and Management, 3(1), 16–25. https://doi.org/10.37304/jem.v3i1.4282.

Yong, J. Y., Yusliza, M. Y., Ramayah, T., & Fawehinmi, O. (2021). Nexus between Green Intellectual and Green Human Resource Management. Journal of Cleaner Production, https://doi.org/10.1016/j.jclepro.2018.12.306

Zhang, J., Chen, Y., & Chen, J. (2021). Green Leadership and Employee Performance. Sustainability, 13(9), 486

\