

Knowledge Sharing-Based HR Capability Development to Achieve Sustainable Development Goals

Raniasari Bimanti Esthi^{1,*}, Indra Setiawan¹, Norbertus Citra Irawan²

¹ Universitas Pelita Bangsa, Indonesia

² Tunas Pembangunan University, Indonesia

*E-mail: raniasari@pelitabangsa.ac.id

Abstract

This research reveals the challenges human resource (HR) capabilities face in achieving Sustainable Development Goals (SDGs) in Indonesia. In particular, the issues of inadequate skills, employment opportunities, and investment are highlighted. This research focuses on the relationship between Human Resource Capability (HRC), Green Knowledge Sharing (GKS), and the achievement of SDGs goals 8 (Decent Work and Economic Growth) and 9 (Industry, Innovation and Infrastructure). By adopting a case study method involving respondents from all over Indonesia, this research found that increasing HRC can encourage GKS, which supports the achievement of the two SDGs goals. This research suggests providing education and training that focuses more on environmental and sustainability issues to improve HR qualifications. In addition, the policy implies the importance of investing in improving human resource capabilities and promoting green knowledge-sharing practices. This research provides in-depth insight into how these factors are interrelated and contribute to global efforts to achieve sustainable development, with potential practical implications for designing more effective HR policies and management to support the SDGs in the future.

Keywords: capability, decent work, green knowledge sharing, green young talent, inclusive and sustainable industrialization

INTRODUCTION

The ability of human resources to face the SDGs faces various challenges, including skills shortages, decent work opportunities, and lack of adequate investment (McGrath, et al., 2018). Apart from that, the dominance of young people in the job market and the complex challenges in the future are also important issues. Efforts are needed to increase human resources qualifications and improve labor market conditions to achieve the SDGs (Broo, et al., 2022).

SDGs goal 8 on decent work and economic growth faces similar obstacles in terms of human resource capabilities (Frey, 2018). The lack of sustainable employment opportunities and appropriate skills is a significant problem. Therefore, efforts are needed to improve human resource qualifications and labor market conditions to align with the SDG's vision (Chams & García-Blandón, 2019 and Pocol, *et al.*, 2022). The 9th SDGs goal, namely promoting industrialization that encourages innovation in inclusive and sustainable business, is also faced with problems related to human resource capabilities (Gupta & Vegelin, 2016). Limited skills and low investment are the main obstacles. Therefore, education, investment, and community empowerment are needed to achieve this goal.

Green knowledge sharing related to environmental issues is essential in achieving the SDGs (Wang, *et al.*, 2022). This relationship increases awareness and sustainable action. Green knowledge sharing also supports the achievement of SDG goals related to the environment and sustainability and links with the 8th and 9th SDGs (Zhou, *et al.*, 2020).

This research discusses the relationship between human resource capabilities, green knowledge sharing, and the achievement of the 8th and 9th SDGs. The novelty lies in a holistic approach to studying this correlation. This research is essential because it provides in-depth

insight into how these factors are interrelated and contribute to global efforts to achieve sustainable development and their implications for designing more effective HR policies and management to support the SDGs.

RESEARCH METHOD

This research adopts the primary case study method to explore an in-depth understanding of a complex issue, namely the ability of human resources to achieve the SDGs in Indonesia. The selection of research locations throughout Indonesia was conducted to ensure a broad representation of diverse geographical and cultural contexts, allowing the generalization of research results. The research population focuses on young people under 30 because this group is often an agent of change and has a crucial role in achieving the SDGs in the future.

The simple random sampling method was used to randomly select respondents so that the research results could represent the target population. Online questionnaires helped achieve a broad sample and facilitated efficient data collection. The study duration from January to July 2023 was chosen to provide sufficient time to collect representative data and allow in-depth analysis.

The data collection method in this research involves two approaches: online surveys and interviews. Online surveys are used to collect data from several respondents through electronic questionnaires efficiently. Meanwhile, interviews were conducted to obtain a deeper and more contextual understanding of several selected respondents. The data analysis method uses structural equation models and partial least squares (PLS). Structural equation modeling allows researchers to test relationships between variables identified in research, while PLS is used to analyze and model these relationships statistically. The combination of online surveys and interviews with PLS statistical analysis provides a comprehensive understanding of the factors that influence the ability of human resources to achieve the SDGs being researched, thus enabling solid and relevant conclusions to be drawn.

This combination of various methods is designed to produce accurate, relevant data and represent the actual field situation. Thus, this research can provide comprehensive insight into the capabilities of human resources in achieving the SDGs in Indonesia and provide a basis for improving policies and actions that are more effective in achieving sustainable development goals.

Table 1. Research variables, indicators, and operational definition

Variables	Indicators	Operational Definition
Human Resource Capability (HRC)	HRC1	Cognitive abilities (critical and creative thinking, as well as problem-solving skills)
	HRC2	Ability to adapt to environmental and technological changes
	HRC3	Ability to innovate to produce new ideas and creative environmentally friendly solutions
Green Knowledge Sharing (GKS)	GKS1	Quantity of knowledge-sharing activities related to green initiatives
	GKS2	Availability and utilization of platforms for sharing environmentally friendly knowledge
	GKS3	Level of involvement and participation in environmentally friendly knowledge-sharing activities
Decent Work (DW)	DW1	Increased income and wages of employees working in green industries
	DW2	Improved working conditions (job security, reasonable working hours, and workers' rights) in green industries
	DW3	Increasing gender equality working in green industries
Inclusive and Sustainable	ISI1	Increased green productivity due to technological advances and efficient and effective use of resources

Industrialization (ISI)	Sustainable use of resources due to a commitment to environmental sustainability	Reducing the gap between advanced industrial sectors and lagging industrial sectors
ISI2		
ISI3		

Developing a hypothesis is an essential step in research. An idea is a statement or prediction proposed based on initial knowledge or existing theory, which is then tested through research. The aim is to test the truth or validity of an assumption or concept in a particular research context. In the context of the next step, preparing a hypothesis will help formulate estimates about how the four existing variables are related or influential in the research. This hypothesis will be tested empirically to verify or reject the proposed assumptions. The ideas developed in this model are:

- H1: HRC has a positive and significant effect on GKS
- H2: GKS has a positive and significant impact on DW
- H3: GKS has a positive and significant effect on ISI
- H4: DW has a positive and significant impact on ISI
- H5: HRC has a positive and significant effect on DW through GKS
- H6: HRC has a positive and significant impact on ISI through GKS
- H7: GKS has a positive and significant effect on ISI via DW
- H8: HRC has a positive and significant impact on ISI through GKS and DW

RESULTS AND DISCUSSIONS

The next step is to present the results of the validity and reliability tests. Validity tests measure the extent to which the instruments or tools used in research can measure what they are supposed to measure. The results of the validity test help assess the time to which the device matches the construct it wants to measure. Meanwhile, the reliability test aims to measure the level of consistency or stability of the instrument in measuring a concept. Reliability test results show the extent to which a device can produce consistent results if used repeatedly in the same situation. This information is essential because it can determine the size to which the data obtained in the research can be trusted and valid for further analysis.

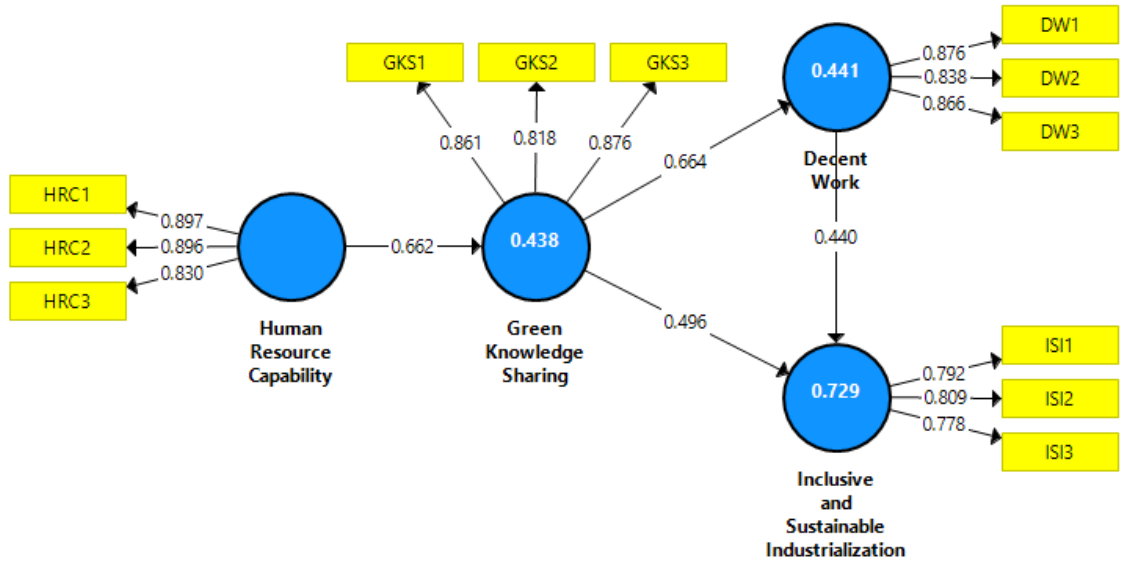


Figure 1. Path analysis of the relationship between HRC, GKS, DW, and ISI

Figure 1 depicts the path analysis connecting HRC, GKS, DW, and ISI variables. This path analysis is used to understand the relationship between these variables and how one variable influences other variables in the research context. By visualizing these relationships, research can identify and quantify the impact of these factors on ISI achievement. Figure 1 shows a positive causal relationship between the variables HRC, GKS, DW, and ISI. This relationship illustrates that increasing HRC and GKS can positively impact DW and ultimately contribute to increasing ISI. In other words, this positive correlation shows that these factors support the achievement of DW and ISI in Indonesia.

Table 2. Reliability and construct validity tests of HRC, GKS, DW, and ISI variable

Variables	Indicators	Cross Loading	CA	rho_A	CR	AVE	R2
HRC	HRC1	0.897					
	HRC2	0.896	0.846	0.848	0.907	0.765	-
	HRC3	0.830					
GKS	GKS1	0.861					
	GKS2	0.818	0.811	0.811	0.888	0.727	0.438
	GKS3	0.876					
DW	DW1	0.876					
	DW2	0.838	0.824	0.828	0.895	0.740	0.441
	DW3	0.866					
ISI	ISI1	0.792					
	ISI2	0.809	0.712	0.722	0.836	0.629	0.729
	ISI3	0.778					

Based on Table 2, this research shows very positive results in measuring the validity and reliability of the indicators used. A cross-loading value higher than 0.7 indicates that each hand is significantly related to the tested construct. Furthermore, Cronbach's Alpha (CA) greater than 0.7 shows that these indicators can measure the construct consistently and reliably. A rho_A value that exceeds 0.7 indicates that the arrows in this study are reliable for analysis. Composite Reliability (CR), whose value is more than 0.7, means that the variable construct has a good level of reliability and can be considered in data analysis. Finally, an Average Variance Extracted (AVE) value of more than 0.5 illustrates that the variables used as construct indicators can explain at least 50% of the variance in the construct tested, confirming the validity of the construct used in this research. Thus, these results show that the indicators used can be considered valid and reliable in measuring the constructs studied.

The R2 value measures the extent to which the independent variables in a model can explain the dependent variable. The results above show that the R2 values for the GKS and DW variables are 0.438 and 0.441, which are 0.33-0.67. This range indicates that the independent variable can explain approximately 43.8% and 44.1% of the variation in the dependent variable. Therefore, the model predictions for these two variables are categorized as "moderate." However, in the ISI variable, R2 has a value of 0.729, which exceeds 0.67. This result indicates that the independent variables can explain approximately 72.9% of the variation in the dependent variable, so the ISI variable's model predictions are categorized as "strong."

Table 3. The direct and indirect effect tests of HRC, GKS, DW, and ISI variable

Effects	Original Sample (O)	P Values	Sig.
<u>Direct effect</u>			
HRC → GKS	0.662	0.000	***
GKS → DW	0.664	0.000	***
GKS → ISI	0.496	0.000	***
DW → ISI	0.440	0.000	***
<u>Indirect effect</u>			
HRC → GKS → DW	0.439	0.000	***
HRC → GKS → ISI	0.329	0.000	***
GKS → DW → ISI	0.292	0.000	***
HRC → GKS → DW → ISI	0.193	0.000	***

Significance level: ***= 99%; **= 95%; *= 90%; ns = not significant

HRC has a positive and significant effect on GKS.

The positive and significant influence of HRC, which has an original sample value of 0.662 on GKS at the 99 percent confidence level, can be explained by the fact that better human resource capabilities can encourage them to be more active in sharing environmental knowledge. The impact on young human resource talents in Indonesia has increased awareness and understanding of ecological issues and motivation to contribute to sustainable practices. The results of in-depth interviews with several respondents strengthen these findings by revealing that increasing human resource capabilities can increase their awareness of the importance of sharing green knowledge to achieve sustainable development. In 2016, research conducted by Naidoo, et al. in organizational sustainability confirms that increasing Human Resource Capability (HRC) is positively related to Green Knowledge Sharing (GKS). These results provide additional support for the positive relationship between human resource capabilities and green knowledge-sharing practices, which is relevant in the context of sustainable development.

GKS has a positive and significant effect on DW.

The positive and significant influence between Green Knowledge Sharing (GKS) and Decent Work (DW) at the 99 percent confidence level, with an original sample value of 0.664, can be explained by the fact that green knowledge-sharing practices encourage the creation of decent working conditions. In the context of young human resource talent in Indonesia, increasing GKS can provide a better understanding of sustainable work practices, which can create more decent work opportunities. The results of in-depth interviews with respondents reflect these findings, with several confirming that GKS has increased their awareness of the need for fair and decent work. Previous research in 2021 by Zhao, et al. in the field of sustainable development also confirmed the positive relationship between GKS and improved proper working conditions, with findings supporting the results of this research.

GKS has a positive and significant effect on ISI.

The positive and significant influence between Green Knowledge Sharing (GKS) and Inclusive and Sustainable Industrialization (ISI) at the 99 percent confidence level, with an original sample value of 0.496, can be explained by the fact that green knowledge sharing can encourage inclusive and sustainable industrialization practices. In the context of young human resource talent in Indonesia, this indicates that with the increase in GKS, they can better understand the importance of innovation and sustainable business practices to support inclusive and sustainable industrialization. The results of in-depth interviews with respondents show that the increase in GKS has opened up opportunities for them to engage in sustainable and inclusive industrial practices. In a previous study in 2023, research by Singh in the sustainability domain also observed a positive relationship between GKS and ISI, with findings supporting this study's results.

DW has a positive and significant effect on ISI.

The positive and significant influence between Decent Work (DW) and Inclusive and Sustainable Industrialization (ISI) at a confidence level of 99 percent, with an original sample value of 0.440, can be explained by the fact that creating decent working conditions (DW) is an essential basis for encouraging practices. Especially in Indonesia, this means that improving decent working conditions can increase the involvement of young human resource talents in efforts to support inclusive and sustainable industrialization and improve worker standards and protection. The results of in-depth interviews with respondents reflect the importance of decent working conditions as a motivating factor in their participation in sustainable industrial practices. Regarding previous studies in 2021, research by Bianchi and de Man in the field of sustainable development also found a positive relationship between DW and ISI, with findings supporting the results of this research and confirming the importance of decent working conditions in promoting inclusive and sustainable industrialization.

HRC has a positive and significant effect on DW through GKS.

The positive and significant influence between Human Resource Capability (HRC) and Decent Work (DW) through Green Knowledge Sharing (GKS) at a confidence level of 99 percent, with an original sample value of 0.439, can be explained by the fact that human resource capabilities are better (HRC) encourages green knowledge sharing (GKS) practices. This result will create decent working conditions (DW) and increase awareness and understanding of young human resource talents in Indonesia about the importance of sustainable and inclusive practices in achieving Sustainable Development Goals (SDGs). The results of in-depth interviews with respondents also revealed that the increasing ability of human resources to share green knowledge has motivated them to be actively involved in efforts to achieve the SDGs. As a previous study in 2021, research by Liu, et al. in sustainable development also supports this relationship by finding that better HRC contributes to green knowledge-sharing practices, which then influence more decent working conditions and achieve sustainable development goals.

HRC has a positive and significant effect on ISI through GKS.

Based on Table 3, it is found that Human Resource Capability (HRC) has a significant favorable influence on Inclusive and Sustainable Industrialization (ISI) through Green Knowledge Sharing (GKS), with an original sample value of 0.329 and a confidence level of 99 percent. This result can be explained by the fact that the existence of good human resource capabilities (HRC) contributes to facilitating the exchange of knowledge (GKS) regarding green practices, which in turn encourages an inclusive and sustainable industrialization process (ISI). In the Indonesian context, this can positively impact young talent in human resources and the achievement of Sustainable Development Goals (SDGs) by increasing the quality and quantity of

workers who know sustainable practices. Apart from that, the results of in-depth interviews with respondents also show that perceptions align with these findings, recognizing the importance of the relationship between HRC, GKS, and ISI in achieving sustainable development goals. Supporting these findings, a previous study in 2022 by Hanifah, et al. also found similar results, confirming a positive correlation between HRC, GKS, and ISI in specific contexts.

GKS has a positive and significant effect on ISI via DW.

The positive and significant influence between Green Knowledge Sharing (GKS) and Inclusive and Sustainable Industrialization (ISI) through Decent Work (DW) at a confidence level of 99 percent, with an original sample value of 0.292, can be explained in the way that green knowledge sharing (GKS) encourages adoption of inclusive and sustainable industrialization (ISI) practices through the creation of decent working conditions (DW). This result has a positive impact on young human resource talents in Indonesia by increasing their awareness of sustainable industrial practices and providing better job opportunities. The results of in-depth interviews with respondents reflect that the increase in GKS has changed their perception of industrialization practices and their impact on achieving Sustainable Development Goals (SDGs). A previous study in 2022 by Mukhuty, et al. in the field of sustainable development also confirms this relationship by finding that GKS can produce inclusive and sustainable industrialization practices, which is to the research findings.

HRC has a positive and significant effect on ISI through GKS and DW.

The positive and significant influence between Human Resource Capability (HRC) and Inclusive and Sustainable Industrialization (ISI) through Green Knowledge Sharing (GKS) followed by Decent Work (DW) at a confidence level of 99 percent, with an original sample value of 0.193, can be explained as follows: Better human resource capabilities (HRC) provide an impetus for green knowledge sharing (GKS), which in turn drives the adoption of inclusive and sustainable industrialization practices (ISI). This process creates decent working conditions (DW) and provides better job opportunities, especially for young human resource talents in Indonesia. The results of in-depth interviews with respondents show that the increasing ability of human resources to share green knowledge has changed how they view industrial practices and increase their awareness of the importance of achieving Sustainable Development Goals (SDGs) through sustainable industrialization practices. As a previous study in 2022, research by Mukhuty, et al. in sustainable development also supports this relationship by finding that better HRC can encourage green knowledge-sharing practices and contribute to inclusive and sustainable industrialization practices and achieving the SDGs.

CONCLUSION

This research provides several significant conclusions. First, the research objective of understanding the relationship between Human Resource Capability (HRC), Green Knowledge Sharing (GKS), and achieving Sustainable Development Goals (SDGs) was well answered. The research results show that better HRC can improve GKS, which supports achieving goals 8 and 9 of the SDGs, namely Decent Work and Economic Growth, as well as Industry, Innovation, and Infrastructure. Second, to overcome HRC obstacles, an essential role for GKS is needed in improving skills and knowledge relevant to the SDGs. Third, suggestions for sustainable development of young talent include providing education and training on environmental and sustainability issues. Fourth, to overcome GKS obstacles, it is necessary to increase the accessibility and distribution of green information and knowledge. Fifth, the policy implies the

importance of encouraging investment in improving human resource capabilities and supporting green knowledge-sharing practices. Finally, this research also opens up future research opportunities, such as exploring the impact of GKS on achieving other SDGs and analyzing other factors that can influence human resource performance in sustainable development.

References

- Bianchi, R. V., & de Man, F. (2021). Tourism, inclusive growth and decent work: A political economy critique. *Journal of Sustainable Tourism*, 29(2-3), 353-371.
- Broo, D. G., Kaynak, O., & Sait, S. M. (2022). Rethinking engineering education at the age of industry 5.0. *Journal of Industrial Information Integration*, 25, 100311.
- Chams, N., & García-Blandón, J. (2019). On the importance of sustainable human resource management for the adoption of sustainable development goals. *Resources, Conservation and Recycling*, 141, 109-122.
- Frey, D. F. (2018). Economic growth, full employment and decent work: The means and ends in SDG 8. In *The Sustainable Development Goals and Human Rights* (pp. 122-142). Routledge.
- Gupta, J., & Vegelin, C. (2016). Sustainable development goals and inclusive development. *International environmental agreements: Politics, law and economics*, 16, 433-448.
- Hanifah, H., Abd Halim, N., Vafaei-Zadeh, A., & Nawaser, K. (2022). Effect of intellectual capital and entrepreneurial orientation on innovation performance of manufacturing SMEs: mediating role of knowledge sharing. *Journal of Intellectual Capital*, 23(6), 1175-1198.
- Liu, S. M., Hu, R., & Kang, T. W. (2021). The effects of absorptive capability and innovative culture on innovation performance: Evidence from Chinese high-tech firms. *The Journal of Asian Finance, Economics and Business*, 8(3), 1153-1162.
- McGrath, S., Alla-Mensah, J., & Langthaler, M. (2018). Skills for decent work, life and sustainable development: Vocational education and the sustainable development goals (No. 18). *ÖFSE Briefing Paper*.
- Mukhuty, S., Upadhyay, A., & Rothwell, H. (2022). Strategic sustainable development of Industry 4.0 through the lens of social responsibility: The role of human resource practices. *Business Strategy and the Environment*, 31(5), 2068-2081.
- Naidoo, S., Rodda, N., Stenstrom, T. A., Schmidt, S., Dent, M., Bux, F., ... & Fennemore, C. (2016). Water security in South Africa: perceptions on public expectations and municipal obligations, governance and water re-use. *Water SA*, 42(3), 456-465.
- Pocol, C. B., Stanca, L., Dabija, D. C., Pop, I. D., & Mişcoiu, S. (2022). Knowledge co-creation and sustainable education in the labor market-driven university-business environment. *Frontiers in Environmental Science*, 10, 781075.
- Singh, B. (2023). Federated learning for envision future trajectory smart transport system for climate preservation and smart green planet: Insights into global governance and SDG-9 (Industry, Innovation and Infrastructure). *National Journal of Environmental Law*, 6(2), 6-17.
- Wang, S., Abbas, J., Sial, M. S., Álvarez-Otero, S., & Cioca, L. I. (2022). Achieving green innovation and sustainable development goals through green knowledge management: Moderating role of organizational green culture. *Journal of innovation & knowledge*, 7(4), 100272.
- Zhao, Z., Zhang, Q., Yu, X., Sun, C., Wang, S., Yan, R., & Chen, X. (2021). Applications of unsupervised deep transfer learning to intelligent fault diagnosis: A survey and comparative study. *IEEE Transactions on Instrumentation and Measurement*, 70, 1-28.
- Zhou, M., Govindan, K., & Xie, X. (2020). How fairness perceptions, embeddedness, and knowledge sharing drive green innovation in sustainable supply chains: An equity theory and network perspective to achieve sustainable development goals. *Journal of Cleaner Production*, 260, 120950.