Green Knowledge Management to Improve Green Competence with Green Motivation as Intervening Variable

Yenny Dwi Suharyani
Universitas Mercu Buana Jakarta, sofidwi@yahoo.com

Mafizatun Nurhayati
Universitas Mercu Buana Jakarta, mafizatun.nurhayati@mercubuana.ac.id

Abstract

Objectives: By highlighting cognizance management techniques and inspiration, this study intends to enhance the administrative abilities of a functional official of the Mining Inspector, a mid-level specialist throughout Indonesia.

Methodology: This review paper applies the keyword Green Competence (GC) and its relation to Green Knowledge Management (GKM), and Green Motivation (GM) from internet were published in 2017 or later. A preselect process conducted to figure out the suitable scientific paper related to Green Competence. Among hundreds of articles, we examine 24 from those which related to GC and it's to GKM, and GM.

Finding: This review paper revealed that there is a research gaps in this topic and this review paper also proposes a research framework for further research.

Conclusion: A research based on this literature survey is crucial to augment the proficiency of the mining inspector in each province in Indonesia, and thereby these mining inspector can execute technical oversight and ecological oversight towards Good Mining Practices (GMP).

Keywords: *Green Competency, Green Knowledge Management, Green Motivation, Good Mining Practices.*

Introduction

Mining activities are not only activities of extracting mineral and coal mining materials, but also multidimensional activities ranging from activities in the technical, environmental, social, economic and legal fields as well as politics. Its existence is very important and needed in contributing to the country's development through various fields such as providing job opportunities, increasing added value, procurement of goods and services, increasing investment, increasing state income through taxes, to compensation to the community through CSR, so that many countries until now still maintain the mining industry (Arif, 2018). One benchmark of exemplary mining conduct is the conformance to guidelines specified in the Decree of the Indonesia's Minister of Energy and Mineral Resources, specifically number 26 (2018), which pertains to the Execution of Good Mining Guidelines and Oversight of Mineral and Coal Mining.

Mining activities should be planned and carried out properly so that they can make a positive contribution to humans and the environment (WCED, 2018). Sustainable development is development that is aimed at meeting current needs, but does not interfere with meeting future needs. The mining inspection workforce

for the Provincial placements is derived from local government officials who have been transferred to the Ministry of Energy and Mineral Resources, and possess a wide variety of educational qualifications, ranging from technical disciplines to non-technical disciplines. However, despite the breadth of educational backgrounds represented, a disparity in competencies among the inspectors is often observed as a result of the diversity in educational backgrounds. According to the results revealed by researchers from various countries, knowledge management plays a role in increasing the competence of employees as concluded by researchers from Brazil (Lustri et al., 2007) as well as those expressed by researchers from Thailand (Tongsamsi & Tongsamsi, 2015) and research results in the United Kingdom (Alainati et al., 2011). Also researchers from Indonesia (Setiyowati, H., et.al., 2021; Setiyowati, H., & Kurniawan, B., 2021)

Mining Inspector who works far from the head office sometimes experiences a declining of their motivation since they work quite far from other employees. The concern from management is that the low motivation of Mining Inspectors will have an impact on decreasing managerial competence is reasonable, as stated by researchers in Indonesia (Purwanto et al., 2022), researchers from Saudi Arabia (Choudhry & Zafar, 2017) and similar results were also demonstrated by researchers from Turkey (Durmusçelebi, 2018).

The organization, in a comprehensive evaluation of the employees, discovered a need for an improvement in proficiency, which is influenced by the unique characteristics of each employee. Consequently, it is crucial to establish a tailored strategy to enhance the proficiency that aligns with the specific needs of the Mining Inspectors. This research goal is to investigate the function of knowledge integration and motivation in augmenting the administrative acumen of the Mining Inspectors, thus enabling the implementation of Green Mining or Good Mining Practices (GMP) in an effective and efficient manner.

LITERATURE REVIEW

Green Competency

Competencies or Competence, which refers to abilities or skills (Sunatar, 2022), is often referred to as competence in the English language literature. Competency measurement includes: (1) The ability or skill, whether it be physical or intellectual, (2) Performance capacity, the ability to do and know, (3) Harmonization of the conditions under which performance is monitored, (4) Real-life situations, and (5) Improving the employee (Shavelson, 2010). In recent years, the construct of green competency has gained significant attention within the realm of human resource management literature (Cabral & Dhar, 2019). The measurement of green competency can be achieved through three dimensions, namely (GC1) Green Innovation, (GC2) Green Proficiency and (GC3) Green Activity Enthusiasm (Ogbeibu et al., 2021).

Green Knowledge Management

Eco-friendly administration, although considered a minor aspect of corporate social accountability, continues to be an important aspect that is affected by the changing development of technological globalization, demographic developments, and other factors that ultimately shape organizational structure and culture (Junita, 2019). The Triple Bottom Line, a comprehensive approach for evaluating an organization's performance, was introduced by John Elkington in 1994. This concept

encompasses a wide range of values and criteria for measuring an organization's success by considering economic, ecological, and social factors. It is a widely accepted framework for assessing organizational success (Tran, 2009). In addition to being a term referring to a new way of conducting business operations, green management encompasses the entire process of developing and implementing a sustainable business model. At a high-level business, management is focused on drawing, managing, and harnessing highly skilled and talented people in order to generate profits while watching over the environment and the people in the organization. The five components of GKM are (GKM1) Obtaining green knowledge, (GKM2) Disseminating green knowledge, (GKM3) Retaining green knowledge, (GKM4) Utilizing green knowledge, and (GKM5) Generating green knowledge (Yu et al., 2022).

Numerous scientists have looked into the link between knowledge management and capability. Studies have demonstrated that knowledge management has a favorable outcome on capability in small and medium businesses (Aufar, 2016). Research conducted in the healthcare arena has revealed that knowledge management helps to enhance an individual's skillset (Mardlillah & Rahardjo, 2017). It is hypothesized that green knowledge management contributes to green proficiency **(H1).**

Green Motivation

Motivated employees behave and perform in ways that pay off (Dessler, 2015). Human resources can lead to a competitive advantage beyond other businesses organizations (Pearce & Bangura, 2019). As an example, an individual's Green Inherent Motivation (GM1) follows local causality, such as doing things to preserve the environment. GM1 measures employee motivation from an internal perspective, such as appreciation from the organization for employee green behavior or actions (Ahmed et al., 2021; Hu et al., 2022).

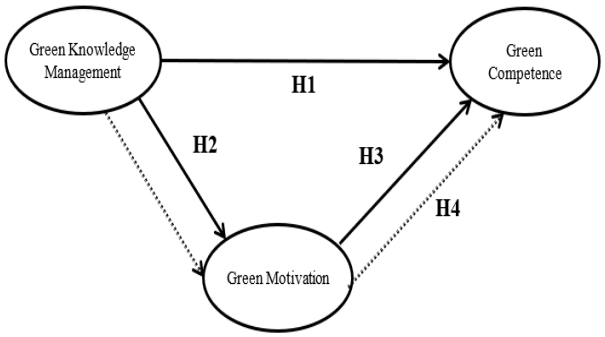
A substantial effect of knowledge management on motivation has been demonstrated in the telecommunications industry (Rumijati, 2020). According to a researcher in the automotive sector, KM has a significant effect on motivation (Kurniawan, 2022). In light of earlier research, the following hypotheses can be proposed: Green information management increases green motivation (H2).

Investigations undertaken in the transportation industry showed that job inspiration has a beneficial and considerable influence on capability (Mahendra et al., 2022). A different scholar investigated analogous enquiry in the educational sphere and uncovered that stimulation increased capability (Long, 2007). Research conducted in the public service domain established a clear link between remuneration and motivation, demonstrating a positive correlation between the two (Susanto et al., 2021). As evidenced by previous research, green motivation can contribute to greater green competence (H3).

In numerous studies, it has been demonstrated that motivation is used as an intervening variable. Motivation has been used in education research as an intervening variable (Rahim et al., 2021; Syukur et al., 2022). Motivation has also been used as an intervening variable in the public sector (Susanto et al., 2021). We can hypothesize (H4) that motivation plays a role in the relationship between green competence and green knowledge management based on these earlier studies.

According to the above explanation, Figure 1 represents the intellectual architecture of this study.

Figure 1. Conceptual Framework



METHOD

Research Design

By a quantitative approach (Cleff, 2014), this study investigates the impact of green information and stimulation on green capacity according to Cleff's research approach. We conducted interviews with all the stakeholders within the organization, including the respondents' supervisors, before distributing questionnaires. This is the research design and the instrument that was used to gather the data. PLS-SEM (Partial Least Squares Structural Equation Model) helped us better understand the data.

Population and Sample

The census method is used in this research to survey a representative sample of mining inspectors employed by Indonesian census offices. A sampling technique that can involve either the entire population (Abdullah, 2015; Sekaran & Bougie, 2016) or saturated sampling (Ali & Limakrisna, 2013). If the population is small, a census can be conducted (Cooper & Schindler, 2014).

Measurement

In the literature review, five points are equal to strong agreement, four are equal to favorable opinion, and one is equal to strong opposition. Taking into account the five aspects of green knowledge management has resulted in the following two indicators for each of the five aspects: In this paper, green knowledge is classified into three dimensions: green knowledge acquisition (GKM1), preservation of green knowledge (GKM2), distribution of green knowledge (GKM3), application of green knowledge (GKM4), and invention of green knowledge (GKM5) (Yu et al., 2022). It is necessary to investigate two types of green motivation, namely, taking action for the environment (GM1) and motivation with a green extrinsic (GM3), each with three indicators.(Ahmed et al., 2021). To quantify green competency, three parameters have been implemented: (1) green inventiveness (GC1), (2) green proficiency (GC2), and (3) green task enthusiasm (GC3), with two markers for each dimension (Ogbeibu et al., 2021).

RESULTS AND DISCUSSION

Result

It was conducted by a research unit in Indonesia organized by a mining inspector who is a middle-level expert or certified Miner. There were 36 participants in this study, with 92% female and 8% male employees. This composition is a comparison of mining personnel, such as the findings of various previous studies in the mining sector in Southeast Minahasa (Tuuk et al., 2020) and study in Central Lombok (Rohimi, 2020). The employees of this research are currently completing their master's degrees at various univertities. 53% of the 36 respondents in this research were Masters graduates, while 47% were undergraduates. Employees have an

average working period of 11% under ten years, 17% between ten and fifteen years, 47% between fifteen and twenty years, and 25% over twenty years.

The study used PLS-SEM, supported by SmartPLS 3.0 software, to model the structure. Analyzing the outer model is shown in Table 1.

Table 1. Mean, Convergent Validity, Discriminant Validity, Construct Reliability

Variable	Var. Code	Mean	Outer Loading	Cross Loading			AVE	Reliability	
				Var. GKM	Var. GM	Var. GC		CA	CR
Green Knowledge Management (GKM)	X111	3.472	0.886	0.743	0.272	0.389	0.628	0.881	0.910
	X112	3.889	0.911	0.836	0.286	0.288			
	X121	3.694	0.905	0.839	0.230	0.339			
	X122	3.694	0.881	0.756	0.365	0.539			
	X131	3.917	0.911	0.858	0.204	0.360			
	X132	3.639	0.892	0.786	0.233	0.466			
	X141	4.028	0.918	0.800	0.375	0.282			
	X142	4.250	0.915	0.789	0.613	0.522			
	X151	3.972	0.899	0.800	0.337	0.443			
	X152	3.694	0.900	0.801	0.266	0.571			
Green Motivation (GM)	Y111	4.306	0.792	0.305	0.768	0.566	0.642	0.938	0.947
	Y112	4.222	0.873	0.431	0.800	0.572			
	Y113	3.889	0.840	0.465	0.798	0.458			
	Y121	4.222	0.875	0.170	0.825	0.462			
	Y122	3.750	0.920	0.230	0.854	0.428			
	Y123	3.667	0.910	0.350	0.895	0.525			
Green Competency (GC)	Y211	3.694	0.905	0.635	0.437	0.804	0.679	0.905	0.927
	Y212	3.472	0.898	0.424	0.559	0.777			
	Y221	3.694	0.877	0.188	0.519	0.739			
	Y222	3.722	0.895	0.326	0.331	0.797			
	Y231	3.639	0.904	0.271	0.592	0.818			
	Y232	3.944	0.904	0.613	0.461	0.817			

Abbreviation: AVE= Average Variance Extracted; CA = Cronbach's Alpha; CR = Composite Reliability

Source: A data analysis using PLS 3.0 (2022) has been performed.

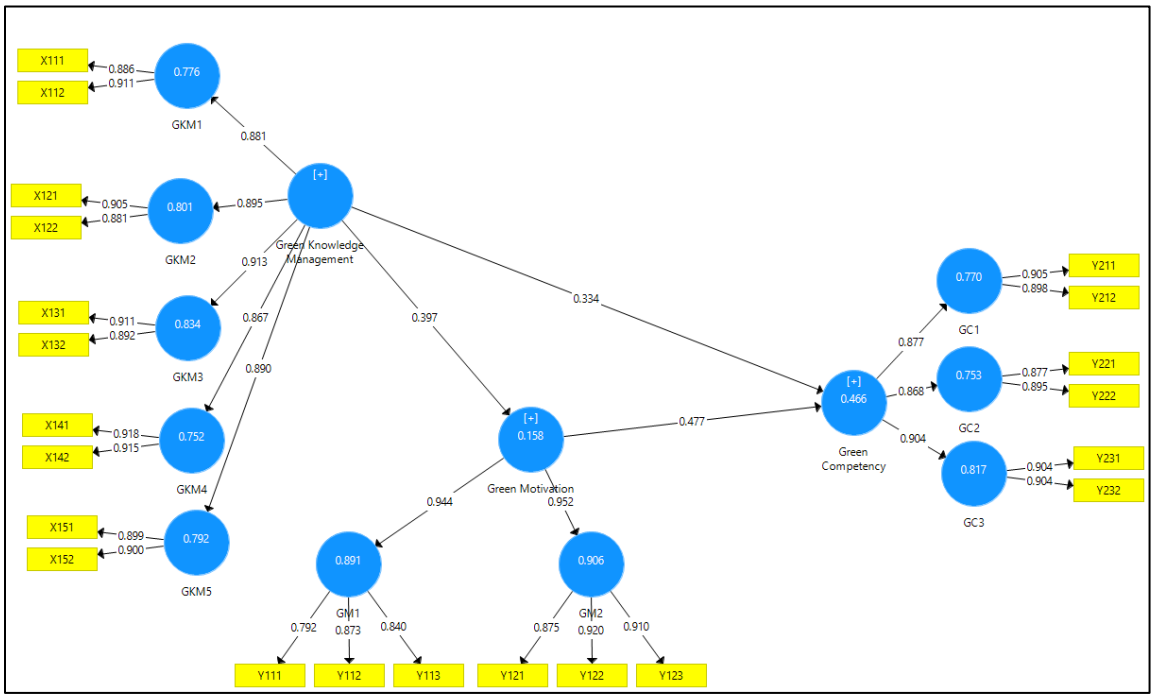
It is evident from Table 1 that all gauges used to measure the variables had outer loadings over 0.7, showing their effectiveness.

As a result of the convergent validity test, AVE scores > 0.5 should indicate an instrument highly associated with a construct (J. F. Hair et al., 2019; Hamid & Anwar, 2019). AVE values > 0.63 have exceeded the criteria for AVE values in Table 1 above, as indicated by the convergent validity test. In order to determine convergence validity (Garson, 2016), in confirmatory research, Cronbach's Alpha must exceed 0.8. According to Table 1, the CA value above is > 0.88, which indicates that the questionnaire items are reliable (good reliability) (Garson, 2016). Figure 1 shows the outside loading.

A hierarchy of components (HCM) is used in the research, which is structured top-down, with a bunch of constructs layered and layered at a higher level. In a HCM, a higher-order component (HOC) is connected to a lower-

order component (LOC), either reflectively or formatively (et al. Hair, 2017). Higher-order components (HOCs) represent conceptual entities, while lower-order components (LOCs) represent their subcategories. The structure is depicted in the following figure.

Figure 2. Path Coefficient and Outer loading



The inner model analysis is presented in Table 2. R-square and Q-square evaluations were performed to assess the inner model. A R-square value of 0.75, 0.50, and 0.25 means that the model is robust, middling, and feeble, respectively.

Table 2. R-square, Q-square, and GoF models are included in the inner model

Variable	R-square	R-square adjusted	Q-square
Green Competency (GC)	0.466	0.433	0.550
Green Motivation (GM)	0.158	0.133	

Source: Data processing results obtained using PLS 3.0 (2022)

A moderate model is one that has an R-square of 0.466, showing average performance. The derived Q-square value (predictive relevance) is also assessed. Q-square values of > 0, from the perspective of experts (Hair Jr et al., 2021; Siswono & Wardoyo, 1995), the data clearly demonstrates that the model is highly reliable in terms of predicting outcomes. Considering the Q-square value of 0.550 in this study, the model developed has a strong predictive validity.

On the bootstrapping report, we evaluate the t-statistic or p-value to determine if the hypothesis is valid. A t-statistic greater than 0.05 (1.99) and a p-value greater than 0.05 rejects the hypothesis. Table 3 and Figure 2 below outline the results.

Table 3. Statistical measures: mean, standard deviation, T-values, P-values

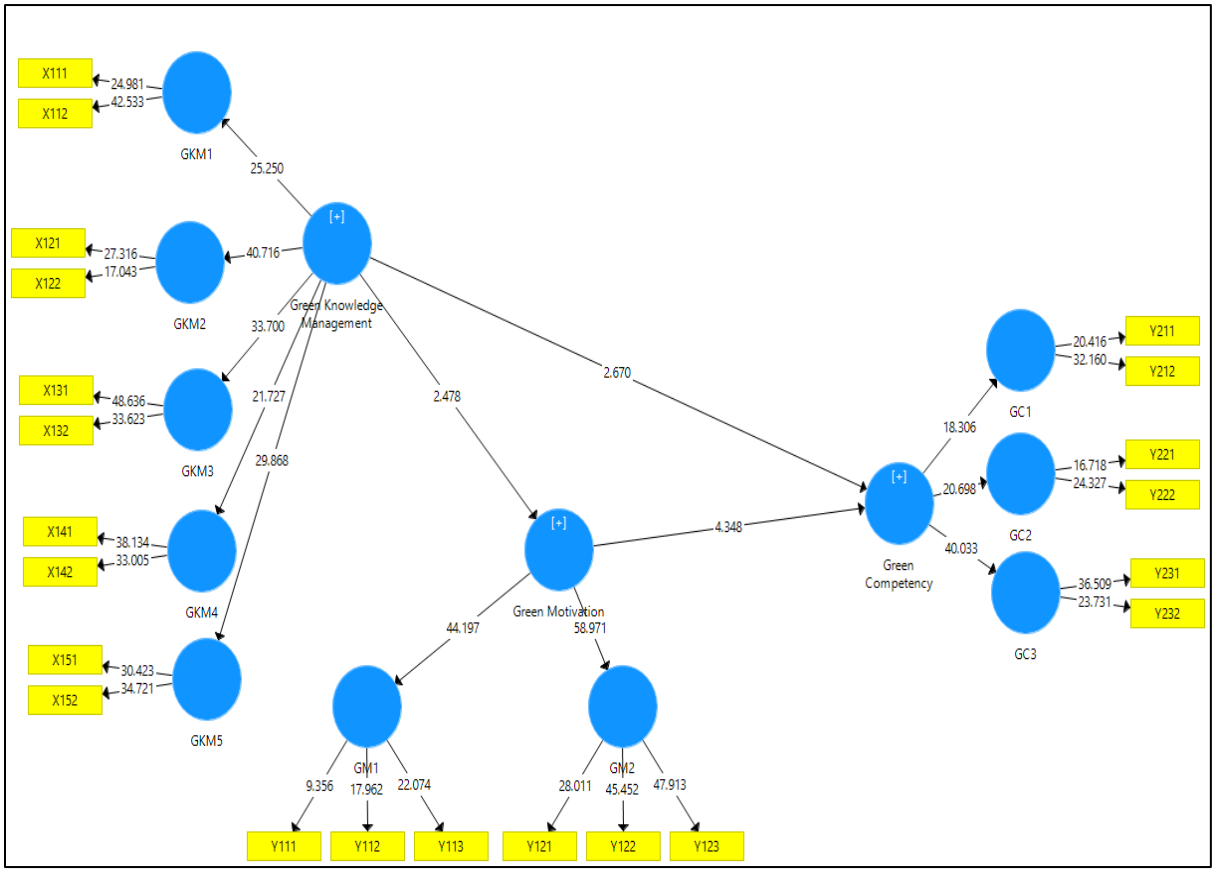
	(O)	(M)	(STDEV)	(T-Values)	P Values
H1: GKM → GC	0.334	0.319	0.125	2.670	0.008
H2: GKM → GM	0.397	0.406	0.160	2.478	0.014
H3: GM → GC	0.477	0.480	0.110	4.348	0.000
H4: GKM→GM→GC	0.190	0.193	0.088	2.147	0.032

Original Sample (O) ; Sample Mean (M)
Standard Deviation (STDEV); T Statistics (|O/STDEV|)

Source: Data processing results for PLS 3.0 (2022)

It can be seen in Table 3 that all t-statistics and p-values are less than 0.05, indicating that all hypotheses have been accepted.

Figure 2. Hypothesis Testing Results



All of the t-statistic values in Figure 2 above are above 1.96, confirming that all hypotheses are accepted. The following table shows the tightness of the relationship between dimensions obtained from PLS software calculations.

Table 4. Interdimensional Relationships

	GC	GC1	GC2	GC3
GKM				
GKM1	0.373	0.408	0.181	0.385
GKM2	0.486	0.555	0.283	0.436
GKM3	0.455	0.525	0.254	0.413
GKM4	0.438	0.476	0.265	0.407
GKM5	**0.564**	**0.644**	**0.310**	**0.523**
GM				
GM1	**0.636**	**0.603**	**0.500**	**0.576**
GM2	0.524	0.446	0.405	0.530

Source: Data processing results for PLS 3.0 (2022)

The GM variable (green motivation) on the GM1 dimension (Green intrinsic motivation) has the closest relationship with the GC (green competency) variable, with a value of 0.636, according to the table above. The GM (green motivation) variable on the GKM5 (green knowledge creation) dimension has the strongest relationship with the GC (green competency) variable on the GM1 (green intrinsic motivation) dimension, with a correlation coefficient of 0.644. The GM (green motivation) variable on the GM1 (green intrinsic motivation) dimension has the strongest relationship with the GC (green competency) variable on the GC2 (green expertise) dimension, with a correlation coefficient of 0.500. The GM (green motivation) variable on the GM1 (green intrinsic motivation) dimension has the strongest relationship with the GC (green competency) variable on the GC3 (green task motivation) dimension, with a correlation coefficient of 0.576.

DISCUSSION

Consequently, it is evident that when employees possess a deeper understanding of green knowledge management (GKM), their level of green competency will increase. The "green knowledge creation," dimension is the one that is most closely tied to green capacity. This dimension evaluates whether an organization makes available information to create environmentally friendly products or services and engages with other organizations to develop similar products, processes, or services. This is a knowledge for staff members to develop their green competency, specifically their capacity to come up with creative environmental sustainability concepts.

A component of green knowledge management labeled "green knowledge creation" is closely related to "green competency" in the category of "green expertise." This dimension primarily concerned with the team's environmental knowledge, abilities, and capabilities.

Green task motivation, the third aspect of green competency, is strongly tied to green knowledge generation, which is a part of green knowledge management. This aspect is characterized by a strong interest that is motivated by a challenge or reward, curiosity, or the desire to complete tasks that are environmentally sustainable.

According to the calculations conducted in this study using the PLS program, the dimension most closely related to the GC (green competency) variable is the GM1 (green intrinsic motivation). In spite of the lack of rewards or benefits provided by the

organization, employees are motivated by green motivation, a form of intrinsic motivation. A person who is genuinely interested in or passionate about his or her work is more focused and engaged during work hours, which results in a sense of fulfillment and satisfaction upon completion of the assignment. Environmental awareness can be seen as an intrinsic motivation for driving passionate, affectionate, or fascinated behavior that contributes to the environment and is sustainable. The green creative dimension, in particular, has a close relationship to all of the green competence dimensions. A rise in green intrinsic motivation will lead to a rise in green creativity as well. In earlier research, motivation was associated with competence in a positive and significant way (Long, 2007; Mahendra et al., 2022; Susanto et al., 2021). Knowledge sharing was found to be directly affected by competency variables in SMEs and health care (Mardlillah & Rahardjo, 2017). According to research (Aufar et al., 2016), knowledge management improves competency. It also showed positive results on GM when GKM was used. These findings are in line with those made by other researchers, particularly those who focused at the automotive industry (Kurniawan, 2022). Knowledge management has also been found to have a positive impact on employee motivation in the telecommunications industry (Rumijati, 2020). This research highlighted a distinct and meaningful effect of GM. Research in the educational field has found the same thing (Long, 2007), concluded that motivation of employee has a positive impact on employee competence. Other study in transportation sector (Mahendra et al., 2022) also revealed similar conclusion as well as study on public service (Susanto et al., 2021). However, these findings contradict with research done on small and medium-sized businesses in the City of Malang, Indonesia, by Fahmi et al. (2020), which found that higher knowledge seems to have no impact on competency.

CONCLUSION

Three key conclusions reached from the study reported in this paper: Firstly, the relationships of these three variables and how those variables can affect green competency have been confirmed. Second, it becomes evident from these variable correlations that green competency is determined by two variables (green knowledge management and green motivation). Incorporating green stimulus as a moderating factor further enhanced green knowledge management's influence on green aptitude.

Stakeholders in the mining industry are encouraged how companies can enhance their knowledge management of green knowledge by enhancing the creation of green knowledge in their operational activities. Organizations can put procedures in place to encourage giving staff information that is environmentally friendly. This can be done by providing information accessible to staff members through an intranet database.

Stakeholders in the mining sector should also put policies in place to raise intrinsic motivation among employees. This can be achieved by promoting organizational to use environmentally friendly methods. As an outcome, it finally establishes a safe environment, a spirit of positive challenge, and a green vision. As a consequence, every one of these elements promotes employee motivation.

From the coefficient of determination value, which fell into the moderate category, it can be concluded that the model was not able to explain green competency. Therefore it is recommended that near future research could

be done to include other variables that can promote green competency, such as organizational culture. As has been revealed in several studies conducted in public service organization (Tyas, 2020), in media industry (Anindita & Bachtiar, 2021), at education field (Anindita & Bachtiar, 2021), in the health sector (Kim, 2009) and for fish farming in the blue economy concept (Setiyowati, H., et.al., 2022) competencies of employees were significantly influenced by organizational culture.

Reference

Abdullah, M. (2015). Metode Penelitian Kuantitatif. Aswaja pressindo.

Ahmed, M., Guo, Q., Qureshi, M. A., Raza, S. A., Khan, K. A., & Salam, J. (2021). Do green HR practices enhance green motivation and proactive environmental management maturity in hotel industry? International Journal of Hospitality Management, 94. https://doi.org/10.1016/j.ijhm.2020.102852

Alainati, S., AlShawi, S. N., & Al-Karaghouli, W. (2011). The Effect of Knowledge Management and Organisational Learning on Individual competencies ‖ . European, Mediterranean and Middle Eastern Conference on Information Systems, 30 – 31.

Ali, H., & Limakrisna, N. (2013). Metodologi Penelitian (Petunjuk Praktis Untuk Pemecahan Masalah Bisnis, Penyusunan Skripsi (Doctoral dissertation, Tesis, dan Disertasi. In Deeppublish: Yogyakarta). In Deeppublish. Yogyakarta: Deepublish.

Anindita, R., & Bachtiar, N. P. (2021). The Impact of Organizational Culture Towards Organizational Citizenship Behavior Through Job Satisfaction and Competency Among Online Media Employees. Business and Entrepreneurial Review, 21(1). https://doi.org/10.25105/ber.v21i1.9279

Arif, I. (2018). Nikel Indonesia. Gramedia Pustaka Utama.

Aufar, E., Adman, A., & Suwatno, S. (2016). Pengaruh knowledge management terhadap kompetensi manajerial para pengusaha Industri kecil di Kabupaten Cirebon. Manajerial: Jurnal Manajemen Dan Sistem Informasi, 15(1), 58–69.

Cabral, C., & Dhar, R. L. (2019). Green competencies: Construct development and measurement validation. Journal of Cleaner Production, 235, 887–900.

Choudhry, R. M., & Zafar, B. (2017). Effects of skills, motivation, and personality traits on the competency of masons. International Journal of Sustainable Real Estate and Construction Economics, 1(1), 16–30.

Cleff, T. (2014). Exploratory data analysis in business and economics. Exploratory Data Analysis in Business and Economics. https://doi.org/Https://Doi. Org/10.1007/978-3-319-01517-0

Cooper, D., & Schindler, P. (2014). Business Research Methods. McGraw Hill.

Dessler, G. (2015). Manajemen Sumber Daya Manusia. jakarta: Salemba Empat. Jakarta: Salemba Empat.

Durmusçelebi, M. (2018). Examination of Students' Academic Motivation, Research Concerns and Research Competency Levels during the Education Period. Universal Journal of Educational Research, 6(10), 2115–2124.

Fahmi, A. R., Hadiyati, E., & , A. (2020). Pengaruh knowledge dan skill terhadap kinerja melalui kompetensi kewirausahaan pada pengusaha ukm produk unggulan

kota Malang. Reformasi, 10(1). https://doi.org/10.33366/rfr.v10i1.1596

Garson, G. D. (2016). Partial Least Square S (PLS-SEM)-regression and structural equation models. Statistical associates publishing. Asheboro: Statistical Publishing.

Hair, et al. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Thousand Oaks. In Sage.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. European Business Review.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook. Springer Nature.

Hamid, R. S., & Anwar, S. M. (2019). Strutural Equation Modeling (SEM) Berbasis Varian: Konsep Dasar dan Aplikasi. PT. Inkubator Penulis Indonesia.

Hu, X., Khan, S. M., Huang, S., Abbas, J., Matei, M. C., & Badulescu, D. (2022). Employees' Green Enterprise Motivation and Green Creative Process Engagement and Their Impact on Green Creative Performance. International Journal of Environmental Research and Public Health, 19(10), 5983.

Junita, J. (2019). Green Management Pada Perusahaan: Literatur Review. Prosiding SEMDI-UNAYA (Seminar Nasional Multi Disiplin Ilmu UNAYA), 3(1), 1002–1010.

Kim, M. S. (2009). Role of self-leadership in the relationship between organizational culture and informatics competency. Journal of Korean Academy of Nursing, 39(5). https://doi.org/10.4040/jkan.2009.39.5.731

Kurniawan, R. A. (2022). Analisis Kompensasi dan Knowledge Management Terhadap Kinerja Karyawan dengan Motivasi Sebagai Variabel Intervening Pada PT Mitra Pratama Mobilindo Yogyakarta. Jurnal Ekobis Dewantara, 5(2), 203–2014.

Long, J. (2007). Just For Fun: using programming games in software programming training and education. Journal of Information Technology Education: Research, 6(1), 279–290.

Lustri, D., Miura, I., & Takahashi, S. (2007). Knowledge management model: practical application for competency development. The Learning Organization.

Mahendra, I. G. T., Kepramareni, P., Sapta, I. K. S., Sujana, I. W., & Haguisan III, I. (2022). Effect of Work Motivation and Training on Employee Performance With Competence as Intervening Variable at PT. Indonesia AirAsia Hub International Airport I Gusti Ngurah Rai Bali. International Journal of Sustainability, Education, and Global Creative Economic (IJSEGCE), 5(2), 88–106.

Mardlillah, A. I., & Rahardjo, K. (2017). Pengaruh Knowledge Sharing Terhadap Kompetensi Individu Dan Kinerja Karyawan (Studi Pada Karyawan Non-medis RS Lavalette Malang). Jurnal Administrasi Bisnis S1 Universitas Brawijaya, 46(2).

Ogbeibu, S., Jabbour, C. J. C., Gaskin, J., Senadjki, A., & Hughes, M. (2021). Leveraging STARA competencies and green creativity to boost green organisational innovative evidence: A praxis for sustainable development. Business Strategy and the Environment, 30(5), 2421–2440.

Pearce, S. M., & Bangura, A. (2019). The impact of financial and non-financial rewards on employee motivation: Case study NRA Sierra Leone. LAP LAMBERT Academic Publishing.

Purwanto, B., Hidayat, A., & Munir, K. (2022). The influence of learning media and learning motivation on student learning outcomes on competency measuring tools in vocational education. Journal for Education and Vocational Future, 1(1), 21–29.

Rahim, K., Rosita, S., & Sumarni, S. (2021). Pengaruh kompensasi terhadap kompetensi guru melalui motivasi sebagai variabel intervening di SD Negeri 228 Sarolangun. Jurnal Dinamika Manajemen, 9(1), 9–18.

Rohimi, R. (2020). Perempuan dalam Proses Pekerjaan Tambang Kapur (Studi Kasus di Desa Mangkung Kecamatan Praya Barat Kabupaten Lombok Tengah). PALASTREN Jurnal Studi Gender, 13(1), 179–194.

Rumijati, A. (2020). Peran Knowledge Sharing Dan Motivasi Pada Pengaruh Learning Organization Terhadap Kinerja Karyawan. EKUITAS (Jurnal Ekonomi Dan Keuangan), 4(2), 226–245.

Sekaran, U., & Bougie, R. (2016). Research methods for business: A skill building approach. John Wiley & Sons.

Setiyowati, H. (2021). Penerapan Manajemen Pengetahuan Pada PT. Citra Abadi Sejati. Valuasi: Jurnal Ilmiah Ilmu Manajemen dan Kewirausahaan, 1(1), 189-199.

Setiyowati, H., & Kurniawan, B. (2021). Pengaruh Knowledge Management Terhadap Kinerja Karyawan Garmen. Jurnal British, 1(2), 37-48.

Setiyowati, H., Nugroho, M., and Halik, A. (2022). Developing a Blue Economy in Depok West Java, Indonesia: Opportunities and Challenges of Neon Tetra Fish Cultivation. Sustainability 2022, 14, 13028. https://doi.org/10.3390/su142013028

Shavelson, R. J. (2010). On the measurement of competency. Empirical Research in Vocational Education and Training, 2(1), 41–63.

Siswono, Sh., & Wardoyo, P. (1995). Structural Equation Modeling Untuk Penelitian Manajemen Menggunakan AMOS 18.00. Structural Equation MODELING Untuk Penelitian Manajemen Menggunakan AMOS, 18.

Sunatar, B. (2022). Effect of Leadership Style and Employee Competence on Employee Performance Through Organizational Citizenship Behavior. Indonesian Interdisciplinary Journal of Sharia Economics (IIJSE), 5(2), 572–590.

Susanto, Y., Oktovianus, F., Habaora, F., & Riwukore, J. R. (2021). The Effect of Compensation and Competence on Performance with Motivation as a Variable Intervening an Employee in Partners of the Central Statistic Agency, Lubuklinggau City, South Sumatra, Indonesia. Review of Management and Entrepreneurship, 5(2), 113–136.

Syukur, L., Haerani, S., & Rasyid, W. (2022). The Effect of Financial Compensation and Non-Financial Compensation on Employee Performance Through Motivation. Hasanuddin Journal of Business Strategy, 4(2), 46–56.

Tongsamsi, K., & Tongsamsi, I. (2015). Influence of Training and Knowledge Management on Competency Among Quality Managers at Rajabhat Universities in Thailand. Journal of Psychological & Educational Research, 23(2).

Tran, B. (2009). Green management: The reality of being green in business. Journal of Economics, Finance & Administrative Science, 14(27).

Tuuk, H. A. v, Pijoh, V. D., & Bernadus, J. B. B. (2020). Survei Penyakit Kecacingan Pada Pekerja Tambang Tradisional di Desa Soyoan Kecamatan Ratatotok Kabupaten Minahasa Tenggara. E-Biomedik, 8(1), 81–89.

Tyas, A. A. W. P. (2020). Effect of Organizational Culture, Employee Competency on Self Efficacy and Employee Engagement In Human Resources Development Agency (BPSDM) Ministry of Law and Human Rights Republic of Indonesia. Kresna Social Science and Humanities Research, 1. https://doi.org/10.30874/ksshr.11

WCED. (2018). Report of the World Commission on Environment and Development: Our Common Future: Report of the World Commission on Environment and Development. World Commission on Environment and Development.

Yu, S., Abbas, J., Álvarez-Otero, S., & Cherian, J. (2022). Green knowledge management: Scale development and validation. Journal of Innovation & Knowledge, 7(4), 100244.