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THE EFFECT OF GREEN HUMAN RESOURCE MANAGEMENT (GHRM) PRACTICES ON THE COMPETITIVENESS OF HIGHER EDUCATION MEDIATED BY KNOWLEDGE MANAGEMENT

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Abstract: In the global era, creating competitiveness is one of the key aspects of survival. This study aims to explain competitiveness in knowledge management-mediated green human resource management practices in Jakarta's private universities. This research is critical because green practices on campus are becoming essential due to the need for sustainable development and climate change mitigation. Furthermore, educational institutions should educate global citizens about sustainable development and provide relevant information concerning environmentally friendly practices. In this research, a total sample of 356 lecturers from 10 private tertiary institutions in Jakarta with B accreditation and more than 5,000 students. Purposive sampling was used in the sampling method to collect data, which was then analyzed using SEM-PLS. According to the study results, green human resource management has a direct and positive effect on competitiveness, while green human resource management has a direct positive impact on knowledge management. It can also be stated that knowledge management measurements' findings on competitiveness have a positive effect. Further research demonstrates a positive secondary impact of green human resource management through knowledge management on competitiveness. The results of this study may have negative effects on the campus's reputation as a green educational facility.

Keywords: Green, Human Resources, Knowledge, Management, Competitiveness

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INTRODUCTION

Competition among private universities in the era of industrial revolution 4.0 is getting more challenging, and only private universities with strong competitiveness will be the winners. In the global era, creating competitiveness is one of the key aspects of survival. Competitiveness can determine whether an organization can survive in the midst of global conditions and increasingly fierce and high competition for both goods and service companies (Siudek and Zawojka, 2014). In these conditions, private universities (PTS) are encouraged to compete nationally and globally. Private universities' competitiveness is crucial to increase prospective students' attractiveness, improving the quality of graduates and international publications, and improving lecturers' competencies. The competitiveness of universities in Indonesia, nationally and globally, is still relatively moderate compared to universities in Asia, such as Singapore, Brunei, Malaysia, Thailand, and the Philippines. According to the world ranking Quacquarelli Symonds World University Rankings (QS WUR, 2020), universities in Indonesia have not been able to penetrate the world's top 100. That year, state universities (PTN) were ranked 296 out of 1000 world universities. As a comparison of university competitiveness, the ranking is based on clustering issued by the Ministry of Education and Culture with four criteria: 1) Input, 2) Process, 3) Output, and 4) Outcome. The number of universities that can be assessed based on the Dikti Database is 2,136. The following is Table 1 of data clusterization for 2020.

Referring to Table 1, based on the cluster-

ing, it was found that there were a total of 2,136 tertiary institutions. In the Cluster 1 category, only 15 universities, or 7%, while in Cluster 5, there are 1,590 tertiary institutions, or 74%. Universities in cluster 4 are 400 or 18%. The data shows that the average condition of universities in Indonesia could not compete. Clusters 4 and 5 illustrate that the available resources are not yet effective and relatively low for competitiveness. Universities in cluster 1 show that their Human Resources (HR) and infrastructure are strong and successful in achieving high national achievements and are ready to be upgraded to international rankings. Universities in cluster 2 have relatively strong human and management resources but have not been successfully optimized to achieve high national achievements. Tertiary institutions in cluster 3 have moderate quality for human resources, and management however have not been maximized to reach national achievements. Human resources and management quality at tertiary institutions in clusters 4 and 5 is low and has not shown national achievement. Numerous tertiary institutions are still categorized in clusters 4 and 5, reaching 93%. If observed, the general average score, which includes input, process, output, and outcome, is still below 2, which means there is a need for improvement in governance, quality management, human resource management, facilities, and infrastructure. Based on the phenomenon mentioned above of empirical data, it is necessary to do an analysis. The condition of tertiary institutions in Jakarta is illustrated by the ranking of institutional accreditation for the last five years. Table 2 shows the private universities that have been accredited for 2016 – 2020.

Table 1. National Clustering Data for Higher Education in 2020

Cluster	Number of PT	Input Average	Process Average	Average Output	Average Outcome
1	15	3.48	3,476	2,968	2.72
2	34	2,628	3,243	1.523	1,677
3	97	1,976	2,872	0.963	1.168
4	400	1.381	2,449	0.47	0.665
5	1590	0.78	1.48	0.087	0.092
TOTAL	2.136	0.995	1,767	0.241	0.292

Source: <https://klusterisasi-pt.kemdikbud.go.id/> (accessed September 2020)

Table 2. List of Accredited Private Universities in 2016-2020 at LLDIKTI Region III

Accreditation Rating	Year of Accreditation				
	2016	2017	2018	2019	2020
A	5	4	8	10	10
B	8	14	49	65	63
C	1	11	42	62	48
Superior	-	-	-	-	1
Very well	-	-	-	-	4
Well	-	-	-	-	25
Number of accredited private universities	14	29	99	137	151

Source: Higher Education Statistics 2020 and BAN-PT accessed 2021

If observed, the number of private universities (PTS) accredited A and Excellent until 2020 was 37 or 13% of 288. It shows that there are still relatively few PTS that are able to achieve A and Excellent accreditation. Meanwhile, PTS with B and Very Good accreditation were 203 or 70% from 2088. Meanwhile, PTS with C and Good accreditation were 125 or 44% from 2088. Most PTS with B and outstanding accreditation and C and good were relatively high. The PTS has moderate and low competitiveness when viewed from its accreditation. This phenomenon is curious for further research. What factors drive universities to compete at the world level?

It is an essential topic to research because environmental issues have become global problems, and industry is the most significant contributor. Still, universities cannot avoid it because it is a meeting point for many people and carries a lot of plastic waste. Furthermore, air pollution from vehicles used by everyone contributes to environmental pollution. This research interests tertiary institutions because it is a driving factor in preparing human resources, which should comprehend and know about a green environment. Human resource management in tertiary institutions that is environmentally friendly is a value for increasing competitiveness. Graduates are expected to have knowledge and skills related to environment-conscious management.

The majority of empirical research on competitiveness in tertiary institutions focuses on sec-

tors with the themes of performance and competitive advantage, which is comparatively rare. Higher education research failed to generate findings under the same category. The author questions whether there is a relationship and impact between the practice of green human resource management and knowledge management on higher education institutions' competitiveness based on the above summary.

The general findings of this study will assist in developing specific knowledge in the theoretical literature on knowledge management, competitiveness, and green human resource management (GHRM) practices. Academics can use this research as a resource for future researchers interested in examining the primary factors that influence the competitiveness of private universities. The results of this study are also expected to guide managers, owners, and foundations who need to consider human resource management seriously to compete with other tertiary institutions and grow in a global environment. Some of the research goals which have to be fulfilled are to measure and analyze the impact of green human resource management on competitiveness directly, to measure and analyze how green human resources management affects knowledge management directly, to measure and analyze the immediate impact of knowledge management on competitiveness directly, and then to investigate and explain the function that knowledge management plays in mediating the impact of GHRM on competitiveness.

LITERATURE REVIEW

Green Human Resources Management

Dyer (2018), environmental/ecological theory is an ecological thought that pays more attention to the interests of the natural environment rather than humanity's interests in nature. Green Human Resource Management is not widely practiced in all businesses or educational institutions. GHRM is an environmentally friendly understanding that regulates and directs all Human Resources in higher education institutions, including lecturers, employees, and students, in carrying out their activities in an environmentally friendly manner. Green Human Resource Management Practice, an activity such as counseling for employees held by the company in protecting the environment around the company, can help practice being environmentally friendly in the workplace in saving the earth in sustainable implementation aiming at an ecologically friendly approach. The opinion is that Green Human Resource Management is an activity such as selection, recruitment, development, and training of managers who implement the functions of human resource management given to employees in environmentally friendly aspects. Then the research results, according to, GHRM that organizations can improve environmental performance in a more sustainable manner by understanding and increasing the scope and depth of green HRM practices. The use of HRM practices to promote the sustainable use of resources will strengthen environmental sustainability objectives in general. It will increase employee awareness and commitment to environmental management issues in particular. The results of the study (Cheng et al., 2018) say that the management of the green environment of a region in China is proven to have an impact on sustainable competitiveness. Empirical research in Palestine shows that green human resource management practices and green supply chains positively affect sustainable performance in Palestine. His proposal to every organization is that it is mandatory to teach a green organizational culture to future generations of responsible managers.

Knowledge management

Knowledge management is a process of managing knowledge through effective structured coordination as a basis for managing organizations

and, at the same time learning to manage professional intelligence (Poor et al., 2018). Simaškienė and Dromantaitė-Stancikienė (2014), knowledge management is needed to harmonize all aspects of knowledge management and is adjusted depending on the context of the company's activities. Knowledge management can help improve the efficiency of the company's activities. In this way, the company can achieve a successful competitive advantage. Abbas's research (2020) provides valuable insights into industrial manufacturing and service management and how they can ensure sustainability in their organizations through Total Quality Management and Knowledge Management. Afnan and Silvianita (2018) said that the knowledge management process of employees grows and can apply it in organizational practice so that it can grow to be different from other organizations so that the organization has a competitive advantage. Khaliq (2016) said that knowledge management is a branch of science that presents an integrated approach to identifying, capturing, evaluating, retrieving, and sharing a company's information assets. Through this approach, the company seeks to utilize its knowledge to build a strategy as the basis for the company's competitive ability. According to research by Evianisa et al. (2018), there are four elements to implementing the knowledge management: socialization, externalization, combination, and the internalization. Leaner organization; Restructurisation; Corporate amnesia; Technology advances; Knowledge innovation is more connected with advances in information technology.

Competitiveness

In general, competitiveness can be defined as 'the ability of a company to compete in the market. According to (Arwildayanto, 2012), the competitiveness of tertiary institutions is interpreted as the implementation of higher education services for the community (Public) that are of superior quality, competitive, and able to satisfy all stakeholders. Chao-Hung and Li-Chang (2010), "A company's competitiveness is its economic strength against its competitors in a global market where products, services, people, and innovation move freely despite geographical boundaries." According to Putri (2015), competitiveness is the business ability of an organization engaged in goods/industry and services to deal with various environments.

According to Hajar and Sukaatmadja (2016), the competitive advantage is a strategy to be superior to competitors

The concept of competitiveness theory put forward by Siudek and Zawojka (2014), is grouped into three theoretical concept approaches, namely: The theory of Higher Education Performance Productivity and Competitiveness, which was adopted from Adam Smith's theory, the theory of absolute advantage or the theory of competitive advantage. The theory of competitive advantage has the substance that higher education excellence (PT) can be achieved with total productivity without government intervention. Therefore, to achieve excellence, PT requires specialization and efficiency as well as the division of labor (governance), which is not owned by competitors and is an absolute advantage. According to (Arwildayanto et al., 2020), As an analogy to the absolute advantage of PT, for example, Darma Persada University, its specific advantage is monozukuri culture, while Gunadarma University has specific advantages in the field of information technology. To build competitiveness, tertiary institutions must determine one that can be used as an advantage and appointed as the main entry point to establish competitiveness and provide the best value for society, especially for graduates.

HYPOTHESIS DEVELOPMENT

Green Human Resources Management and Competitiveness

The goal of higher education that is interested in paying attention to the green environment is so that graduates have knowledge related to green environmental management. Furthermore, the practice of Green Human Resources Management can be conceptualized in an organization so that employee behavior in carrying out activities focuses on the environment. The implementation of the GHRM has an impact on the organization's efficiency with minimal costs and can build organizational competitiveness. The results of empirical research on green GHRM mediate the influence of leadership on corporate environmental performance. The research findings (Masri and Jaaron, 2017) indicated that the Human Resources (HR) function should be strategically linked to support Environmental Performance needed for competitive advantage to reap the benefits of insight into the gre-

en environment of a manufacturing firm. A green campus and sustainable environmental management at the University of Southern Santa Catarina in Brazil include academic and campus infrastructure as a competitive advantage (Garcia et al., 2017). A study describing green HRM practices in the higher education sector by (Anwar et al., 2020) emphasizes the critical role of academic staff members' green behavior in enhancing universities' environmental performance. According to (Kumar, 2020), the findings of their study demonstrate how green HRM practices implicitly influence a company's environmental performance through green innovation, while (Kim et al., 2019) show that environmentally friendly human resources (GHRM) can increase employee commitment to the company and environmentally friendly behavior.

H1: Green Human Resources Management has a significant effect on Competitiveness.

Green Human Resources Management and Knowledge Management

Research (Gope et al., 2018) showed that the application of HRM, which aims to increase individual learning, motivation, and employee retention for knowledge acquisition and knowledge sharing, is in a strategic perspective to improve organizational performance. Previous research (Anwar et al., 2020) stated that GHRM has a positive relationship with organizational performance. Previous research results. (Aziri et al., 2013) the role of HRM for knowledge-based companies will be able to create and maintain a competitive advantage. Other researchers (Klump et al., 2019) believe that the role of human resource management is the intellectual capital organizations need to create a new knowledge management that comes from people. Knowledge will be able to develop and maintain a competitive advantage. Rizqi et al. (2022) that HRM has a very positive effect on the knowledge management process. The function of human resource management is the intellectual capital required by organizations to develop new knowledge management sourced from people, according to Klump et al. (2019). A competitive advantage can be established and maintained through knowledge. According to earlier studies Anwar and Abdullah (2021), the GHRM and organizational success are positively linked. Kokkaew et al. (2022), asserted that HRM has a significant posi-

ve impact on the knowledge management process.

H2: Green Human Resources Management has a significant effect on Knowledge Management.

Knowledge Management and Competitiveness

The results of research (Simaškienė and Dromantaitė-Stancikienė, 2014) showed that knowledge management is able to increase company efficiency so that it can achieve a competitive advantage. In comparison, research (Poór et al., 2018), knowledge management and knowledge transfer play an essential role in human resource management. Thought (Shahzad et al., 2020) showed that green innovation affects sustainable companies - and knowledge management has a positive effect on the green environment. It is not found with the moderation of this relationship. According to research (Poór et al., 2018), knowledge management and knowledge transfer are critical components of the human resource management. In line with the findings of empirical research (Riswandari, 2020), knowledge management has a significant impact on company performance. While according to a study (Hasbi, 2020), knowledge management improves employee performance through human resource development. The knowledge management identifies an organization's knowledge to improve employee performance, increase effectiveness and productivity, and create value and organizational competitive advantage.

H3: Knowledge Management has a significant effect on competitiveness

The Mediation Role of Knowledge Management

Research (Sisibintari, 2015), every business organization must adapt to environmental changes through organizational changes and increase the capacity of human resources as an important organizational asset. This article discusses (1) organizational change, (2) knowledge workers, and (3) communication in contact with competitiveness. Research (Masri and Jaaron, 2017) organizations must strategically link the human resource function to support Environmental Performance, which is vital for competitive advantage. According to other researchers (Ren et al., 2018), for example, the green human resource management involves selecting, recruiting, training, and developing managers who carry out the human resource management tasks offered to the employees in an environmentally friendly aspect. Rizqi et al. (2022) stated that human resources management positively affects the knowledge management process. According to Sintaasih (2021), knowledge management is an organization-specific intangible resource that can influence the decision-making process of preparing organizational strategic plans.

H4: Green human resource management has a significant effect on competitiveness mediated by knowledge management.

This research used a single independent variable, one intervening variable, and one exogenous variable as the paradigm. The following diagram explains the relationship between variables.

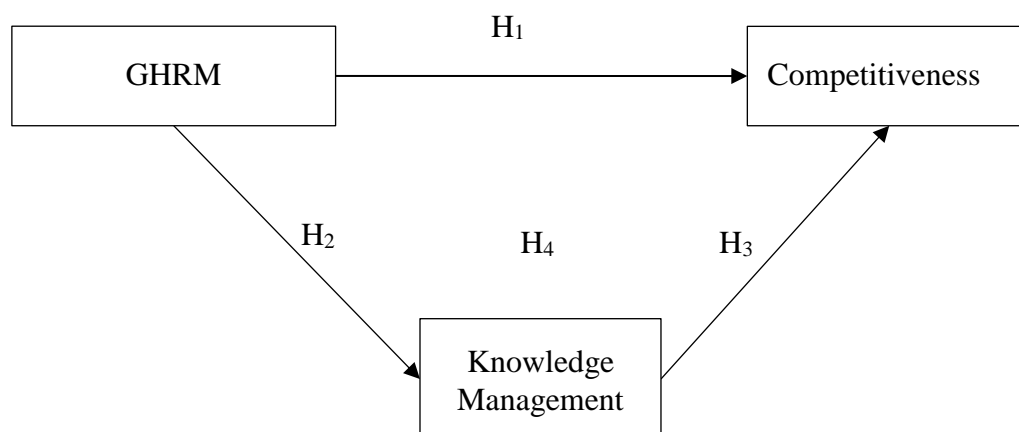


Figure 1. The Framework of the Research

METHOD

The research method used is quantitative. Private tertiary institutions, represented by ten tertiary institutions in Region III DKI Jakarta, are the research object. This study is restricted to universities with "B" accreditation and more than 5,000 active students. With a total population of 3,231 permanent lecturers, determining the number of

samples using the Slovin formula with a 5% error rate yielded a total sample of 356 people. Simple random sampling was implemented as a sampling technique. A questionnaire distributed in 10 PTS was used to collect data. The Partial Least Squares (PLS) data analysis technique is based on the Structural Equation Model (SEM). The table below showed the operational research variables.

Tabel 3. Operaitonal Research of Green Human Resource Management (GHRM) Variable

Variable Concept	Indicator
Green performance management	Evaluation of policies related to green environmental management. Responsible for encouraging programs to create a green environment-based campus environment Evaluation of green environment-based management performance towards the environment in each up to the Faculty Unit level.
Green compensation	Appreciation for unit leaders who carry out green environment-based management according to the target. Provide incentives to foster motivation in running a green environment in various fields. Sanctions against units that do not carry out green environment-based management
Green Training	Training related to environmental sustainability knowledge to employees. Training has an impact on employee performance in achieving competitiveness. Providing opportunities to participate in competitions between campuses
Green Involvement	The community is involved in creating a green environment. All employees are responsible for the sustainability of green environmental management.
Green hiring	Choosing applicants who are sufficiently aware of the green environment Recruitment of prospective employees includes elements of knowledge of the green environment. Prospective employees who commit to a green environment.

Tabel 4. Operaitonal Research of Knowledge Management Variable

Variable Concept	Indicator
Acquisition of knowledge	Educational institutions part of knowledge learning Educational institutions as sources of knowledge explicitly and tacit Educational institutions, as a process of transformation, acquire new knowledge
Storage of knowledge	as a store of knowledge become very important The knowledge possessed by each individual / organized lecturer can provide added value Users believe the stored knowledge helps solve the problem
Distribution of knowledge	Disseminating knowledge information through a good process to the entire unit can support the quality of decision-making. Providing ease of accessing knowledge information through a complete and complete understanding process. The distribution of knowledge is part of the process of transferring knowledge.

Tabel 5. Operaitonal Research of Competitiveness Variable

Variable Concept	Indicator
Input	The number of permanent lecturers who have S3 education at PT
	The number of permanent lecturers who have functional positions in LK and GB
	The ratio of the number of students to permanent lecturers
	Have a number of Foreign Students
	Number of lecturers working as practitioners in the industry
Process	The process of managing through the BAN-PT Institutional Accreditation rating
	The process of management through the accreditation rating of the BAN-PT / LAM study program
	The process of managing teaching and learning Study programs that carry out online learning
	The process of managing an independent campus through a study program that implements an independent learning program
Output	The output of the number of indexed scientific articles in reputable journals per lecturer
	The output of research performance at universities is based on the ranking of the Ministry of Research and Technology BRIN
	Student performance in institutions based on the ranking of the Ministry of Research and Technology BRIN
Outcome	Innovation performance in your institution based on the ranking of the Ministry of Research and Technology BRIN
	Average Time of Graduates who get a job
	The number (%) of citations in total divided by the number of permanent lecturers
	The number (%) of overall patents divided by the number of permanent lecturers

RESULTS

Characteristics of Respondents

This study uses primary data from questionnaires distributed to permanent and permanent structural lecturers who work in 10 private tertiary institutions in the Region III of the Directorate of Higher Education Service Institutions with 356 respondents. The profiles of respondents who were willing to fill out the questionnaire were 198 male lecturers and 158 female lecturers. The number of

respondents with the status of permanent lecturers was 253 respondents while 103 respondents were still structural lecturers. Respondents aged 25-30 years were 17 respondents, lecturers aged 31-40 years were 160 respondents, and lecturers aged over 41 years were 179 respondents. Based on the profile of respondents, it shows that respondents are quite representative in answering questions posed in survey. Research data were analyzed using the Partial Least Square (PLS) with SmartPLS 3.3.

Table 6. Construct Reliability and Validity

Variable Construct	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Competitiveness (DS)	0.943	0.946	0.949	0.525
Green Human Resouce Management (GHRM)	0.930	0.933	0.940	0.590
Knowledge Management (MP)	0.930	0.932	0.942	0.647

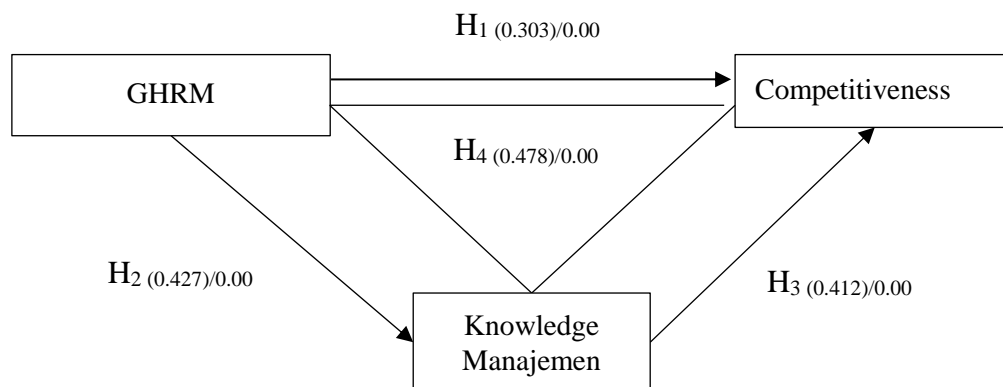
Table 7. Signifikansi Outer Loadings (Modification)

Instruments/indicators for each Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
X3.1 <- (GHRM)	0.615	0.617	0.045	13.551	0.000
X3.10 <- (GHRM)	0.821	0.820	0.026	31.170	0.000
X3.11 <- (GHRM)	0.721	0.720	0.033	21.729	0.000
X3.12 <- (GHRM)	0.787	0.786	0.029	26.945	0.000
X3.13 <- (GHRM)	0.789	0.789	0.037	21.429	0.000
X3.2 <- (GHRM)	0.701	0.700	0.033	21.531	0.000
X3.5 <- (GHRM)	0.768	0.767	0.028	27.864	0.000
X3.6 <- (GHRM)	0.796	0.797	0.031	25.876	0.000
X3.7 <- (GHRM)	0.796	0.797	0.024	33.417	0.000
X3.8 <- (GHRM)	0.819	0.817	0.025	32.522	0.000
X3.9 <- (GHRM)	0.808	0.808	0.023	34.777	0.000
Y1.1 <- Knowledge Management	0.757	0.757	0.024	31.179	0.000
Y1.2 <- Knowledge Management	0.890	0.889	0.015	59.127	0.000
Y1.3 <- Knowledge Management	0.853	0.852	0.020	41.967	0.000
Y1.4 <- Knowledge Management	0.633	0.630	0.038	16.747	0.000
Y1.5 <- Knowledge Management	0.835	0.836	0.017	48.086	0.000
Y1.6 <- Knowledge Management	0.781	0.780	0.029	26.511	0.000
Y1.7 <- Knowledge Management	0.886	0.886	0.015	57.863	0.000
Y1.8 <- Knowledge Management	0.858	0.857	0.020	43.317	0.000
Y1.9 <- Knowledge Management	0.710	0.708	0.028	25.656	0.000
Y2.1 <- Competitiveness	0.756	0.755	0.023	32.463	0.000
Y2.10 <- Competitiveness	0.750	0.750	0.029	26.107	0.000
Y2.11 <- Competitiveness	0.802	0.800	0.022	37.237	0.000
Y2.12 <- Competitiveness	0.646	0.644	0.039	16.554	0.000
Y2.13 <- Competitiveness	0.675	0.673	0.042	15.945	0.000
Y2.14 <- Competitiveness	0.659	0.657	0.035	18.581	0.000
Y2.15 <- Competitiveness	0.707	0.706	0.038	18.453	0.000
Y2.16 <- Competitiveness	0.821	0.820	0.016	52.947	0.000
Y2.17 <- Competitiveness	0.779	0.778	0.022	34.796	0.000
Y2.2 <- Competitiveness	0.772	0.770	0.022	35.383	0.000
Y2.3 <- Competitiveness	0.727	0.727	0.029	25.155	0.000
Y2.4 <- Competitiveness	0.671	0.673	0.043	15.609	0.000
Y2.5 <- Competitiveness	0.751	0.752	0.025	29.873	0.000
Y2.6 <- Competitiveness	0.710	0.707	0.030	23.994	0.000
Y2.7 <- Competitiveness	0.691	0.690	0.034	20.157	0.000
Y2.8 <- Competitiveness	0.716	0.713	0.031	22.834	0.000
Y2.9 <- Competitiveness	0.649	0.649	0.036	17.868	0.000

Source: Output SmartPLS 3.3.3 (2022)

Table 8. Direct and Indirect Hypothesis Testing

Direct and indirect relationship	Original Sample (O)	T Statistics (O/STDEV)	P Values
GHRM -> Competitiveness (DS)	0.303	6.675	0.000
GHRM -> Knowledge Management (MP)	0.427	6.416	0.000
Knowledge Management (MP) -> Competitiveness (DS)	0.412	9,860	0.000
GHRM -> Knowledge Management (MP) -> Competitiveness (DS)	0.176	5,219	0.000

**Table 2. Hypothesis Testing Model**

The evaluation of the measurement model was carried out to test (a) internal consistency reliability using composite statistical reliability, (b) reliability of indicators using outer indicators loadings, (c) convergent validity using AVE statistics, and (d) discriminant validity using cross-loadings. Detailed explanation can be seen in Table 6.

It is known that the composite reliability value for all constructs is greater than 0.70, so it can be concluded that the construct has a relatively high construct of trust consistency. It can also be seen from the importance of the structural model relationship. Table 7 shows the Smart PLS output results of green human resources management through knowledge management can significantly affect university competitiveness.

This stage determines whether or not the research hypothesis proposed in the research model is accepted. It can be seen from the path coefficients, the T - Statistic value through the bootstrapping procedure, and the p-value e to test the proposed hypothesis. Table 8 shows the results of direct and indirect hypothesis testing

This conceptual framework explains the relationship between the exogenous and endogenous

variables. The green human resource management, knowledge management, and competitiveness variables are among the variables investigated. Figure 2 shows the hypothesis testing model.

Hypothesis 1

Based on the results of hypothesis testing, Green Human Resources Management has a positive and significant effect on competitiveness. It is due to the finding of a p-value of 0.000 (< 0.05), indicating a relationship effect. Furthermore, the path coefficient was found to be 0.303 (> 0.00), indicating the positive and significant relationship indicated by the t-statistic value of 6678 (> 1.96). As a result, it can be concluded that the accepted statistical hypothesis is $H_1: 1 \leq 1$ 0 and $H_0: 1 \leq 1 = 0$. is rejected. According to existing research, the higher the Green Human Resources Management practice, the higher the competitiveness.

Hypothesis 2

Based on the results of hypothesis testing, it was found that Green Human Resources Management had a positive and significant effect on the Knowledge Management (MP). It is due to the

finding of a p-value of $0.000 < 0.05$ which indicates a relationship effect. In addition, the path coefficient was found to be $0.427 > 0.00$ which indicates the direction of the positive and significant relationship indicated by the t-statistic value of $6.675 > 1.96$. For this reason, it can be concluded that the accepted statistical hypothesis is $H_2: \beta_2 \neq 0$ and rejects $H_0: \beta_2 = 0$. From the results of existing research, it can be seen that the higher the practice of green human resources management, the better Knowledge Management.

Hypothesis 3

Based on the results of hypothesis testing, it was found that Knowledge Management has a positive and significant effect on competitiveness. It is due to the finding of a p-value of $0.000 < 0.05$ which indicates a relationship effect. In addition, the path coefficient was found to be $0.412 > 0.00$, which indicates the direction of the positive and significant relationship indicated by the t-statistic value of $2.983 > 1.96$. For this reason, it can be concluded that the accepted statistical hypothesis is $H_3: \beta_3 \neq 0$ and rejects $H_0: \beta_3 = 0$. From the results of existing research, it can be seen that the higher Knowledge Management, the higher the Competitiveness.

Hypothesis 4

Based on the results of hypothesis testing on an indirect relationship, it was found that the Knowledge Management has a complementary mediating role (partial mediation) in the relationship between Green Human Resources Management and competitiveness. It is due to the finding of a p-value of $0.000 (< 0.05)$, which indicates a relationship effect. In addition, the path coefficient was found to be $0.176 (> 0.00)$, which indicates the direction of the positive and significant relationship indicated by the t-statistic value of $5.219 (> 1.96)$. The results found a change from a direct connection, where Green Human Resources Management was found to have a direct effect on competitiveness. So it can be seen that Knowledge Management has a complementary role (partial mediation) in the relationship between Green Human Resources Management and competitiveness. The results of the estimated changes in the value of the indirect influence path coefficient in this model will be further analyzed using the Variance

Accounted For (VAF) method according to Hair et al. (2017) as follows:

$$VAF = ((a*b))/((a*b)+c)$$

$$VAF = ((0.427*0.412))/((0.427*0.412)+ 0.303)$$

$$VAF = (0.175)/(0.478)$$

$$VAF = 0.366 \text{ (36.6\% or partial mediation)}$$

Based on the VAF calculation, it was discovered to mediate with a magnitude of 36.6% partially (partial). As a result of Knowledge Management, Green Human Resources Management can be concluded to have an effect on increasing competitiveness. Previously, the Green Human Resources Management (GRHM) factor was influential in increasing competitiveness (DS).

According to the model image above, the Knowledge Management (MP) has a complementary mediating role, where Knowledge Management (MP) and Green Human Resources Management (GRHM) variables can influence Competitiveness (DS) in the same direction, which is positive.

DISCUSSION

Green Human Resources Management on Competitiveness

The results of the analysis indicate that the GHRM has a direct effect on competitiveness. It illustrates that the better the implementation of GHRM practices, the better the competitiveness of higher education institutions. The findings of this study are in line with and confirm previous research. (Cherian and Jacob, 2012), there are several advantages if an organization implements the GHRM, namely: increased employee retention, improved public image, got a better workforce, increased productivity and increased competitiveness, and increased overall performance. (Haddock-Millar et al., 2016), Green human resource management improves organizational performance. (Anwar et al., 2020), Green HRM practices at a university have a positive effect on performance within the university's campus environment. According to (Kumar, 2020), the study's results show that green HRM practices, indirectly through green innovation, affect the environmental performance of companies. This research also follows the previous research (Anwar and Abdullah, 2021), which revealed that the GHRM has a positive rela-

tionship with organizational performance.

Green Human Resources Management on Knowledge Management

The results of the analysis show that GHRM directly affects knowledge management. It illustrates that the better the implementation of GHRM, the better the knowledge management. This study's results align with and confirm the previous research. (Aziri et al., 2013) the role of knowledge-based HRM in the company can create and maintain a competitive advantage. Klumpp et al. (2019) concluded that the role of human resource management in the company is an intellectual capital to develop new knowledge management from humans. Knowledge will be able to create and maintain a competitive advantage. Rizqi et al. (2022) revealed that HRM has a very positive effect on the knowledge management process. The role of knowledge management in organizations is to provide information that is easily accessible to individuals and elements of the entire organization so that decision-makers can follow up quickly.

Furthermore, knowledge management can improve operational efficiency and increase customer satisfaction. Knowledge is a source of information that organizations must properly manage. New knowledge can be developed to help build organizational values and assist the leadership in implementing organizational change to achieve high organizational performance.

Knowledge Management on Competitiveness

According to the findings of the research, knowledge management has a direct impact on competitiveness. It demonstrates that the better the knowledge management, the higher the university's competitiveness. Every organization recognizes the value of knowledge and knowledge management as a competitive advantage in today's global marketplace. This result is consistent with the research Simaškieienė and Dromantaitė-Stancikienė (2014) that showed knowledge management can improve company efficiency and lead to a competitive advantage. According to research, human resource management is important in knowledge transfer and knowledge management (Poór et al., 2018). According to Shahzad et al. (2020), knowledge management has a positive effect on organizational performance. Dalkir (2017), knowledge

management is the intentional and systematic organizational coordination of people, technology, processes, and organizational structures to add value through reuse and innovation.

The results of empirical research Riswandari (2020) revealed a significant effect of knowledge management on company performance. Research conducted by (Hasbi, 2020) stated that knowledge management positively and significantly improved employee performance. Through good knowledge management and owned by the organization, it will be identified to improve employee performance, effectiveness, and productivity and create organizational value and competitive advantage. Research (Kobets and Masych, 2015) at the University of Southern Federal University in Russia, facts confirmed that the increase in university competitiveness became higher because the driving force of knowledge allowed efficiency and increased the university's ranking to a higher position. Confirming research conducted (Simarmata, 2020) that knowledge dissemination and knowledge storage systems partially and simultaneously affected organizational performance.

All institutions engage in knowledge formation and acquisition, knowledge sharing, and knowledge transfer. The university is a knowledge repository through its tri-dharma activities of teaching, research, and community service. Universities with high competitiveness typically have access to good information sources. Most knowledge management organizations struggle with integrating and transferring knowledge so that it is actionable, articulate, and explicit. According to empirical research, knowledge management impacts higher education institutions' competitiveness as a mediator. Scientific meetings, annual research seminars, conferences, and journal publications disseminate knowledge to all individuals.

GHRM against Knowledge Management-Mediated Competitiveness

The results of the research analysis show that governance directly affects knowledge management. This illustrates that the better the governance, the better the competitiveness mediated by knowledge management. The findings of this study correlate with and support previous research. The research results show a considerable effect of GHRM on the development of the environmental

(green) attitudes among employees (Arulrajah et al., 2015). Green recruitment and selection, training, and development significantly impact ecological performance, which has implications for competitiveness, according to research by Jantan et al. (2020). The management of environmentally friendly organizations is a topic that is currently getting attention from the worldwide community. Academics and professionals are increasingly interested in the green human resource management (GHRM). This study investigates the impact of green human resources management on university competitiveness from the lecturers' perspective. Furthermore, this research provides insight to the academic community on promoting GHRM practices in the university environment.

IMPLICATIONS

Green human resource management directly affects competitiveness, meaning GHRM contributes to university competitiveness. It is in line with global and national issues that human resources have a role in saving the environment. In relation to these findings, university leaders should take the following steps: a) Leaders establish policies related to green-based HR management practices, such as recruiting new lecturers and staff who have a green understanding or have green-related competency certification. b) Leaders participate in competitions among units in the internal environment to provide support and motivation for green implementation. c) Leaders in higher education implement the green campus program, which is currently led by the University of Indonesia and includes approximately 81 tertiary institutions.

Green human resources management has an effect on knowledge management, and this study provides theoretical and empirical implications proving that GHRM affects competitiveness mediated by knowledge management. GHRM practices can assist organizations in adapting their business strategy to the environment. This program can be offered to educational institutions towards environmentally friendly university management. The issue of green environmental management in the long term is one of the competitiveness of higher education institutions. Users will prioritize college graduates who have insightful knowledge about the environment. In order to improve the quality of human resources in Indonesia, it relies not

only on the quality of academic achievement but also on the ability and skills in innovation that trigger various creations that contribute to the progress of the nation, environment, and society in general. In line with the era of Society 5.0, university graduates must solve social and environmental glitches by considering Sustainable Development Goals (SDGs).

Knowledge management affects competitiveness and has implications for educational institutions theoretically and empirically. Knowledge management is becoming an interesting topic all over the world these days. It should be supported by good sources of information to become a highly competitive educational institution. Management of information resources is currently quite easy by utilizing information technology as an online and digital-based knowledge management application system. It will facilitate knowledge management and distribute it evenly to other employees who need it. By using the Knowledge Management System (KMS) application, educational institutions will have no difficulty managing the knowledge possessed by their employees. Moreover, employee knowledge data can still be accessed even though the employee is no longer in an educational environment.

The concept of an environmentally friendly organization is currently able to provide added value to organizations in reducing emissions or waste and organizational sustainability over the long term. The implementation of green HRM at universities can be organized, starting from the process of recruitment, selection, training and development, performance evaluation, awards, job descriptions, and manpower management based on the green concept. Among these procedures, the leader is responsible for developing a green atmosphere, and the process starts from job description.

RECOMMENDATIONS

Leaders should think about hiring potential educators and education staff with environmental knowledge and insights in light of the practice of the "green human resources management," which positively impacts competitiveness. Furthermore, the leaders must provide educators and education staff with training in on-campus activities. The study's limitations used an instrument in the form of a (closed) questionnaire so that it could not dig

deeper into the respondents' answers on each variable studied. Therefore further research could conduct direct interviews with respondents to obtain more comprehensive solutions.

CONCLUSIONS

Green human resource management has a direct and significant impact on competitiveness. The better the implementation of green human resource management in the tertiary institutions, the more competitive the university. The Green Human Resource Management has a significant and positive impact on Knowledge Management. The higher the practice of green human resource management, the better the knowledge gained. Knowledge management plays complementary (partial) mediating role in the relationship between competitiveness and knowledge management. Green Human Resources Management can act as a direct or indirect mediator to increase competitiveness.

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